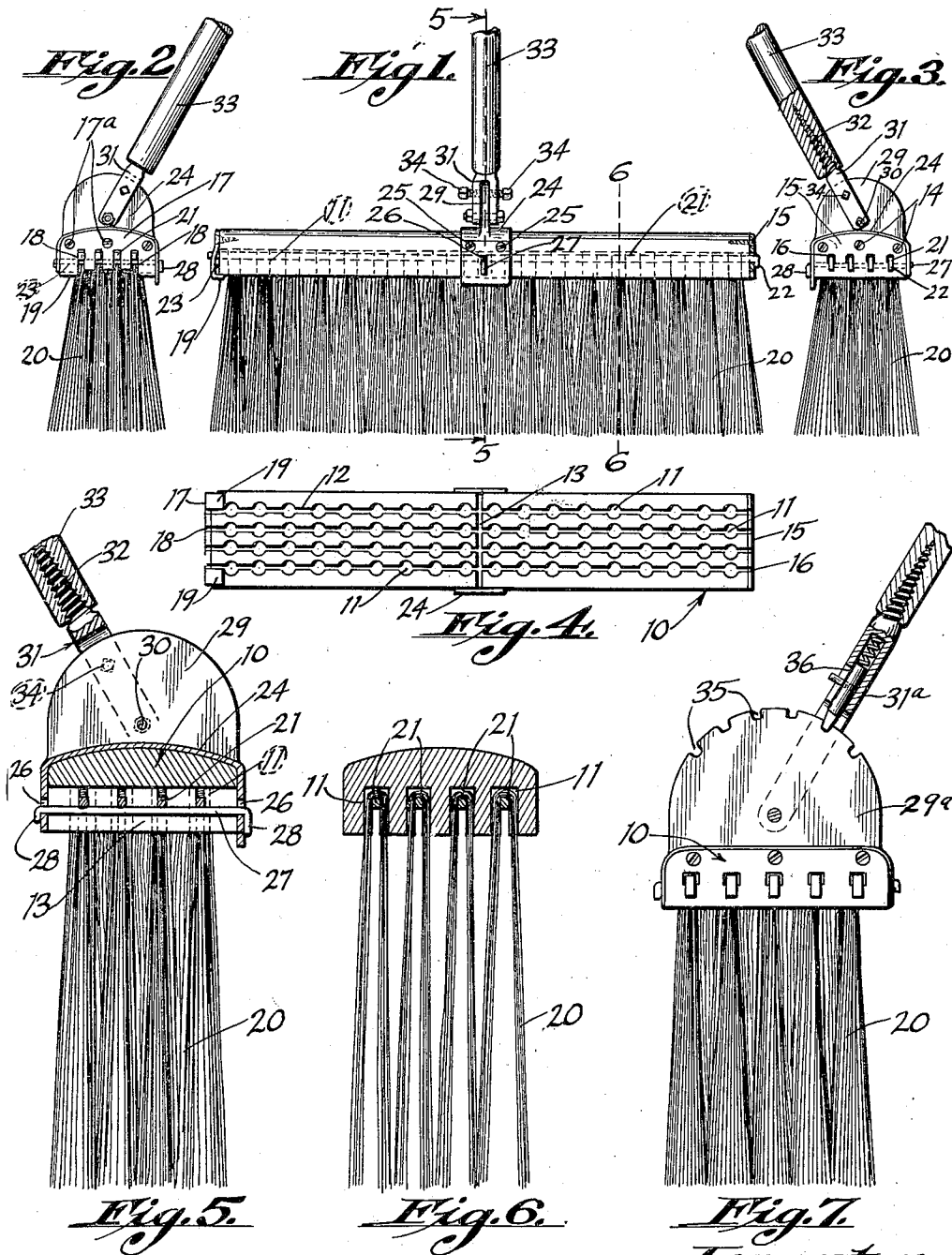


E. A. WHEELER.
BROOM.
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UNITED STATES PATENT OFFICE.

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BROOM.

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To all whom it may concern:

Be it known that I, EARL A. WHEELER, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented new and useful Improvements in Brooms, of which the following is a specification.

My invention relates generally to sweeping appliances, and more particularly to brooms or brushes having relatively long heavy bristles and which are utilized for sweeping pavements, concrete floors and the like; the principal objects of my invention being to generally improve upon and simplify the construction of the existing types of similar brooms or brushes, and to provide a relatively simple and practical broom or brush structure that is capable of being easily and cheaply produced.

Further objects of my invention are, to provide a broom or brush having a handle that is reversible so that it may be readily shifted from one side of the brush body to the other, thereby enabling the brush to be used so that the wear upon the bristles is substantially uniform, and, further, to provide simple and readily detachable means that will permit the tufts or bunches of bristles to be readily removed from the brush back in the event that the bristles become unduly worn, thereby enabling the brush to be renewed from time to time by the insertion of new bristles to replace those that have been worn away.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:

Fig. 1 is an elevational view of a brush of my improved construction.

Fig. 2 is an end view of the brush.

Fig. 3 is an end view of the brush and showing the lower portion of the handle thereof in section.

Fig. 4 is a view looking against the underside of the brush body.

Fig. 5 is an enlarged cross section taken on the line 5—5 of Fig. 1.

Fig. 6 is an enlarged cross section taken on the line 6—6 of Fig. 1.

Fig. 7 is an end elevational view of a modified form of the brush and with a portion of the handle thereof in section.

