W. H. MICHAELSEN.

MECHANICAL CONNECTOR.

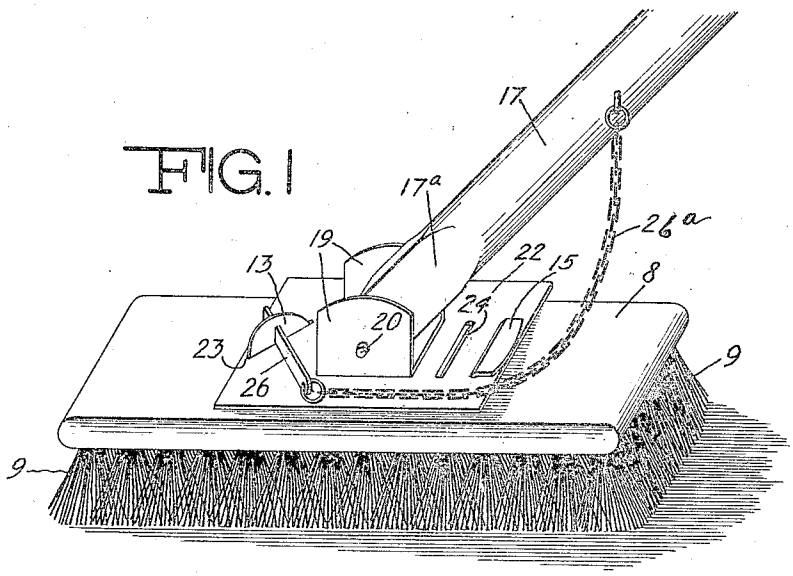
APPLICATION FILED MAY 8, 1919.

1,422,880.

Patented July 18, 1922.

2 SHEETS—SHEET 1.

FIG. 1



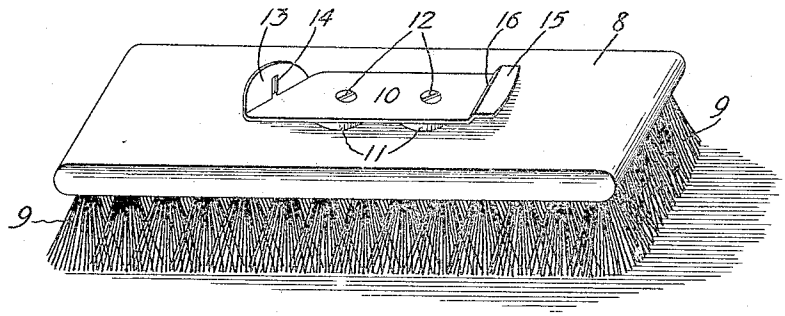


FIG. 2

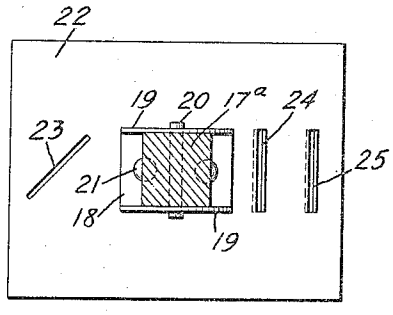


FIG. 3

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2 SHEETS—SHEET 2.

