June 1, 1948. G. G. GREENE, SR 2,442,684

BRACE FOR FLOOR BRUSHES

Filed April 21, 1945

FIG. 1.

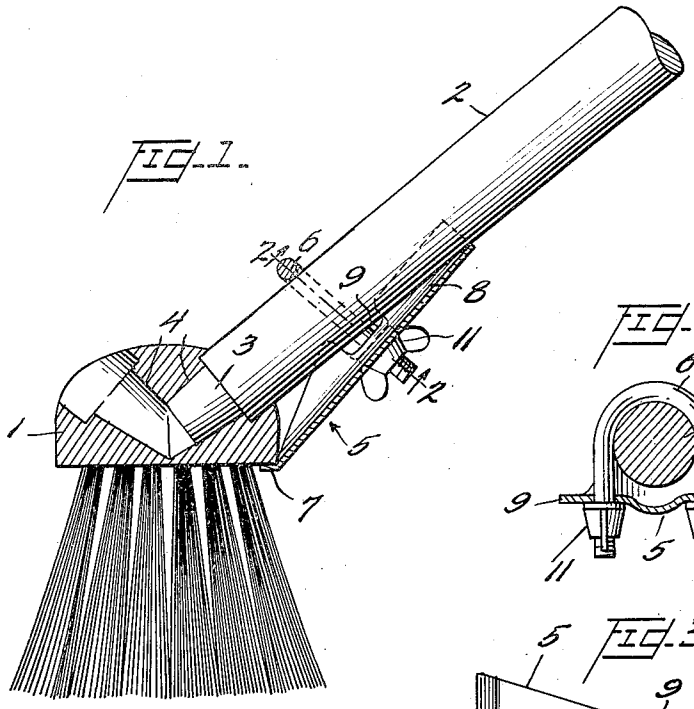


FIG. 2.

FIG. 3.

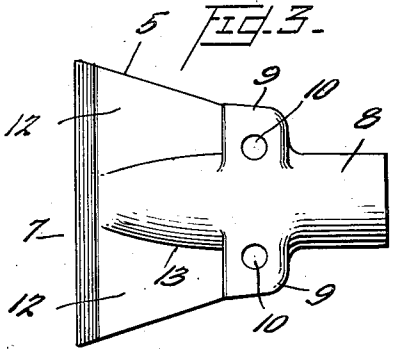


FIG. 4.

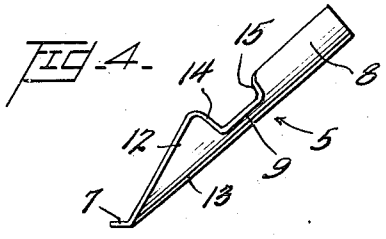


FIG. 5.

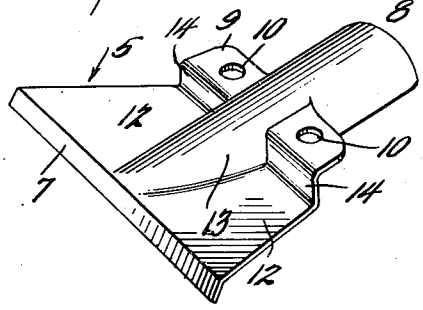
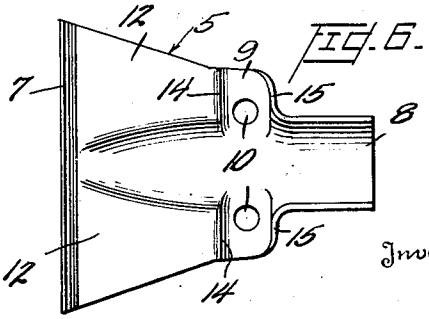


FIG. 6.



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BRACE FOR FLOOR BRUSHES

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1 Claim. (Cl. 306—26)

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The present invention relates to improvements in braces for brushes or brooms, and more particularly for relatively long brushes of the type employed for sweeping floors.

Floor brushes are usually provided with a handle which is fitted into a tapered socket in the brush back midway between its ends and serves as means for pushing the brush over the floor. However, due to the length of the brush, and striking of the ends thereof against furniture, walls, and other obstructions, a stress is imposed upon the connection between the brush and handle which tends to loosen the handle in its socket or to displace the brush angularly relatively to the handle, and under sever stress, the handle may even break off adjacent to its socket.

Braces have been heretofore proposed to overcome such objections, but they have usually required the employment of a number of parts which not only rendered such braces expensive to manufacture, but required assembling the parts properly on the brush and handle, and one or more of the parts were likely to become lost or misplaced in changing the brace from one brush to another.

The object of the present invention is to provide an improved brace of this type which is composed of a minimum number of parts, so that it can be manufactured inexpensively and can be applied correctly to the brush and handle by any unskilled person, and which, when applied, will afford maximum strength and rigidity to the connection between the brush and handle.

