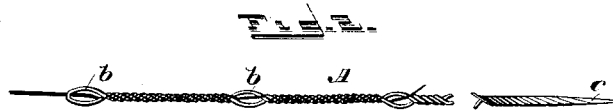


(No Model.)

J. T. SMITH.  
WAX END NEEDLE.

No. 386,723.

Patented July 24, 1888.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN T. SMITH, OF BELLEVUE, MICHIGAN.

## WAX-END NEEDLE.

SPECIFICATION forming part of Letters Patent No. 386,723, dated July 24, 1888.

Application filed May 17, 1888. Serial No. 274,149. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN T. SMITH, a citizen of the United States of America, residing at Bellevue, in the county of Eaton and State of Michigan, have invented certain new and useful Improvements in Wax-End Needles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in metallic bristles for shoe-makers' or harness-makers' use, the same being adapted to be used in connection with a waxed cord, the whole being technically known as a "waxed end;" and my invention consists in the special construction of a metallic bristle, which will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of a metallic bristle constructed in accordance with my invention. Fig. 2 is an enlarged view showing a waxed end applied thereto.

Prior to my invention it has been proposed to provide a bristle for shoe-makers' use made up of two pieces of wire, which were twisted together their entire length, with the exception of a small space near the center thereof, which was left untwisted to form a loop or slit adapted to receive the end of the waxed thread, said opening being adapted to be closed by distention to hold the waxed end to the bristle. A bristle thus constructed of two pieces of wire has certain objections—to wit, the wires, not being united to each other otherwise than by the interlocking of the parts formed by twisting, were liable to become separated and the ends of said bristle also liable to become separated, thus rendering a retwisting or cutting off of the same necessary for further use. Such a bristle, also having but a single opening, is liable to be untwisted by drawing upon the same.

My improved bristle is made up of but a single piece of wire, which is doubled upon itself and twisted throughout its entire length, except at certain intervals, which are left open

to form eyes, one of said eyes being formed on the end of said bristle while the others are between it and the point. After the wire, which is fine and flexible, has been twisted, the ends are drawn down and soldered to each other to form a point and prevent the ends separating from each other.

In the annexed drawings, A refers to a bristle made of a single piece of wire, which is first bent upon itself and twisted, as hereinbefore described, openings *b* being left therein to form eyes through which the waxed end is inserted. *c* refers to the point of the metallic bristle, at which the wires are securely united to each other by solder.

A preferred mode of attaching the waxed end to my improved bristle is by first passing one end of the thread or cord through the loop or eye formed on the end of the bristle, then wrapping the same around that portion of the bristle between the end eye and eye adjacent thereto, after which it is passed through the central eye and wrapped in a similar manner, the end being then passed through the eye nearest point, so that said end can be turned back upon the body of the bristle. By so securing the waxed end or thread to the bristle the eyes are not liable to be drawn together to unfit the same for reuse when it is desired to rethread the same.

When it is desired to unthread the metallic bristle, the thread can be removed therefrom either by unwinding the same or by simply holding it over a flame.

The bristle hereinbefore described is cheap and convenient, and is adapted for reuse, and when the thread is secured thereto in the manner hereinbefore described it is not liable to be cut.

I do not wish to limit myself to a bristle having two or more eyes, as a single eye formed at the portion where the wire is bent upon itself will answer in some cases, though I prefer in practice to provide said bristle with two or more eyes, as those that are not required for use will readily close by distention when the thread is not inserted in the same.

I claim—

1. As an improved article of manufacture, the metallic bristle, for the purpose set forth, made of a single piece of wire which is bent

upon itself and twisted to form an eye at one end, the ends of the wire forming the point of the bristle being connected to each other by solder.

- 5 2. A metallic bristle made up of a single piece of wire which is bent upon itself and twisted, said bristle having two or more eyes formed in the body portion, the ends of the wire being secured to each other by solder or

equivalent material and pointed, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN T. SMITH.

Witnesses:

JOHN EVANS,

H. D. HULL.