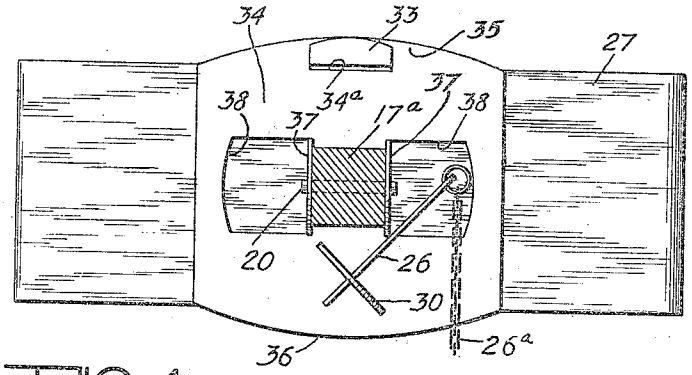


FIG. 4

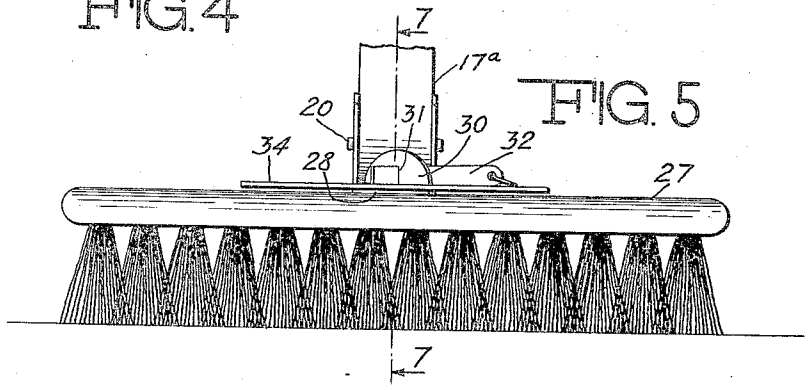


FIG. 5

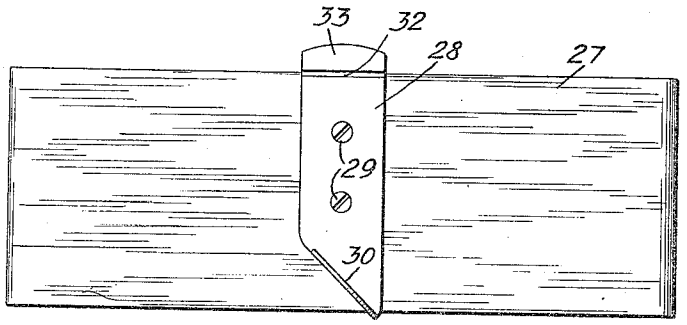


FIG. 6

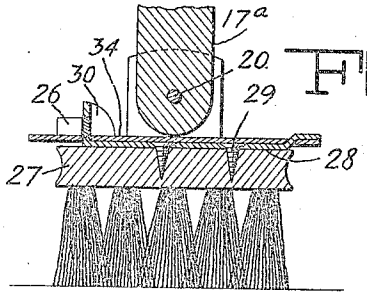


FIG. 7

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UNITED STATES PATENT OFFICE.

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MECHANICAL CONNECTOR.

1,422,880. Specification of Letters Patent. Patented July 18, 1922.

Application filed May 8, 1919. Serial No. 295,741.

To all whom it may concern:

Be it known that I, WILLIAM HERMAN MICHAELSEN, a citizen of the United States, residing at Mount Vernon, county of Westchester, and State of New York, have invented certain new and useful Improvements in Mechanical Connectors, of which the following is a full, clear, and concise description.

My invention relates to mechanical connectors of a type suitable for coupling together two articles mating each other and adapted for use as a unit when connected together.

More particularly stated, I seek to produce a mechanical connector of the kind mentioned and admitting of general use, but having such form as to be of peculiar service for connecting scouring brushes, mop heads, polishing pads and the like upon suitable poles, longitudinal handles or analogous portable supporting members, to be actuated by hand.

While my invention may be incorporated in a great variety of devices I do not deem it necessary or practicable to show or describe all of them, as the principles of the invention may be understood from the instances here set forth as typical.

Reference is made to the accompanying drawing forming a part of this specification, and in which like characters indicate like parts throughout the several figures.

Figure 1 is a perspective showing one form of my device, as used for connecting a scrubbing brush with the handle whereby it is operated.

Figure 2 is a perspective of the scrubbing brush as it appears without the handle and connector plate.

Figure 3 is a view, partly in plan and partly in section, of the connector plate and the handle pivotally connected thereto.

Figure 4 is a view, partly in plan and partly in section, of a form of my device as used for connecting the brush and handle in a different way from that contemplated by Figures 1 to 3 inclusive.

Figure 5 is a side elevation of the mechanism shown in Figure 4.

Figure 6 is a plan view of the brush shown in Figure 4, but without the handle and connecting plate.

Figure 7 is a section on the line 7—7 of Figure 5, looking in the direction indicated by the arrows.

A brush back 8 is provided with bristle tufts 9, these parts being of the usual or any desired construction.

Mounted rigidly upon the brush back 8 and extending longitudinally in the general direction of the length thereof is a cleat 10, made of any suitable material, in this particular instance sheet steel, stamped or sheared out. The cleat rests upon washers 11, to which it is secured by screws 12 which extend through the washers and engage the brush back. The cleat is thus spaced from the brush back by a distance commensurate with the thickness of the washers.

The cleat 10 has generally the form of a flat strip, the edges of which are substantially parallel with the edges of the brush back.

The cleat is provided at one of its ends with a portion 13, having a general arcuate form, and struck up or bent to a right angle with the general body portion of the cleat. Thus the member 13 is integral with the cleat, and has the form of a lip. The general direction in which it extends is oblique relatively to the brush back.

The cleat 10 is also provided, at its end opposite the lip 13, with a small, flat, raised portion 15, which is integrally connected with the general body portion of the cleat by a slanting portion 16. Thus the small flat portion 15 is displaced slightly from the general plane of the cleat, but is parallel therewith. It serves the purpose of a hook, as hereinafter described.

