Oct. 10, 1933.

W. J. NEELY

1,929,848

CLEANING IMPLEMENT

Filed Sept. 21, 1931

2 Sheets-Sheet 1

Fig. 1.

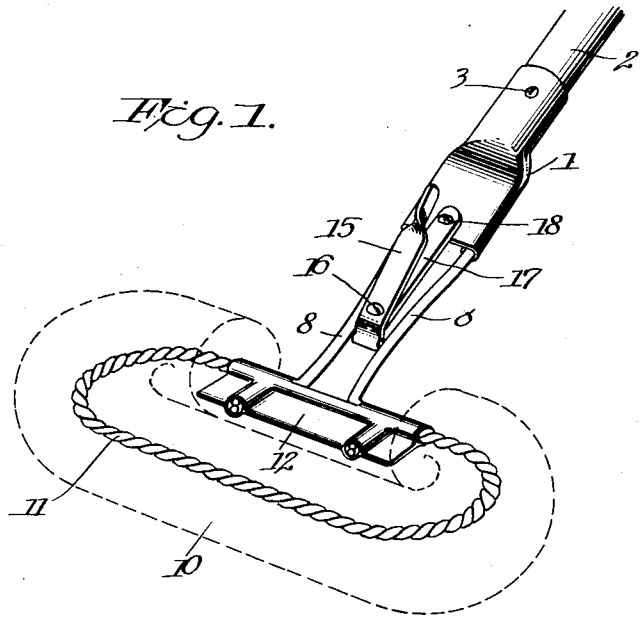
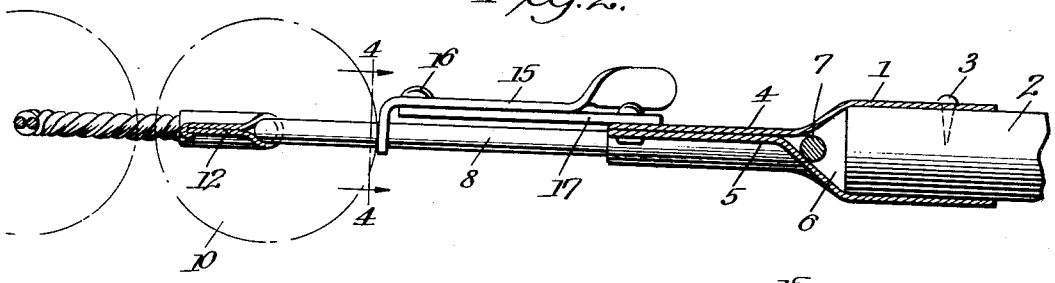


Fig. 2.



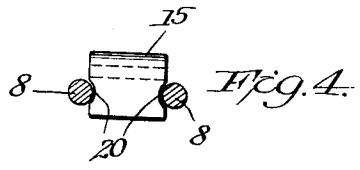


Fig. 4.

Fig. 3.

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Fig. 5.

