

No. 627,826.

Patented June 27, 1899.

J. F. MERRILL.

APPARATUS FOR FORMING WAX ENDS.

(Application filed Dec. 1, 1898.)

(No Model.)

2 Sheets—Sheet 1.

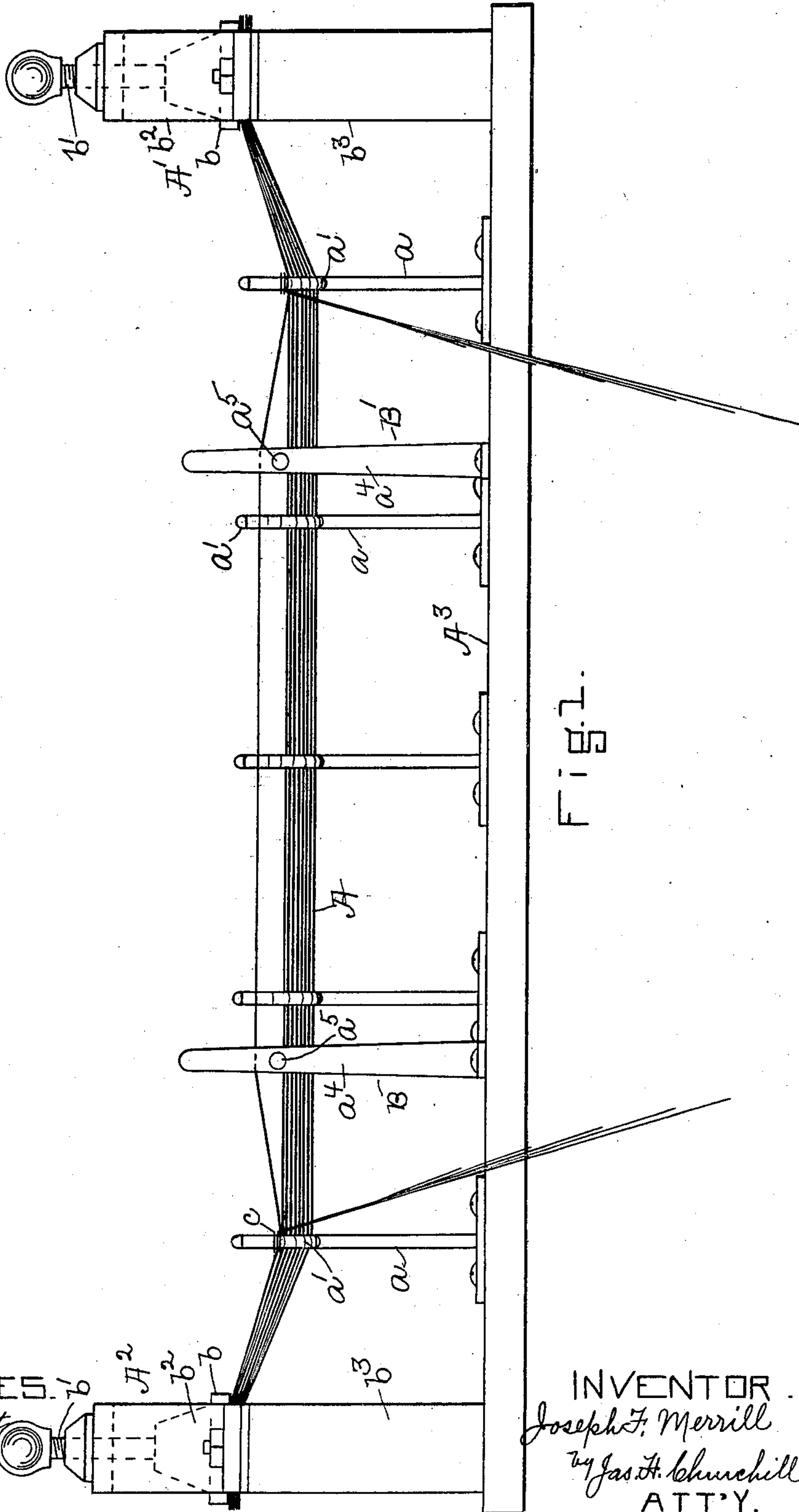


Fig. 1.

WITNESSES.

