No. 863,243 PATENTED AUG. 13, 1907.

W. S. WALKER.

BRUSH.

APPLICATION FILED MAY 23, 1906.

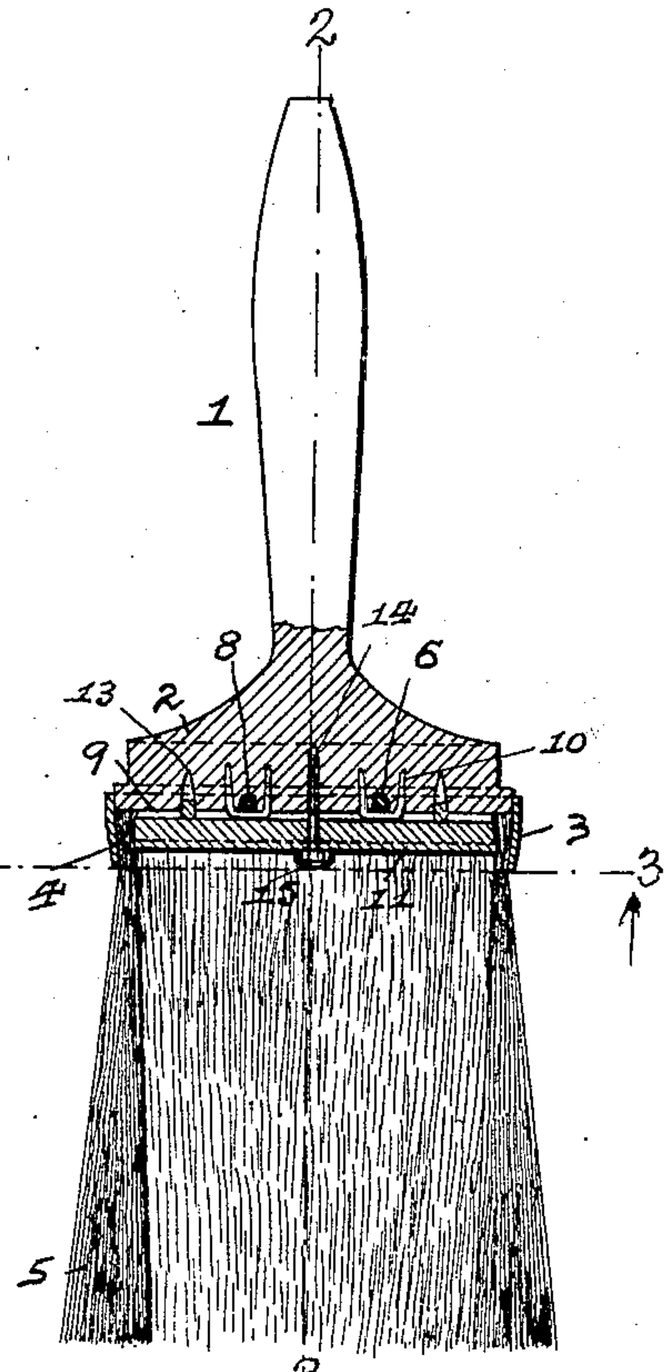

Fig. 1.

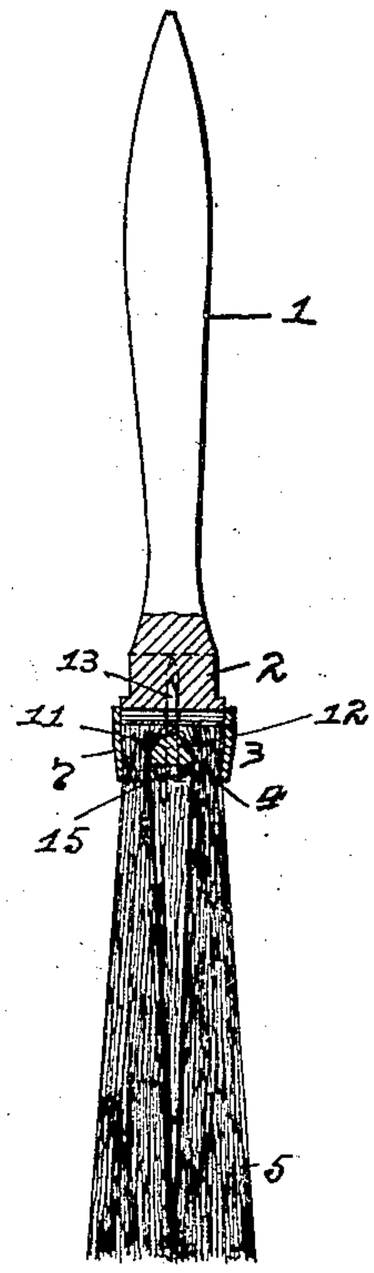

Fig. 2.