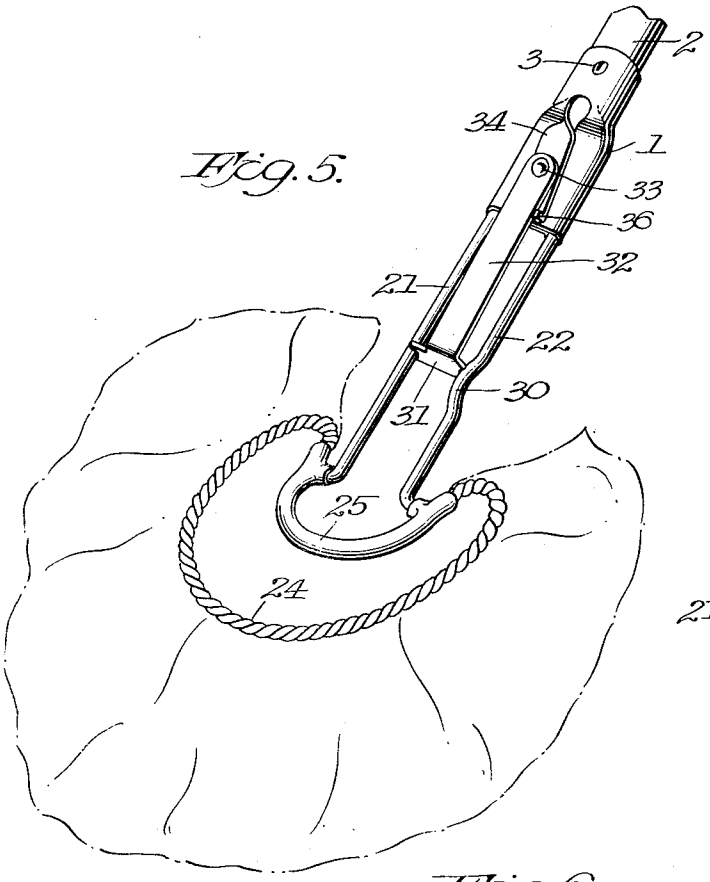


Fig. 8.

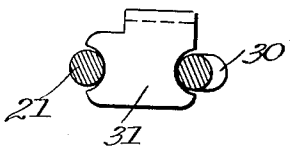


Fig. 6.

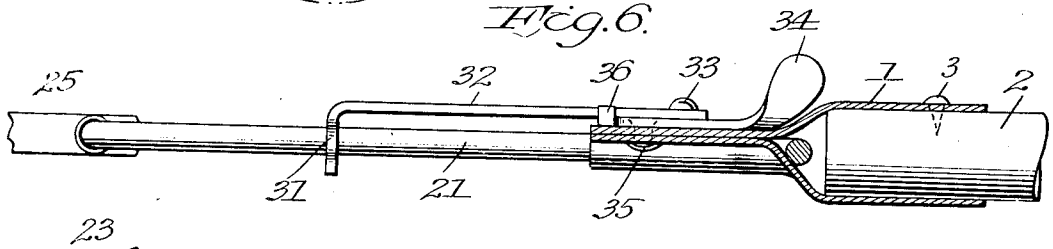
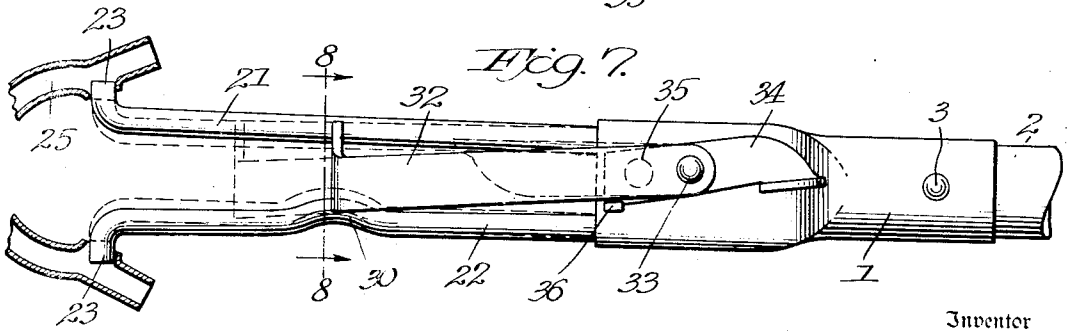


Fig. 7.



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UNITED STATES PATENT OFFICE

1,929,848

CLEANING IMPLEMENT

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Application September 21, 1931
Serial No. 564,203

6 Claims. (Cl. 306—19)

The present invention relates to improvements in cleaning implements, such as brushes, mops, etc., and particularly to an improved form of connector for uniting such an implement with and supporting it from a suitable handle.

An object of the invention is to provide a simple, durable, and inexpensive connector, whereby a single handle may be employed with any of a plurality of cleaning means, i. e., brushes, mops, etc., and it consists in the particular construction and arrangement of parts that will be hereinafter described and claimed.

In the accompanying drawings, there are illustrated two embodiments of the invention, but it will be understood that there can be modification and change in detail in several particulars, and that except where specifically defined in the appended claims, the invention is not to be understood as being limited to either of the exact forms shown.