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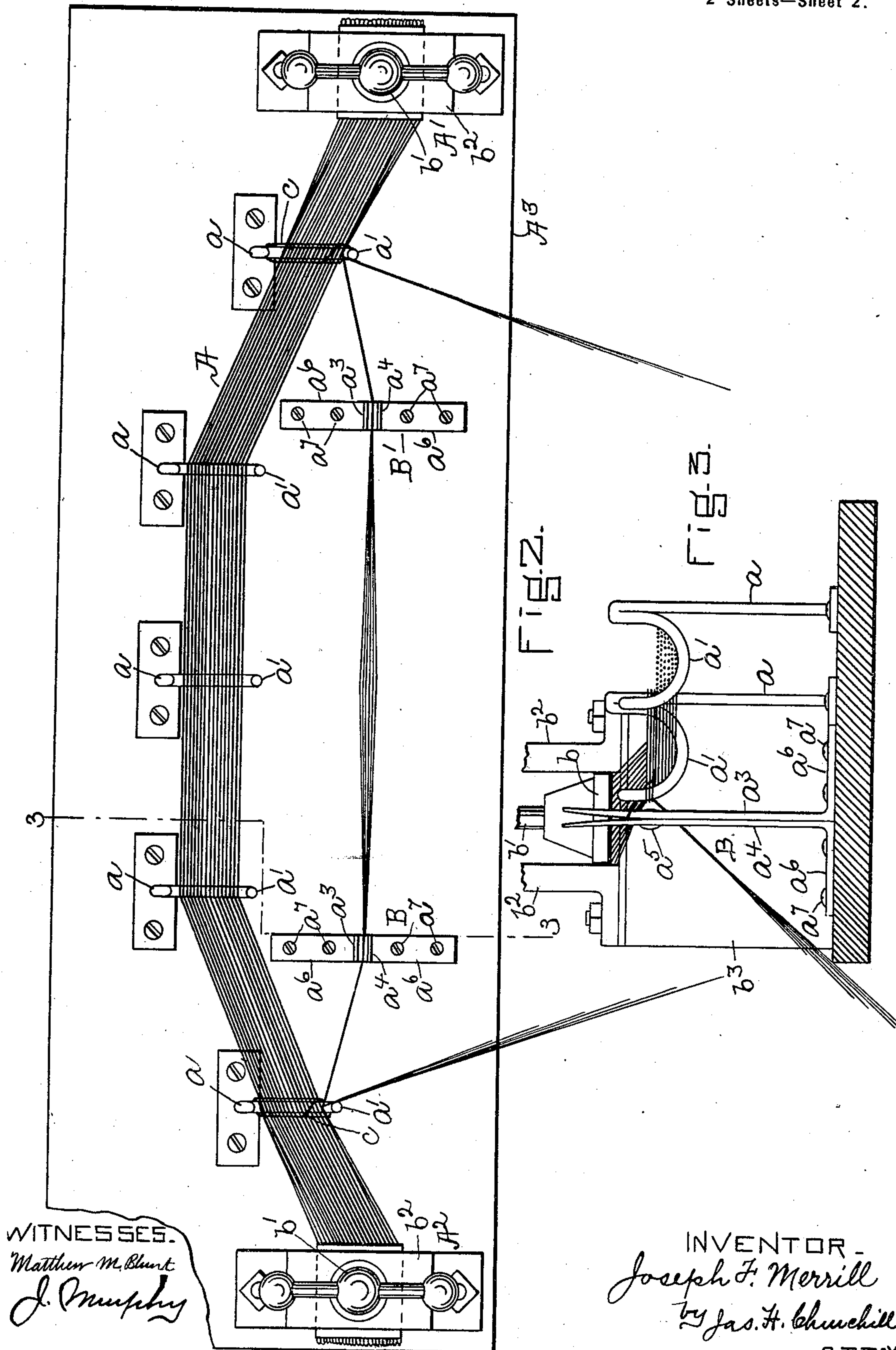
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# UNITED STATES PATENT OFFICE.

JOSEPH F. MERRILL, OF BOSTON, MASSACHUSETTS.

## APPARATUS FOR FORMING WAX-ENDS.

SPECIFICATION forming part of Letters Patent No. 627,826, dated June 27, 1899.

Application filed December 1, 1898. Serial No. 697,961. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH F. MERRILL, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Apparatus for Forming Wax-Ends, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to an apparatus for making wax-ends, such as now commonly used in the manufacture of boots and shoes, harnesses, &c.

My present invention has for its object to produce a superior wax-end and to cheapen the cost of production of the same, and I accomplish my object in a manner as will be hereinafter described.