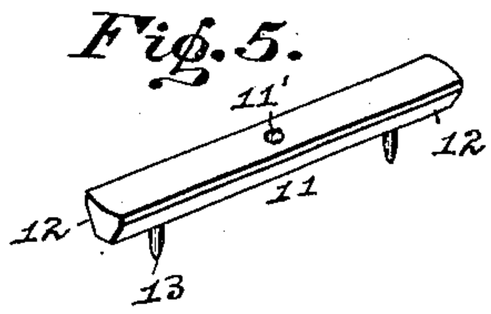

Fig. 5.

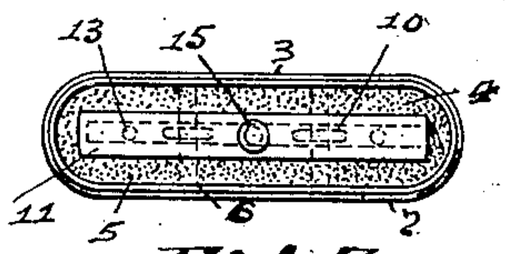

Fig. 3.

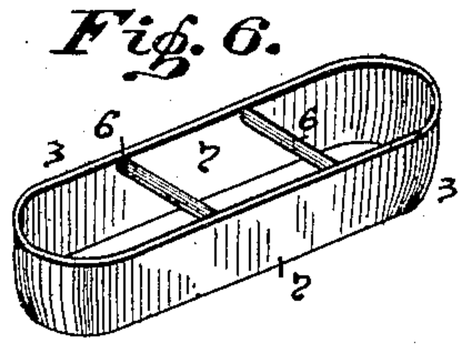

Fig. 6.

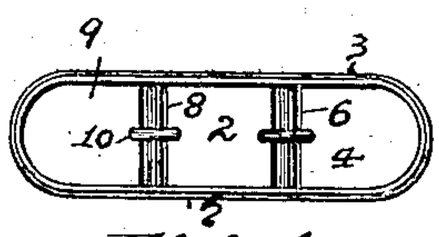

Fig. 4.

WITNESSES

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BRUSH.

No. 863,243. Specification of Letters Patent. Patented Aug. 13, 1907.

Application filed May 23, 1906. Serial No. 318,293.

To all whom it may concern:

Be it known that I, WILLIAM S. WALKER, a resident of Knoxville borough, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Brushes; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to brushes and has for its object to provide a brush which will be cheap and strong in its construction, can be made in any size, and will not get out of order by the parts becoming loose or separated.

My invention consists, generally stated, in the novel arrangement, construction and combination of parts, as hereinafter more specifically described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved brush; I will describe the same more fully, referring to the accompanying drawing, in which—

Figure 1 is a vertical central section of my improved brush. Fig. 2 is a like view of the same taken at right angles to that shown in Fig. 1 and on the line 2—2 on said Fig. 1. Fig. 3 is a bottom view of the same cutting through the bristles and on the line 3—3 Fig. 1 looking in the direction of the arrow. Fig. 4 is a like view with the plug and bristles removed. Fig. 5 is a perspective view of the plug. Fig. 6 is a perspective view of the ferrule.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing 1 represents the handle of the brush which is widened at the brush end to any desired width for producing a body or base 2 to which the bristle-holding devices are attached.

A metal band or ferrule 3 is fitted around the base 2 and projects therefrom to form a cavity 4 for the reception of the bristles 5, and such ferrule is formed with the integral cross-bars 6 extending across and connecting the sides 7 of the ferrule. These cross-bars 6 are adapted to fit within seats or slots 8 formed in the bottom face 9 of the base 2 and before the bristles are put in place staples 10 are placed over the same and driven into the base 2 by pressure against the same to hold the ferrule in place on said base.