Referring by numerals to the accompanying drawings, which illustrate a practical embodiment of my invention, 10 designates the back of my improved broom or brush, which may be formed of wood, compressed fibre, hard rubber, or analogous material, and formed in the underside of said body are circular recesses 11, the same being arranged in longitudinally or transversely disposed rows. The members of each longitudinally disposed row of recesses are connected by short longitudinally disposed slots 12, and arranged at the center of the brush body and intersecting the longitudinally disposed slots 12, is a transversely disposed slot 13.

Removably positioned on one end of the brush body and held thereupon by means of screws 14 is a plate 15, preferably of metal, in which is formed a series of apertures 16, the same being arranged so that they coincide with the adjacent ends of the longitudinally disposed grooves or slots 12.

Removably positioned on the opposite end of the brush body and retained thereupon by screws 17^a, is a metal plate 17 in which is formed a series of notches 18 that extend upwardly from the lower edge of said plate and said notches being arranged so that they coincide with the adjacent ends of the longitudinally disposed grooves or slots 12.

Portions of the lower edge of plate 17 adjacent to its ends are bent inwardly to form narrow lips or flanges 19 which, when the plate is properly applied to the end of the brush body, overlie the under surface of the end portion of said body. (See Fig. 1.)

The bristles 20 of my improved brush are arranged in bunches that are doubled at their centers, and a series of the bunches thus doubled is arranged on a retaining member 21, preferably, a wire or narrow strip of metal that is slightly longer than

the brush body 10, and one of these bristle carrying members is arranged in each longitudinally disposed slot or groove 12 with the doubled central portions of the bristles carried by said member positioned within the corresponding recesses 11; and, to retain the brush carrying members 21 in position in the brush back, said members, at one end, are bent downwardly to form hooks 22 that engage through the apertures 16 in plate 15.

The opposite ends of the bristle carrying members 21 project through the upper portions of the notches 18 in plate 17, and said ends are supported in proper position at the upper ends of said notches, by a transversely disposed strip 23, preferably of metal, that is positioned beneath plate 17 and clamping against the adjacent end of the brush back when the end plate retaining screws 17^a are tightened.

Overlying the central portion of the brush back 10 is a transversely disposed plate 24, the ends of which extend downwardly over the front and rear faces of said brush back, said plate being secured to the brush back in any suitable manner by means of screws 25, and, formed in the depending end portions of this plate, are apertures 26 that coincide with the ends of the transverse groove 13.

Extending through the transverse groove 13 and arranged beneath the bristle carrying members 21, is a transversely disposed supporting member 27, preferably, a wire or a narrow metal plate, the end portions of which are bent to form depending hooks 28 that engage in the apertures 26, such construction providing a substantial support for the intermediate portions of the bristle carrying members 21.

Fixed to and projecting upwardly from plate 24 is a vertically disposed plate 29, and pivotally connected thereto by means of a transversely disposed pin or bolt 30, are the lower ends of the arms of a yoke 31, which latter is provided with a threaded shank 32 that is seated in the lower end of a handle 33.

Seated in the upper portions of the arms of the yoke 31 are set screws 34 that are adapted to bear against the side faces of plate 29 to lock the handle carrying yoke 31 in its angularly adjusted position.

By virtue of the construction just described, it is possible, when one side of the body of bristles of the brush have become worn off as a result of continued use, to release the set screws 34 and swing the handle 33 from an angular position on one side of the brush body to a corresponding angular position on the other side; and, by so doing, the wear upon the ends of the bristles of the brush may be evenly distributed. When, after continued use, the bristles become worn so as to be unfit for service, the bristle

carrying members 21 may be readily detached from the plates 15 and 17, thereby enabling the old and worn bristles to be removed and replaced by new bristles.

To effect a removal of the bristle carrying members 21, it is only necessary to loosen screws 17^a a sufficient degree to permit plate 17 to be swung outward a sufficient distance to release the transverse retaining strip 23, after which the adjacent ends of the retaining members 21 may be pulled downwardly from their positions within slots 12 in the brush back.

In the modified construction illustrated in Fig. 7 the upper edge of the transverse plate 29^a is provided with a series of notches 35 and in which is adapted to engage the lower end of a spring pressed pin 36 which latter is arranged in a suitably located recess in the handle carrying yoke 31^a. By retracting pin 36 the handle carried by the yoke may be swung into various angular positions with respect to the brush body and locked in such adjusted position by the engagement of the inner end of said pin in one of the notches 35.

A brush of my improved construction is comparatively simple, may be easily and cheaply produced, is constructed so that old or worn bristles may be readily removed and replaced by new bristles, and the brush handle is arranged so that it may be readily shifted from one side of the brush body to the other, thereby bringing about an even distribution of the wear upon the outer ends of the bristles.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved broom or brush may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. A brush comprising a back having bristle receiving recesses formed therein, slots connecting the recesses, and a transverse slot intermediate the ends thereof, plates secured to the opposite ends of the back, one of said plates being formed with openings and the other plate with recesses, lips formed on the last mentioned plate, retaining members in said slots and extending into the openings and recesses of said plates, hooks formed on those ends of the retaining members extending through said openings, a plate secured to the back intermediate its ends, and retaining strips within the transverse slot and extending through the intermediate plate and the lipped plate and between the lipped plate and said back, and cooperating with said hooks for securing the retaining members within the slots.

2. A brush comprising a back having bristle receiving recesses and slots formed there-

in connecting the recesses, plates secured to the ends of the back and at a point medially thereof, bristle retaining members within said slot, and extending through the end
5 plates, hooks formed on one end of the retaining members for securing the same to one end plate, and retaining strips associated

with the other plate and engageable with the retaining members for securing the latter within said slots.

In testimony whereof I have signed my
name to this specification.

E. A. WHEELER.