A handle is shown at 17 and is of the type known as a pole handle. It is provided with an end portion 17^a, which is substantially square in cross section.

A bearing 18 is provided with side walls 19 integral with it, and is made of sheet metal. The bearing as a whole has a general U-form.

A pin 20 extends through the side walls 19 and through the end portion 17^a of the handle.

The bearing 18 is by rivets 21 (see Figure 3) secured to a connector plate 22. This connector plate is made of sheet metal, preferably steel, and is provided with slots 23, 24 and 25. The slot 23 is disposed adjacent

one edge of the connector plate, and extends obliquely in relation to said edge. The slots 24, 25 are parallel with each other and each extends obliquely through the connector plate.

The slot 23 is of such form and so located that the lip 13 can extend through it so as to fill it neatly, and the slot 25 is so formed and located that the portion 16 of the cleat will fill it, neatly but not tightly.

A taper key 26 is mounted upon a chain 26^a, which is connected to the handle 17, so that the key is always with the handle.

In order to connect the handle 17 with the brush back, the connector plate 22 is so handled that the slot 25 is passed over the raised end portion 15 of the cleat, so that the slanting portion 16 of the cleat is caused to occupy and fill the slot. In doing this the connector plate is brought down flat upon the cleat, so that the lip 13 projects upwardly through the slot 23. The taper key 26 is thereupon thrust into the slot 14, so as to extend through the lip, as shown in Figure 1.

Thus the connector plate is held firmly in position, being secured by the key 26, lip 13, and the flat portion 15 of the cleat, as well as by the slanting portion 16 thereof. The flat portion 15 overhangs the adjacent edge portion of the connector plate.

The handle 17 swings freely within the bearing 18.

With the parts thus connected, the brush is manipulated by aid of the handle, in much the same manner as any other brush having a pivoted handle.

In order to disengage the handle and connector plate from the brush the key 26 is simply drawn out, whereupon the connector plate is lifted off.

In the form shown in Figures 4 to 7, inclusive, the brush back appears at 27 and the cleat at 28, the cleat being secured upon it by screws 29. The cleat is disposed crosswise of the length of the brush, and is provided with a tongue 30 having an arcuate form and provided with a slot 31 into which is fitted the taper key 26, carried upon the chain 26^a. The cleat is provided with a slanting portion 32 and with a small flat portion 33 which is displaced or raised slightly in relation to the general plane of the cleat.

The connector plate appears at 34, and is provided with edges 35, 36 which are curved and which project slightly, as shown in Figure 4, so as to give the connector plate a width slightly greater than that of the brush back. The plate has also a slot 34^a.

The connector plate 34 is provided with two ears 37 partially stamped or cut from the plate and therefore integral therewith, these ears being bent upwardly and parallel to each other so as to serve as a bearing. Two holes 38 remain in the connector plate, in consequence of its mutilation in forming the ears 37.

The connector plate is mounted upon the end portion 17^a of the handle, in the manner above described with reference to the connector plate 22, with the exception that with the form shown in Figures 4 to 7 inclusive the swinging movement of the handle is across the length of the brush, whereas in the form previously described the swinging movement of the handle is in the direction of the length of the brush.

In other respects, the structure and action of the form shown in 4 to 7 inclusive is the same as that of the form shown in the other figures.

If desired, the connector plate 22, shown in Figure 3, can be used with the brush back 27 shown in Figure 6. In this event the slot 24 shown in Figure 3 serves the same purpose as the slot 34^a shown in Figure 4.

I do not limit myself to the precise mechanism shown, as variations may be made therefrom without departing from the spirit of my invention.

I claim:

1. A device of the character described comprising a cleat made of sheet metal and having the form of a flat plate, said cleat being provided with an upturned lip and with an extending portion formed into a hook, a connector plate provided with a slot for receiving said upturned lip and with another slot for receiving said hook, a fastening member for detachably engaging said lip and an adjacent portion of said connector in order to prevent the separation of said connector plate from said cleat, and a handle mounted upon said connector plate by means of a flexible connection.

2. A mechanical connector comprising a connector plate provided with a plurality of slots, means for mounting said connector plate upon a handle, so as to allow said handle to swing relatively to said connector, a cleat provided with an end portion for extending through one of said slots and further provided with a lip for extending through another of said slots, the parts being so formed and arranged that when said end portion extends through one slot and said lip extends through another slot said end portion can not be withdrawn without first withdrawing said lip, and means controllable at the will of the operator for preventing the withdrawal of said lip.

WILLIAM HERMAN MICHAELSEN.