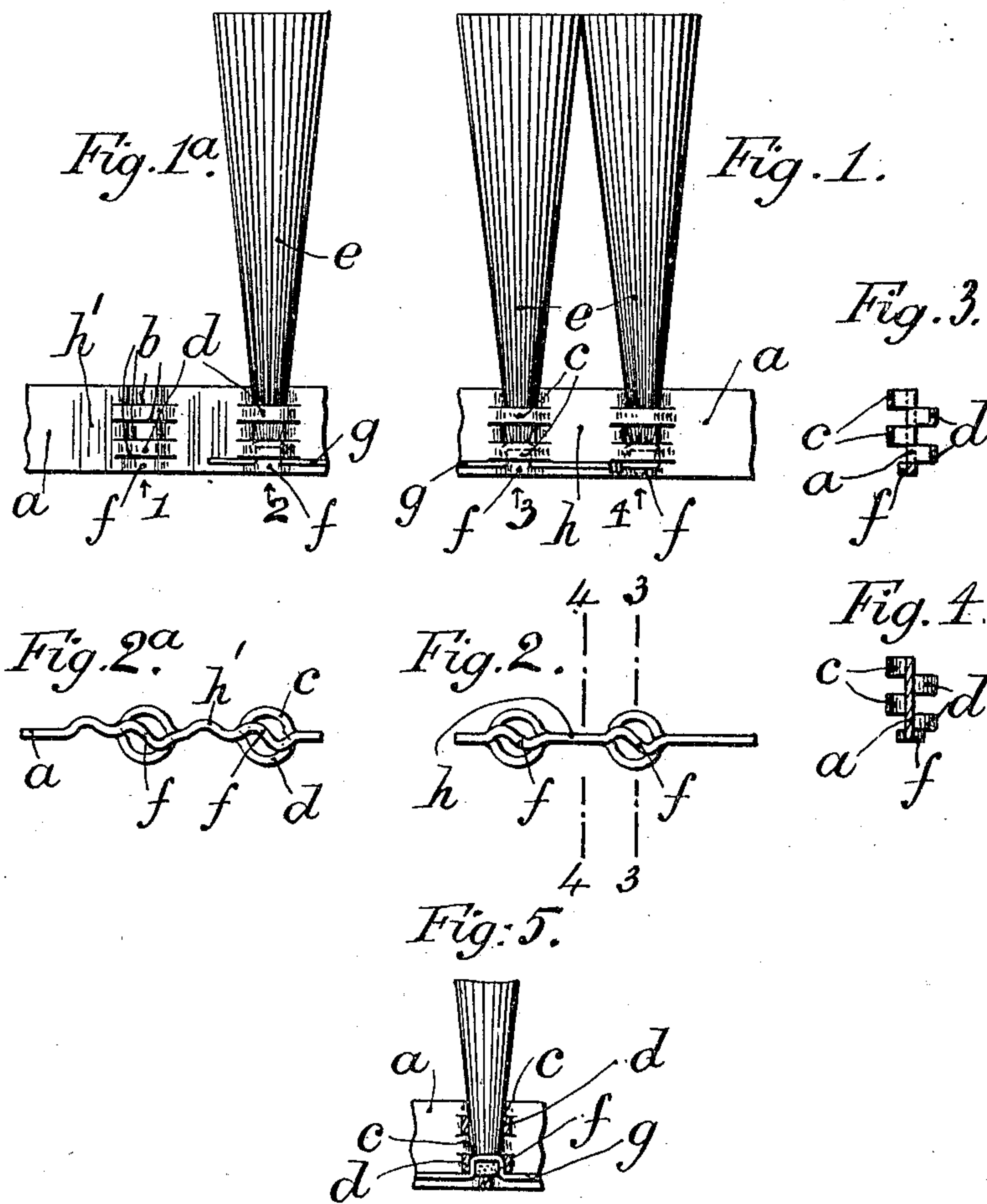


No. 837,015.

PATENTED NOV. 27, 1906.

W. A. WEIR.
MANUFACTURE OF BRUSHES.
APPLICATION FILED MAY 21, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM ADAM WEIR, OF LONDON, ENGLAND.

MANUFACTURE OF BRUSHES.

