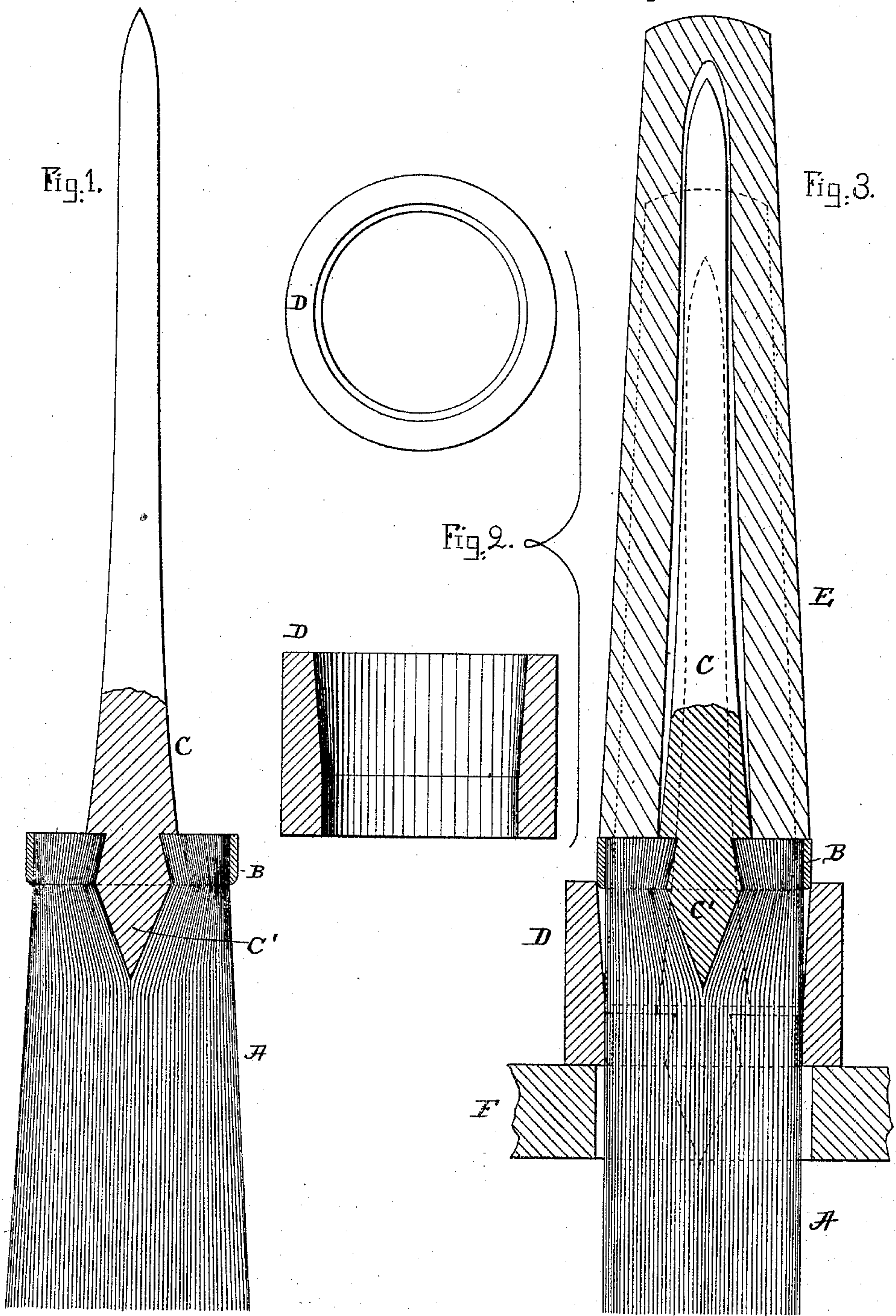


(No Model.)

A. H. WOLCOTT.  
BRUSH AND METHOD OF MAKING THE SAME.

No. 482,666.

Patented Sept. 13, 1892.



Witnesses.

*Lauritz W. Möller.*  
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# UNITED STATES PATENT OFFICE.

ARTHUR H. WOLCOTT, OF WINTHROP, ASSIGNOR TO JOHN L. WHITING & SON, OF BOSTON, MASSACHUSETTS.

## BRUSH AND METHOD OF MAKING THE SAME.

SPECIFICATION forming part of Letters Patent No. 482,666, dated September 13, 1892.

Application filed November 13, 1891. Serial No. 411,783. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR H. WOLCOTT, a citizen of the United States, and a resident of Winthrop, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Brushes and in the Mode of Making the Same, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in brushes and the mode of making the same; and it has for its object to more firmly secure the bristles within the ferrule.

The invention is equally useful for round, flat, or oval brushes, and it is carried out as follows: I first drive the butt-ends of the bristles into a metal ferrule made of a suitable ductile or compressive material. The handle is afterward driven in and between the mass of the bristles, causing them to be compressed between the expander portion of the handle and the interior of the ferrule, and finally the brush so made is driven through a tapering metal die or ring, by which the ferrule is compressed, causing the bristles to be most firmly secured within the said ferrule.

In the drawings, Figure 1 represents a longitudinal section of the brush previous to compressing the ferrule. Fig. 2 represents a top plan and longitudinal section of the ferrule-compressing die; and Fig. 3 represents a longitudinal section of the brush, showing its ferrule in the act of being driven through the tapering compression-die.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In Fig. 1, A represents the bristles of a brush, B its metal ferrule, and C the handle with its bristle-expander portion C', as usual. I wish to state, however, that I do not confine myself to any particular form or construction of the handle-expander. Neither do I confine myself to any particular manner in driving the said handle, as this may be done from either end of the brush or ferrule without departing from the spirit of my invention.

D in Figs. 2 and 3 represents a hollow tapering hard-metal die or tube through which the brush is driven for the purpose of compressing the ferrule against the bristles, and E in Fig. 3 represents the hollow driver-tube

of the kind used in driving the handle within the mass of the bristles.

F in Fig. 3 represents a suitable work-table or plate on which the hollow die D is supported during the operation of driving and compressing the ferrule.

The brush after being put together as shown in Fig. 1 or in any equivalent or similar manner is inserted within the tapering die D, as shown in Fig. 3, and driven through it, as shown in dotted lines in said figure, causing the ferrule to be compressed inward against the mass of bristles, by which the latter are most firmly secured within the ferrule, and thus preventing their falling out when in use.

The brush may be driven through the tapering die D either by hand labor or in a suitable driving-machine for this purpose. The simplest way of driving the brush through the said tapering die is by means of hollow driver-tube of the kind shown at E in Fig. 3, and I may prefer to use a number of such tubes varying in outside diameters, using a larger one at first to drive the ferrule into the upper large end of the die and gradually driving the ferrule into and through the said die by means of reduced driver-tubes, the last one being equal, or nearly so, to the opening in the lower end of the die. If so desired, the brush may be driven through the tapering die by means of a compressible driver-tube without departing from the spirit of my invention.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

The method herein described of securing brush-bristles, which consists in compressing the butt-ends of the bristles inwardly toward the center of the mass by simultaneously compressing all parts of an annular ductile metal band directly against the butt-ends of the bristles, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 11th day of November, A. D. 1891.

ARTHUR H. WOLCOTT.

Witnesses:

ALBAN ANDRÉN,  
ALICE A. PERKINS.