Jan. 1, 1924 **1,479,109**

W. H. RUDOLPH

CLEANING IMPLEMENT

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Fig. 1.

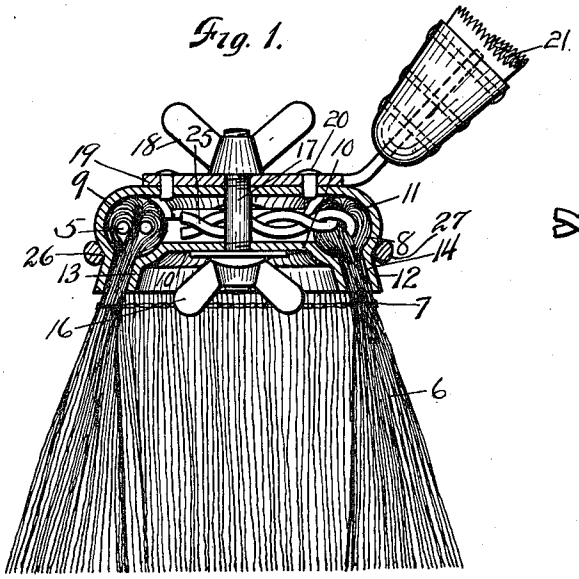


Fig. 2

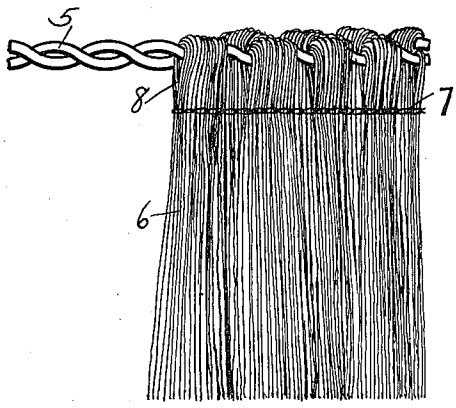


Fig. 3.

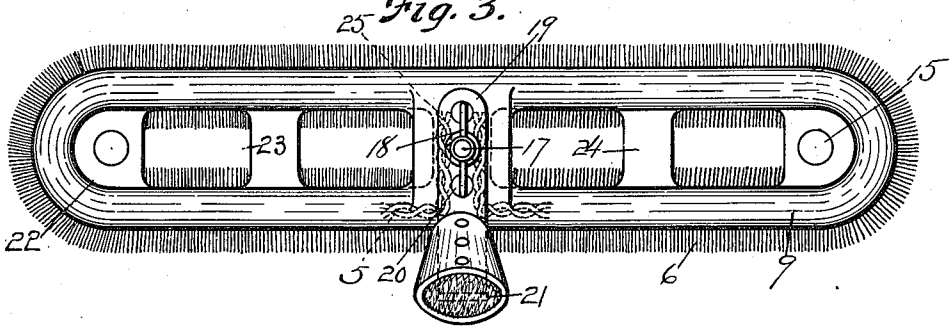
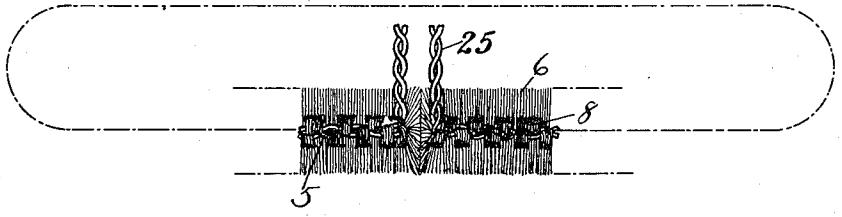


Fig. 4.



INVENTOR.

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BY

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Fig. 5.