No. 837,015.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed May 21, 1906. Serial No. 317,872.

To all whom it may concern:

Be it known that I, WILLIAM ADAM WEIR, a subject of the King of Great Britain and Ireland, and a resident of London, England, have invented a certain new and useful Improvement in the Manufacture of Brushes, (for which I have filed applications for patents in Great Britain, No. 11,303, dated May 30, 1905, and in Austria November 21, 1905;) and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to improved means for holding bunches of bristles or the like applicable for use in the manufacture of flat brushes; and it consists in forming such means in strip form from strip sheet metal in such manner that the strip is slit longitudinally in transversely-arranged series of slits at intervals along the strip, and the slit parts at each location are alternately raised above and depressed below the plane of the strip, so as together to form a receptacle crosswise of the strip and adapted to receive the bristle bunch, the outer part at one edge of the strip at the location of each receptacle being given a waved formation adapting it to act as a stop at the bottom of the receptacle for the bristle bunch to be pulled against while being wired in position, whereby the strip is formed of a crimped formation across its full width at the location of each bristle-holding receptacle, which renders all its parts at such location subject to approximately the same tension or strain and so avoids liability to fracture of the bristle-holding parts.

On the accompanying drawings, Figures 1, 1^a represent elevations of two analogous formations of the improved bristle-holding means, showing some bristles in position. Figs. 2, 2^a represent, respectively, under plans of Figs. 1, 1^a. Figs. 3, 4 represent sections on 3 3 4 4, Fig. 2, and Fig. 5 represents a section on the front plane of Fig. 1.

The improved bristle-holding means consist of a strip *a* of sheet aluminium or other suitable metal of suitable dimensions, having in the direction of its length at suitable intervals 1 2 or 3 4 apart transversely-arranged series of slits *b*, and the adjacent slit parts *c d* of each series alternately raised and depressed, so as to assume the form of, say, semicylindrical bands, which project alter-

nately on opposite sides of the strip and together constitute a cylindrical receptacle adapted to receive a bunch of doubled bristles *e*, the outer strip part *f* of each series having a waved formation crosswise of the bottom of the receptacle, adapting it to prevent the bristle bunch from being pulled through the receptacle by the wire *g*, by which it is pulled into and secured in the receptacle.

The parts *h* between adjacent bristle-holding receptacles may be left flat in the plane of the strip, Figs. 1 to 5, or may be corrugated across, as shown at *h'*, Figs. 1^a, 2^a.

The operations of cutting, raising, depressing, and waving the strip parts may be performed by feeding and pressing the metal strip between opposite dies, preferably rotary, or by a plurality of dies respectively adapted to perform such operations in any desired sequence or by other suitable means.

The bristle-holding strips may be made in long lengths and coiled or bent around or folded together and mounted in any suitable manner in suitable brush-backs, or they may be made in or cut into short lengths and assembled together and mounted in any suitable manner in suitable brush-backs, or they may be adapted at their ends for application to collapsible brushes.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A device for holding bunches of bristles or the like, applicable for use in the manufacture of flat brushes, consisting of a strip of sheet metal slit longitudinally, in transversely-arranged series, at intervals apart, and having the slit parts, alternately raised above and depressed below the plane of the strip, so as, together, to form receptacles crosswise of the strip and each adapted to receive a bunch of doubled bristles, and the outer slit part at one edge of the strip at the location of each receptacle having a waved formation adapting it to act as a stop at the bottom of the receptacle for the bristle bunch to be pulled against while being wired or drawn into position, as set forth.

2. In combination, a strip of sheet metal slit longitudinally, in transversely-arranged series, at intervals apart, and having the slit parts, alternately, raised above and depressed below the plane of the strip, so as,

together, to form receptacles crosswise of the strip, and the outer slit part at one edge of the strip at the location of each receptacle having a waved formation adapting it to act
5 as a stop at the bottom of the receptacle, bunches of doubled bristles inserted one into each receptacle, and a wire serving to draw said bristle bunches into the receptacles and

to hold the same against the stops at the bottom thereof, as set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM ADAM WEIR.

Witnesses:

CHARLES AUBREY DAY,
ALFRED DAY.