In the accompanying drawing—

Figure 1 is a vertical section through a floor brush, showing the improved clamp applied thereto.

Figure 2 is a cross-section taken on the line 2—2 in Figure 1.

Figure 3 is a bottom plan of the improved brace.

Figure 4 is a side elevation of the brace as shown in Figure 1.

Figure 5 is a perspective view of the brace.

Figure 6 is a top plan view of the brace.

Similar parts are designated by the same reference characters in the several views.

In the drawing, 1 represents the wooden back of a bristled floor brush of usual construction, and 2 represents the handle, usually of wood, the handle having a tapered end 3 which fits into a correspondingly shaped socket 4 in the back of the brush. The socket is usually located midway between the ends of the brush, which is generally of considerable length to cover a large area of the floor as the brush is pushed thereover.

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The improved brace according to the present invention comprises two parts, namely, a body part 5 and a clamp 6. The body part is composed of a plate of sheet metal of suitable thickness to possess the requisite rigidity, and is pressed into appropriate shape for engagement with the brush back and handle. One end of the brace is bent at an angle to the plane thereof to form a flange 7 adapted to engage a longitudinal edge of the brush back, and a channel 8 of segmental cross-section and of a radius corresponding substantially with that of the handle is formed in the plate to extend from the flange 7 through the shank portion and to the other end of the brace, this channel being adapted to fit against the under side of the handle, and tapering at its lower end as it approaches the flange 7. The plate comprising the brace is pressed to form bosses 9 which extend laterally from opposite sides of the channel 8, these bosses being provided with apertures 10.

The clamp 6 is composed preferably of a length of relatively stiff rod bent into the form of a yoke the intermediate portion of which is adapted to straddle the handle 2, and the ends of the yoke are adapted to extend through the apertures 10 in the bosses 9, and are screw-threaded to receive wing nuts 11 which are threaded thereon and bear against the under sides of the bosses and serve to clamp the brace firmly to the under side of the handle. The bosses 9 are of sufficient depth to bring the nut-engaging faces thereof into approximately tangential relation with the lowermost portion of the channel 8, as shown in Fig. 2, so that the downwardly projecting channel will not obstruct manipulation of the wing nuts in tightening the clamp to firmly secure the brace on the handle and brush. The portions of the body portion between the bosses and flange 7 are pressed up to substantially the full height of the channel, as shown at 12, so that the adjacent side portions 13 of the channel will form stiffening flanges extending longitudinally of the shank of the brace, and flanges 14 and 15 will be formed between these portions 12 and the upper portions of the brace and the bosses 9, these flanges lying in planes transverse to the axis of the channel 8 and thereby rigidifying the bosses in a direction transversely of the brace, thus enabling the bosses to sustain the force applied in clamping the brace firmly to the handle.

The body part of the brace may be pressed by a single operation from a plate of sheet metal in the form of a blank of appropriate thickness and outline, and the clamp, after its ends have

been screw-threaded, may be bent into yoke shape by a single bending operation.

In using the brace as hereinbefore described, the body part 1 is simply placed against the under side of the handle 2 so that the latter is received in the channel 8 and the flange 7 on the body part of the brace is engaged with a longitudinal edge of the brush back, the clamp 6 is applied over the handle and its ends extended through the apertures 10 in the bosses 9, and the wing nuts 11 are threaded onto the ends of the yoke which project below the bosses and are tightened firmly.

The engagement of the channel 8 with the under side of the handle and engagement of the flange 7 with a longitudinal edge of the brush back serve to rigidly secure the handle in fixed angular relation when the clamp is tightened, and the flanges 14 and 15 which join the bosses with the body of the brace stiffen the connection between the bosses and the body part sufficiently to enable the bosses to sustain a firm clamping action without the necessity of employing any additional or auxiliary parts for the clamp.

I claim:

A brace for a floor brush having a back provided with a socket and a brush handle inserted in said socket, comprising a sheet-metal plate-like body portion having a transverse edge to engage beneath the brush back, and a shank portion extending from said body portion and formed with a channel of segmental cross-section to receive the under side of the handle, the lateral marginal edges of the body portion merging into the respective lateral edges of the channel in the shank portion and being bent to form channels extending transversely from and having a depth less than that of the channel in the shank portion, said transverse channels forming bosses connected rigidly to the body portion and the respective sides of the channel in the shank portion by flanges which lie in planes substantially at a right angle to the plane of the body portion, said lugs having apertures therein at opposite sides of the channel in the shank portion, and a yoke shaped to straddle the handle in the channel in the shank portion and having screw-threaded ends to extend through the apertures in the bosses and provided with clamping nuts to bear against the undersides of the bosses.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,621,273	Read	Mar. 15, 1927
1,785,564	Schweigert	Dec. 16, 1930
1,906,906	Greider	May 2, 1933
1,917,747	Wozar	July 11, 1933
1,983,923	Stevens et al.	Dec. 11, 1934