In the accompanying drawings,

Figure 1 is a perspective of an embodiment of the invention showing the same employed to support a brush of a well known type;

Figure 2 is a longitudinal sectional view;

Figure 3 is a plan of the improved connector showing a portion of the brush frame in section;

Figure 4 is a sectional view substantially on the line 4—4 of Figure 2;

Figure 5 is a perspective illustrating the invention employed for connecting a mop with a suitable handle, and presenting a slightly modified form of connection;

Figure 6 is a longitudinal section;

Figure 7 is a plan; and

Figure 8 is a transverse section substantially on the line 8—8 of Figure 7.

Referring to the drawings, in the several views of which like parts are designated by the same reference character, the improved connector comprises a member 1 which may be of either cast or sheet metal, and which is formed to provide a socket adapted to receive a suitable handle 2.

The handle 2 may be secured in the socket of the member 1 by any suitable fastening means such as screws 3.

The socket member shown is formed from a suitable piece of sheet metal and opposite walls 4, 5 thereof are collapsed or flattened to provide a web-like portion at one end of the handle receiving socket.

Through the substantially triangular shaped space 6 at the inner end of the handle socket extends the bowed end 7 of a substantially U-shaped member formed of a suitable rod or heavy wire the arms or sides 8 of which extend some distance from the socket member and, as shown, have their free ends 9 bent outwardly or laterally so that they are adapted to enter suitably opposed sockets provided to receive them in the frame or body of the cleaning implement.

As shown in Figure 1, the frame of the cleaning brush 10 includes a core 11, of twisted wire and the ends of which are suitably secured in a head 12. The bristles of the brush form a head or body which is shown as being of substantially circular form in cross section.

The head 12 may be a casting or be formed of sheet metal bent and shaped to provide the necessary sockets and recesses to receive the wire core 11 and the aligned, opposed, sockets to receive the lateral projections 9 at the ends of the arms 8 of the connector.

Means are provided whereby the members 8 of the connector may be separated or forced laterally relative to each other to effect close engagement of the ends 9 with the sockets in the head or frame of the cleaning implement.

In the embodiment of the invention illustrated in Figures 1 to 4, such separation or spreading of the members 8 is effected by a spreading element or finger 15 which is pivotally supported, as at 16 on a lug 17 which is connected as at 18 to the handle receiving socket member 1. The end of the finger 15 beyond the pivot 16 is of such width that when the finger piece is rocked or turned about the pivot 16 from the position shown in dotted lines in Figure 3 to that illustrated in Figure 1, the opposite edges thereof will bear against the members 8 and forcibly separate the same forcing the projections 9 at the free ends thereof laterally into close engagement with the bearings in the implement cleaning head 12 in which they are received.

When the finger 15 has been turned in this manner, the parts will be effectually locked in the desired position and a firm connection provided between the handle 2 and the cleaning implement.

Such connection, however, can be readily broken by turning the finger 15 into the position illustrated in dotted lines in Figure 3 when the inherent resiliency of the arms 8, 8 will permit the projections 9 at the free ends of said arms to be easily withdrawn from the sockets in the cleaning implement head and permit another implement to be substituted.

As shown in Figure 4, the bent end of the spreading finger 15 which extends between the members 8 may be provided in its opposite edges with grooves or recesses 20 which will receive the members 8 when turned into the full line position shown in the drawings.

In the embodiment of the invention illustrated in Figures 5 to 8 the resilient or spring arms 21, 22 are connected with the handle receiving member 1 as before described and said resilient arms are provided at their free ends with laterally bent portions 23 adapted to be received in suitable, op-

posed, socketed bosses provided in the frame of the cleaning implement.

In this embodiment of the invention, the implement shown is a mop having a frame including a twisted wire core 24 and a U-shaped tubular member 25, the opposite limbs of which are provided with sockets to receive the bent ends 23 of the connector arms.

As shown in these figures, one of the spring rods 22, is provided at an intermediate point of its length with a slightly deflected section 30 and such section and the opposite portion of the rod 21 are engaged by a bent end portion 31 of a spreading element or link 32 which is pivotally connected at 33 to a finger 34. The finger 34 is pivotally mounted as at 35 on the handle receiving member.