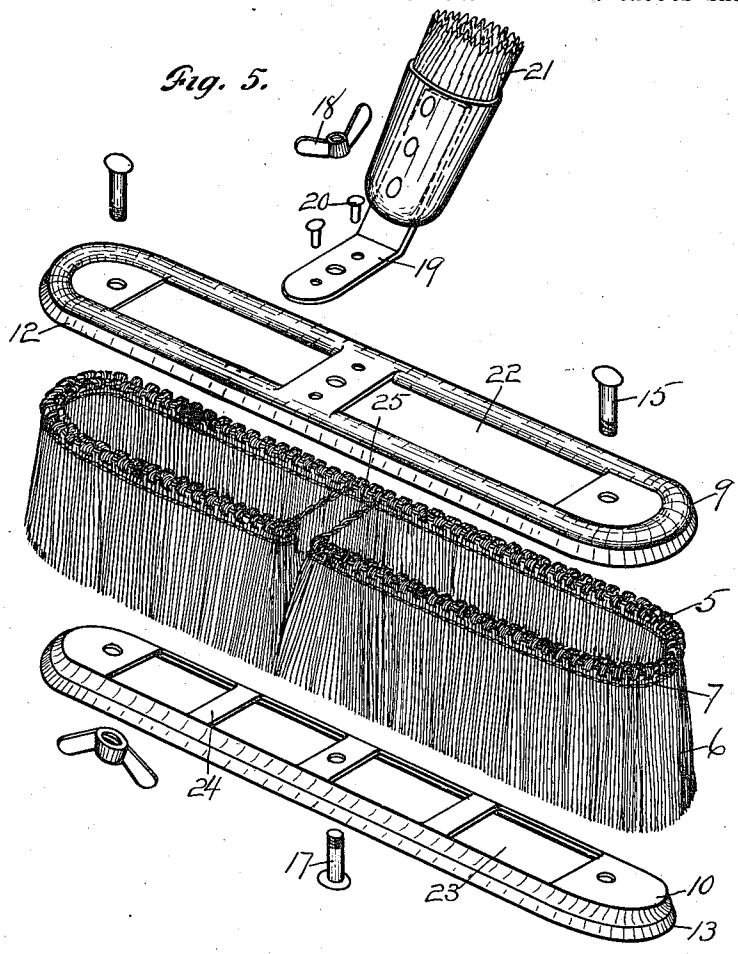
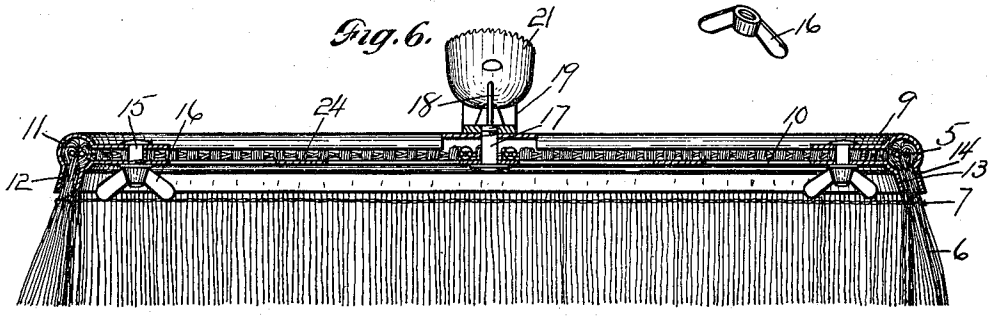


Fig. 6.



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Patented Jan. 1, 1924. 1,479,109

UNITED STATES PATENT OFFICE.

WALTER H. RUDOLPH, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE FULLER BRUSH COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

CLEANING IMPLEMENT.

Application filed February 12, 1921. Serial No. 444,364.

To all whom it may concern:

Be it known that I, WALTER H. RUDOLPH, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented new and Improved Cleaning Implements, of which the following is a specification.

My invention relates to the class of devices used for cleaning floors and other surfaces, and an object of my invention, among others, is to provide a device of this class that shall be extremely simple and durable in construction and efficient in operation.

One form of brush embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a view in central cross section through a brush embodying my invention.

Figure 2 is a detail view in side elevation of a portion of the brush frame illustrating the manner of securing the threads comprising the brush material in place.

Figure 3 is a top view of my improved brush on reduced scale, the handle being broken off in this view as well as in Figure 1.

Figure 4 is a detail top view illustrating a portion of the brush frame and the manner of attaching the brush material thereto.

Figure 5 is a perspective view of the different parts comprising the brush disassembled but in juxtaposition.

Figure 6 is a view in lengthwise section through my improved brush.

My improved brush comprises a frame to which the brush material, as horse hair, bristles, vegetable fiber, cotton threads or any other desired fiber, is attached, this frame being inclosed within a case, in the drawings herein the numeral 5 indicating the frame that is formed, in a usual manner, of twisted wire, the brush material being secured in this frame in the operation of twisting. This brush material is composed of strands of horse hair 6 or any other desired material, which strands are looped about the members comprising the frame, these members extending through the loops, and each of the threads or strands comprising the brush material consequently projecting through the frame on one side of a twisted member and then being looped and extended backwardly so that the two members comprising each strand of the material lie side by side. The frame 5 is preferably oblong in form with the sides separated and extending parallel and the ends of the frame being preferably curved, as shown in Figure 3 of the drawings and more clearly in Figure 5. The part thus far described will hereinafter be referred to as the brush. The brush material comprising the threads or strands attached to a single length of the wire frame are stayed at a short distance from the frame as by stitches 7 sewed through the material from side to side, and as illustrated in Figure 2 of the drawings, this material being thus drawn together and securely held at a short distance below the looped portion 8 of the brush material.

