

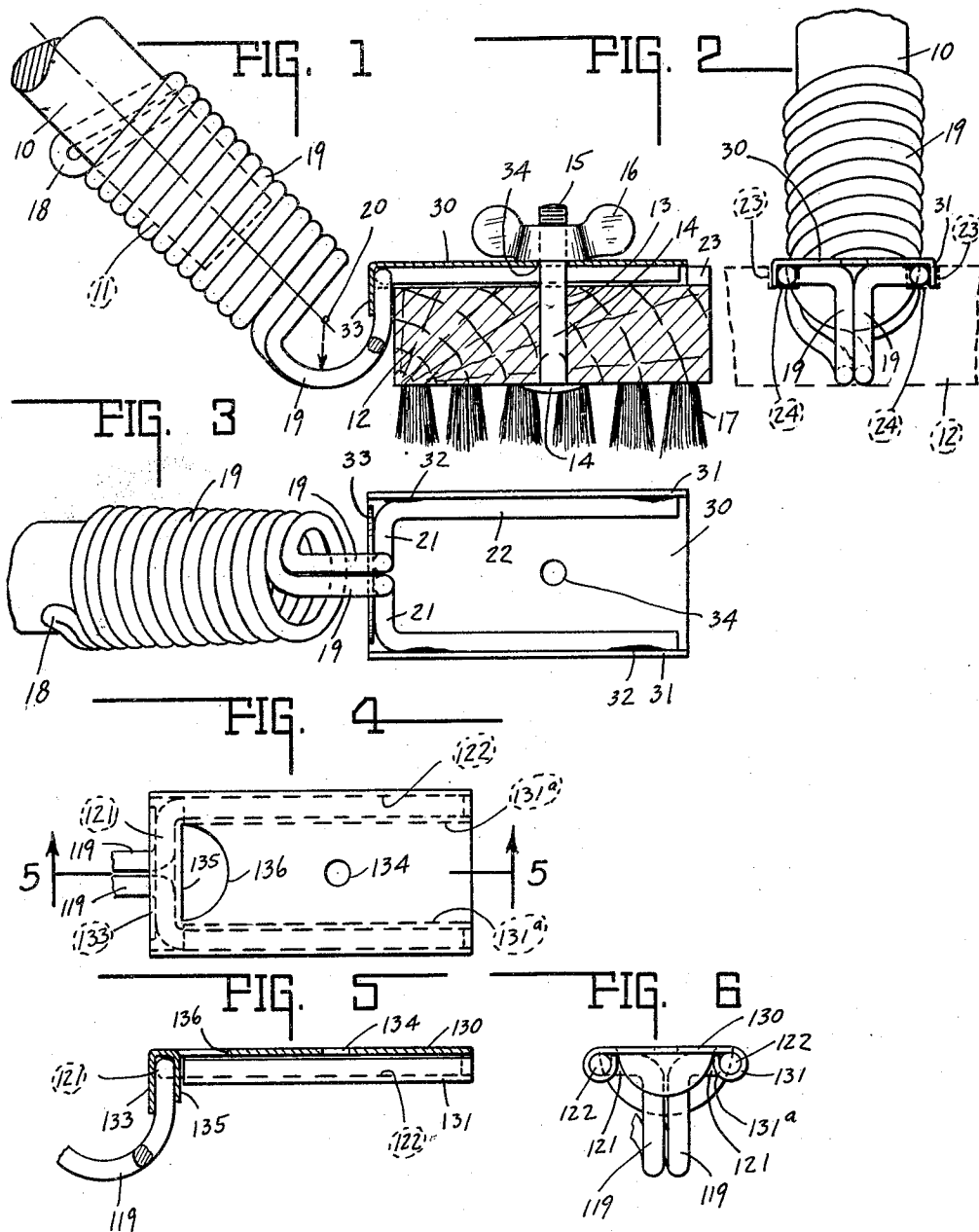
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REVERSIBLE RESILIENT BRUSH

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REVERSIBLE RESILIENT BRUSH

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This invention relates to a brush construction.

The chief object of this invention is to provide a brush and handle with a connection which will permit the brush to move parallel to the floor, in a sweeping action and the handle to tilt relatively to the brush in said sweeping action sufficiently to accommodate the change in the arc of the handle swing, assuming that the operator stands still during each sweeping stroke. In general, the variation of the handle swing is from an initial angle of 35° to 45° from the perpendicular to the floor or surface to a final angle of 55° or 60° to said surface. This angular change in brushes heretofore has caused the tilting upwardly of the brush and as the forward edge raises from the floor it traps beneath the brush the dirt which should have been carried forwardly ahead of the brush. That is the reason why in brush operation at the present time each operator, to clear the brush, taps the brush on the floor at the completion of the stroke. This is unnecessary with the present invention.

The chief feature of the invention consists in the mounting of the brush handle upon the brush, whereby the aforesaid object is accomplished.

Another feature of the invention consists in forming the connection between the handle and the brush in such a manner that the handle is automatically locked to the connection and normal use of the brush tends to progressively lock the connection to the handle for maintaining the connection therebetween while in use.

A further feature of the invention consists in the reversible arrangement of the connection to the brush whereby the brush can be reversed.

Another feature of the invention consists in resiliently connecting the handle to the brush such that the brush end in encountering an obstruction can move around the obstruction and to permit such movement the handle yields laterally.