Figure 1 is a side elevation of an apparatus with which wax-ends may be made in accordance with my invention; Fig. 2, a top or plan view of the apparatus shown in Fig. 1; and Fig. 3, a cross-section taken on the line 3 3, Fig. 2, looking toward the left.

In accordance with this invention a skein A of threads, each comprising a plurality of strands, in the present instance six in number, is firmly secured at its opposite ends by suitable clamping devices A' A<sup>2</sup>, mounted upon a suitable base, table, or support A<sup>3</sup>. The clamping devices A' A<sup>2</sup> are separated a distance less than the length of the skein A, so that the threads of said skein may be slack to facilitate the separation of the same into wax-ends.

The skein A may and preferably will be supported above the table A<sup>3</sup> by suitable uprights a, having bent or curved fingers a' and which are arranged on said table substantially as shown in Fig. 2—namely, toward the rear of the table and back of a straight line extended through the two clamping devices A' A<sup>2</sup>.

The table A<sup>3</sup>, between the clamping devices A' A<sup>2</sup> and substantially in a straight line therewith, has erected upon it two spring-jaws or holding devices B B', which may be made as herein shown and each comprising upright metal pieces a<sup>3</sup> a<sup>4</sup>, separated at their upper ends and fastened together, as by a screw a<sup>5</sup>, the said upright pieces having feet

a<sup>6</sup>, which may be fastened to the table, as by screws a<sup>7</sup>.

The spring clamping devices or jaws B B' are open at their top to permit the ready insertion into them of the thread which is to be provided with tapered ends.

The skein-clamping devices A' A<sup>2</sup> may be of any suitable construction and in the present instance are shown as each composed of a platen b, movable vertically by a screw-threaded rod b', extended through a yoke b<sup>2</sup>, attached to an upright b<sup>3</sup>, erected upon the table, the upright between the arms of the yoke constituting the stationary jaw of the clamp and the platen the movable jaw thereof.

The method of transforming the skein A, comprising endless threads suitably held together to form the skein, into two groups or bunches of threads having tapered ends is as follows: The operator, usually a girl, secures the ends of the skein in the clamps A' A<sup>2</sup> and places the portion of the skein between the clamps upon the supports a' and preferably holds the skein on the endmost supports by pieces of thread c, wound around said supports above the skein. She then takes a thread off from the intermediate supports and untwists it with her fingers to open up the strands, and when opened she runs her fingers back in opposite directions to take out the twist of the thread back to the strand-holding clamps B B', into which she inserts the untwisted portion of the thread. The strand-holding clamps firmly hold the strands and prevent them twisting up, and while the strands are thus held she breaks or separates each strand of the thread at a different point between the strand-holding jaws, thereby imparting to the thread tapered ends, which are more uniformly tapered and smoother than ends heretofore made and known to me by reason of the fact that the thread is firmly clamped by the spring-jaws a<sup>3</sup> a<sup>4</sup>. The tapered ends of the thread thus separated are removed from the spring-jaws and assume the position indicated in Fig. 2, and the process of untwisting, separating the strands, inserting them into the spring-jaws, and separating the individual strands at different points is repeated until the skein has been severed into two bunches or lots of tapered ends ready to be waxed. The tapered ends are commonly



known as wax-end threads before the wax is applied to them.

With the apparatus above described wax-ends may be quickly made at a minimum cost, and the tapered ends are smoother, devoid of bunches, and superior to those produced prior to my invention.

I claim—

1. An apparatus for forming wax-ends from a skein of twisted threads, each thread comprising a plurality of strands, which consists of a table or base, clamping devices erected thereupon for holding the ends of the skein, and stationary thread-holding jaws separated from each other and erected upon said base or table substantially in line with said skein-holding clamps, and each comprising spring-jaws separated at their top to receive and hold the separated strands of the individual threads while the said strands are being broken, substantially as described.

2. An apparatus for forming wax-ends from a skein of twisted threads, each thread comprising a plurality of strands, which consists of a table or base, clamping devices erected thereupon for holding the ends of the skein, and thread-holding jaws separated from each other and erected upon said base or table substantially in line with said skein-holding clamps and each comprising spring-jaws separated at their top to receive and hold the separated strands of the individual threads while the said strands are being broken, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH F. MERRILL.

Witnesses:

JAS. H. CHURCHILL,  
J. MURPHY.