The brush case comprises an outer plate 9 and an inner plate 10, the former being rounded at its corners to provide a brush pocket 11 extending around the plate and of a shape to receive one side of the looped portion 8 of the brush material. A flange comprising a lip 12 extends from the plate at the termination of this pocket and the plate 10 has a flange comprising a similar lip 13 lying, when the plates are assembled, opposite the flange or lip 12 thus providing a narrow space or mouth 14 to compress the brush material preferably as close to the frame and looped portions as possible, and as shown in Figure 1 of the drawings. The inner plate member may also be provided with a complemental part of the pocket 11 to receive a portion of the looped part of the brush material.

The two plates are secured together as by means of bolts 15 at opposite ends having thumb nuts 16 located underneath the plate 10, a central bolt 17 extending through the plates at the lengthwise center thereof and being secured as by a thumb nut 18 on top of the plate 9.

The bolt 17 is also employed to secure a handle plate 19 to the upper surface of the outer plate, dowels 20 being secured to the handle plate at equal distances from and on opposite sides of the bolt 17 to enter holes in the top plate. By this construction a handle 21 that receives a shank from the handle plate may be positioned to project on either side of the brush frame as will be readily understood.

Continual use of brushes of this kind causes the brush material, and the frame to a greater or lesser extent, to be bent to one

side and by the above construction enabling the handle to be reversed this tendency may be overcome.

The plate 9 has openings 22 each preferably extending from the handle plate 19 nearly to the end of the plate 9, the sides of these openings being bounded by the pocket 11, and the plate 10 has a series of openings 23 registering with the openings 22, the openings 23 being separated by cross pieces 24. These openings registering, that in the outer plate with those in the inner plate, enables water to be readily forced through said openings and the brush material to be thus readily cleaned.

The groove 26 at the junction of the curved portion of the outer plate and the flange or lip 12 may be utilized if desired to receive a buffer 27 of any suitable material extended around the case and as shown in Figure 1 of the drawings.

In the preferred form of construction the ends 25 of the wire frame are bent inwardly parallel each with the other, and as shown in Figure 4 of the drawings, in which position they will be securely held by the plates comprising the brush case and by bolts hereinbefore described.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative, and that the invention may be carried out by other means.

I claim:

1. A brush comprising a holder formed of overlying plate members, a brush pocket formed between said plate members adjacent their marginal edges, said plates being provided with registering cut-out portions inwardly of said pocket for forming a pair of mating cross bars, a wire frame having free ends bent to extend transversely thereof, said frame being positioned within said pocket with the free ends between said cross bars, strands of brush material secured to said frame extending outwardly of said holder between the marginal edges of said plates, and means associated with said cross bars and frame ends for retaining said frame in the holder.

2. A brush comprising a holder formed of overlying plate members, a brush pocket formed between said plate members adjacent their marginal edges, said plates being provided with registering cut-out portions inwardly of said pocket for forming a pair of mating cross bars, a wire frame having free ends bent to extend transversely thereof, said frame being positioned within said pocket with said free ends extending longitudinally between said cross bars, strands of brush material secured to said frame extending outwardly of said holder between the marginal edges of said plates, a handle having a plate extension, and means associated with said handle plate, cross bars, and frame ends for connecting the holder, frame, and handle.

3. A brush comprising a holder having rounded ends and parallel sides and formed of two overlying plates, a brush frame pocket formed between said plates by oppositely bending said plates inwardly of the marginal edges, the marginal edges being in the form of parallel flanges, said holder parts inwardly of said pocket being provided with registering cut-out portions to form a mating pair of cross bars extending between said parallel sides intermediate the rounded ends and mating web portions at said ends, a wire frame having free ends bent to extend transversely thereof, strands of brush material carried by said frame, said frame being positioned within said pocket with the free ends between said cross bars and the brush material projecting through said flanges, and means associated with said cross bars and web portion for connecting the said holder plates to clamp said frame therebetween.

4. A brush comprising a holder including a plate member having a central portion and a marginal edge bent downwardly and outwardly to form an annular groove and an annular flange depending from the lower edge wall of said groove, and a second plate member comprising a central portion and a marginal edge bent to form an annular groove outwardly of the central portion and a flange depending from the lower edge wall thereof, said grooves forming complemental parts of a pocket for a bristle carrying frame, a wire frame having strands of material extending therefrom positioned within said pocket with said brush material disposed between and projecting through said depending flanges, and means associated with said central portions for connecting said plates to hold the wire brush frame therebetween.

WALTER H. RUDOLPH.