The device for holding the bristles 5 in place consists of a metal clamping bar or plug 11 preferably formed of aluminium, which plug is adapted to fit within the cavity 4 of the ferrule 3 and lengthwise thereof. The plug 11 has its sides 12 tapered or inclined inwardly towards its inner face and is provided with pointed anchoring pins 13 formed integral with said plug and projecting from such inner face in order to be driven into the base 2 beyond the staples 10 to hold said plug in place. A pointed wire pin or nail 14 is driven through an opening 11′ in the center of the plug 11 and into the base 2 in order to assist in holding said plug in place by its head 15 fitting against the outer face of said plug.

In making a brush, the ferrule 3 is first put around the base 2, its cross bars 6 being seated in the grooves 8 of the base. The staples 10 are then driven into the base over the bars 6, securely attaching the base and ferrule together. The bristles 5 are now placed in position and securely confined between the ferrule and the sides of the clamping plate by forcing the prongs 13 of the latter into the base by pressure brought to bear against the outer face of the plate. Then the loose nail 14 is placed in the hole 11′ of the clamping plate and driven into the base to further assist in securing the plate to the base. It will thus be seen that there is provided a most substantial and effective means of securing the ferrule to the base or handle and for securing the bristles to the brush, the parts of which are cheap and simple to manufacture and very easy and quick to assemble. The plug is driven into place under heavy pressure of about two thousand pounds so that when it is seated it bears outwardly against the bristles on all sides and binds them against the inner sides and ends of the ferrule with great force, so that the bristles are thus securely held against any dislodgment. Practical experience has proven that the device provides for the usual or regular length of bristles extending out of the ferrule, but shorter bristles can be used than in the ordinary constructions, thereby making a saving of about one-fourth in the cost of the bristles, while in the manufacture of the brush about one-third less of skilled labor is required than in the ordinary constructions.

My improvement affords means for making a brush of any desired width by lengthening or shortening the ferrule, increasing or decreasing the number of cross-bars, the plug and anchoring-pins thereon, while within the scope of my invention as defined in the claims many changes in the form and construction of the various parts may be made by the skilled mechanic without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. In a brush, the combination of a handle base provided with slots or grooves extending transversely of the bottom thereof, a ferrule extending around said base and having integral cross-bars fitting within said grooves, said ferrule being fastened to said base by staples fitting over said cross-bars and driven into the base, a clamping plate, bristles confined between said clamping plate and said ferrule and means for attaching said clamping plate to said base; substantially as described.

2. In a brush, the combination of a handle base provided with grooves extending transversely of the bottom thereof, a ferrule extending around said base and having integral cross-bars fitting within said slots, said ferrule being fastened to said base by staples fitting over said cross-bars and driven into the base, a clamping plate,

bristles confined between said clamping plate and said ferrule, said clamping plate having integral prongs driven into said base for connecting the base and plate together, substantially as described.

3. In a brush, the combination of a handle base provided with grooves extending transversely of the bottom thereof, a ferrule extending around said base and having integral cross-bars fitting within said slots, said ferrule being fastened to said base by staples fitting over said cross-bars and driven into the base, a clamping plate, bristles confined between said clamping plate and said ferrule, said clamping plate having integral prongs driven into said base for connecting the base and plate together, and a loose nail driven through a hole in said clamping plate and into the base for further securing the two parts together.

4. In a brush, the combination of a handle base provided with slots extending transversely of the bottom thereof, a ferrule extending around said base and having integral cross-bars fitting within said slots, said ferrule being fastened to said base by staples fitting over the cross-bars and driven into the base, a tapering clamping plate having integral prongs extending from its inner face, said prongs being driven into the base, bristles confined between said ferrule and said clamping plate and held therein by a wedging action of said plate, and fastening means extending though said clamping plate and into said base, substantially as described.

In testimony whereof, I the said WILLIAM S. WALKER have hereunto set my hand.

WILLIAM S. WALKER.

Witnesses:
J. N. COOKE,
WM. R. MCCOMMON.