A lug 36 extending outward from one edge of the finger 34 is adapted to bear against a side of the link 32 and when the parts are positioned so that the pivots 35, 33 are in substantial longitudinal alignment, the link will be moved lengthwise of the arms 21, 22 and said arms will be forced apart so that the bent end portions 23 will be securely seated in the sockets in the implement head.

A relatively slight turning movement of the finger 34 will act to move the spreader 31 from the full line position shown in Figure 7 to that represented in dotted lines which will result in the arms 21, 22 assuming the position shown in dotted lines in Figure 7, in which the bent ends 23 are practically withdrawn from the bearings in the implement frame.

It is believed that the manner of use and the advantages of the invention will be readily appreciated from the foregoing description in connection with the drawings.

It will be seen that I have provided a very simple, inexpensive, and durable means for connecting a cleaning implement with a suitable handle which may be easily applied to or detached from the brush, mop, etc., so that a single handle may be employed in connection with a relatively large number of different cleaners.

A very slight movement of the operating finger will serve to expand or positively separate the resilient rods attached to the handle socket so that they will be securely engaged with the frame or head of the cleaning brush.

It will be evident that either of the two forms illustrated may be employed with various types of cleaning implements. Preferably the form of frame for the cleaning implement shown in Figures 1 to 4, is employed in connection with wet mops, window brushes, wall brushes, etc., while the form of frame shown in Figures 5 to 8 is particularly adapted for use with dustless or dry mops.

Either of the two forms of connecting means, however, may be interchangeably used with any suitable cleaning implement.

I claim:—

1. A handle fastening device for a cleaning implement comprising a member adapted to be secured to a handle, two arms connected at one end to said member and the other ends of which are adapted to be engaged with the frame of a cleaning implement, a lug on the handle engaging member projecting therefrom toward the free ends of said arms, and a finger pivotally mounted on said lug and having an end projecting between said arms and adapted as the finger is turned to positively separate the arms and hold them in engagement with the cleaning implement frame.

2. A handle fastening device for a cleaning implement comprising a member adapted to be secured to a handle, two arms connected at one end to said member and the other ends of which are adapted to enter opposed bearings on the frame of the cleaning implement, a lug on the member extending therefrom in the direction of the length of said arms, and a finger pivotally mounted on said lug and having one end bent laterally and extending between said arms, whereby as the finger is turned about its pivot, the arms will be forcibly separated and held in engagement with the bearings on the frame of the cleaning implement.

3. A handle fastening device for a cleaning implement comprising a member adapted to be secured to a handle, two arms connected at one end to said member and the other ends of which are adapted to enter opposed bearings on the frame of the cleaning implement, a finger pivotally mounted on the member, and a spreading element connected to said finger and having at one end a bent portion which is adapted to positively separate the arms, as it is moved longitudinally thereof by turning movement of the finger.

4. A handle fastening device for a cleaning implement comprising a member adapted to be secured to a handle, two arms connected at one end to said member and adapted to have their free ends engaged with the frame of the cleaning implement, and means for spreading said arms to retain the free ends thereof in locking engagement with the cleaning implement, said means including a longitudinally extending spreading and locking element carried by said member and having an angularly bent end portion positioned between said arms and adapted to positively separate and hold them in engagement with the cleaning implement upon actuation thereof.

5. A handle fastening device for a cleaning implement comprising a member adapted to be secured to a handle, two arms connected at one end to said member and adapted to have their free ends enter opposed bearings on the frame of the cleaning implement, one of said arms being provided with an inwardly deflected portion intermediate its ends constituting a hump, and means for spreading said arms to retain the free ends thereof in the bearings on the implement including a spreading element having a portion slidable between said arms and engageable with said hump.

6. A handle fastening device for a cleaning implement comprising a member adapted to be secured to a handle, two arms connected at one end to said member and adapted to have their free ends enter opposed bearings on the frame of the cleaning implement, a finger pivoted adjacent one end thereof on said member, and a spreading element having one end thereof pivotally connected to said finger intermediate the ends of said finger and having its other end engageable with the arms to positively spread them upon actuation of the finger and spreading element.

WILLIAM J. NEELY.