The full nature of the invention will be more clearly understood from the accompany-

ing drawing and the following description and claim:

In the drawing, Fig. 1 is the side elevation of the lower end of a brush handle and the connection secured thereto and a sectional view of the brush body associated therewith. Fig. 2 is a front view of the handle and brush connection, a portion of the brush being shown dotted and a portion of the handle being shown in elevation. Fig. 3 is a bottom plan view of the connection, a portion of the handle being associated therewith. Fig. 4 is a top plan view of a portion of the connection and of a modified form thereof. Fig. 5 is a transverse sectional view taken on line 5-5 of Fig. 4 and in the direction of the arrows. Fig. 6 is an end view of the modification shown in Figs. 4 and 5.

In the drawing 10 indicates a handle having a somewhat tapering end 11. 12 indicates a brush body which is relatively elongated and substantially intermediate its ends and preferably centrally there is formed an opening 13 which receives a bolt 14 that has a threaded projecting end 15 mounting a wing nut 16, or the like, for detachable anchorage of the brush handle connection upon the brush body. 17 indicates the bristles or brushing portion of the brush body.

The connection in the present form comprises a single wire folded back upon itself at its mid-portion, the bent mid-portion being indicated by the numeral 18. The doubled portion immediately adjacent portion 18 is wound in a coiled spiral which also constitutes a double spiral and forms a tubular tapered socket 19. The arrangement is such that the tubular socket permits clock-wise rotation of the handle into it for seating movement, this corresponding to the thread of the socket upon the handle. Anti-clock-wise or counter-clock-wise rotation of the handle in the attempt to unthread the handle from the socket is prevented or rather strenuously resisted by the action of the socket in closing up on itself in the unthreading movement, whereas in the threading movement the socket yields to the action. The handle can, however, be forcibly detached from the socket by applying pressure to the

portion 18 through an instrument such as a screw-driver or the like. This frees the handle in the socket whereupon it may be easily unthreaded. With this arrangement accidental unthreading is prevented.

5 The two wire portions at the end of the tubular socket each extend downwardly in substantially parallel and curved formation, as indicated at 19. These portions 19 are
10 curved and the center of axis of said curvature is transverse to the axis of the tubular socket and in the present form of the invention these axes intersect, the center or intersection being indicated by the numeral 20 in
15 Fig. 1, and the axis of the socket being indicated by the broken line in Fig. 1. Each curved portion extends upwardly and terminates in an angular offset end 21 indicating the angular offset portion and 22 the end proper. The two offset portions 21 extend
20 oppositely from each other, see Figs. 2 and 3, and the two ends 22 extend substantially parallel to each other.

The brush body is herein shown provided
25 with a pair of spaced walls 23, which preferably are formed by forming a pair of spaced grooves 24. Each end 22 is thus received by one of the grooves and is seated therein. A base member on plate 30 has a
30 pair of depending sides 31 which are secured to the ends 22 as the spot welding and the like, as by Fig. 32 and maintain the same in spaced relation. The end of the plate adjacent to the socket includes a down-turned lip
35 or flange 33. The plate includes a hole 34, through which the bolt 14 projects. The wing nut 16 bears upon the plate 30 and anchors the plate and connection to the brush body. The down-turned sides 31 thus engage
40 the sides 23 of the grooves which prevents swivelling upon the bolt for an axis and relative to the body. All lateral tilting of the brush relative to the handle is provided for in the curved portion 19, which permits all
45 such movement when necessary. Such movement is necessary at times when the one end of the brush engages an obstacle, such as a chair or desk leg, and it is desired to sweep around the same.

50 As heretofore set forth, the curved portions 19 permit the brush handle and brush body to have relative tilting movement with respect to each other, which is required in sweeping if the brush bristles 17 and the like
55 are to remain in contact at all times with the surface to be cleaned or brushed.

Should the bristles at the front edge of the brush become unduly worn the wing nut 16 may be removed, the handle reversed, so
60 that the curved portion 19 is upon the opposite side from that shown in Fig. 1 and then the nut re-threaded for clamping the connection to the brush body. Thus, substantially double the life of an ordinary brush
65 is obtained.

In Figs. 4 to 6 inclusive, a modified form of the invention is illustrated. In this form of the invention the spot welding or soldering 32 may be omitted, if desired. Herein
70 the two ends 119 terminate in the offset portions 121 and the parallel portions 122. The plate 130 has its down-turned flange 131 turned upwardly as at 131—*a* to form two spaced tubular sockets that secure the ends
75 122. The plate also includes the outer down-turned lip 133 and in this form of the invention a portion 135 is struck from the plate body 130, as at 136 and turned downwardly and thus the two angular portions 131 are
80 seated beneath the two down-turned flanges 133 and 135, thereby locking the wire ends of the handle connection to the plate. The plate likewise is provided with the usual anchorage opening 134 through which the
85 bolt 14 extends.

Any other equivalent or desired anchorage of the plate, or of the resilient arcuate connection, to the brush body may be substituted for the aforesaid without departing from the broader features of the invention, as set
90 forth in the appended claim.

The invention claimed is:—

In combination with a brush, a connector comprising a single strand of wire folded upon itself intermediate its ends, said folded
95 portion formed into a double coil socket tapering toward the wire ends, and having at the end of said coil portion a portion bent into substantially U-shape, and the strands of said wire at the end of said U-shape por-
100 tion bent outwardly away from each other and then forwardly at right angles to form a brush engaging portion; and means to connect said ends to the brush.

In witness whereof, I have hereunto affixed
105 my signature.

JESSE I. ANDERSON.

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