

G. W. BILLINGS.
 Apparatus for Making Metallic Spools.

No. 197,011.

Patented Nov. 13, 1877.

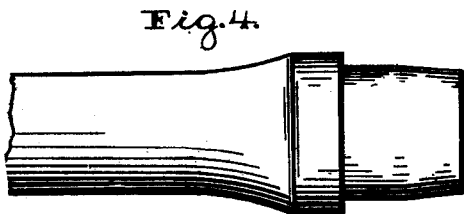
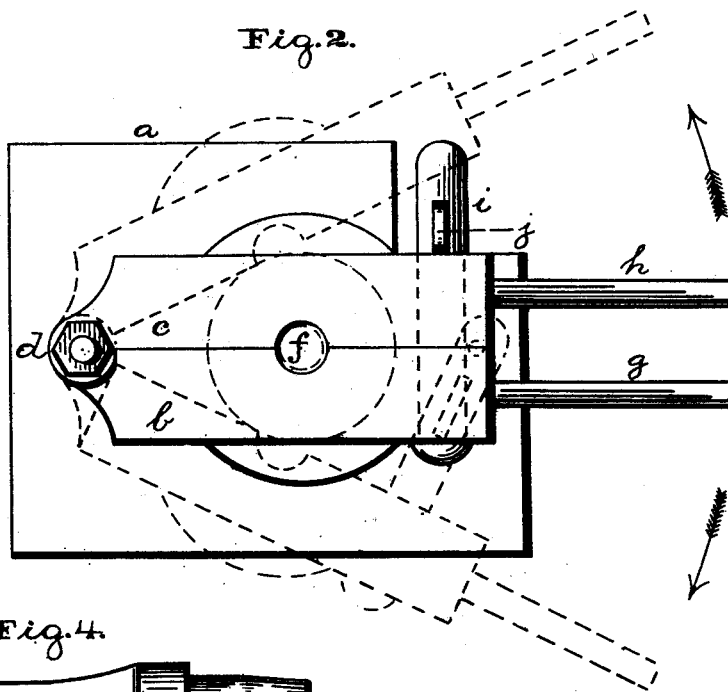
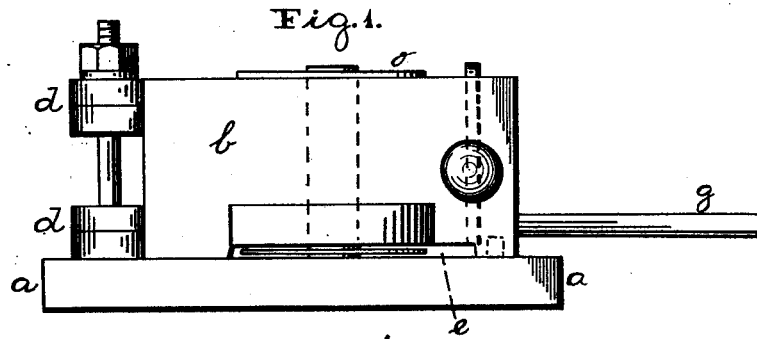
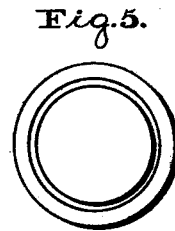
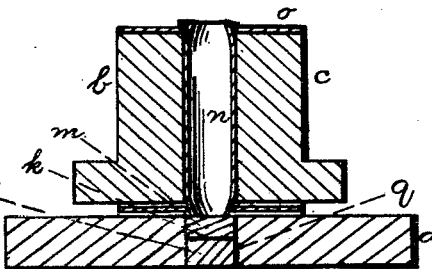


Fig. 3.



Witnesses:
 Thos. A. Durrill.
 Chas. A. Durrill



Inventor:
 Geo. W. Billings

UNITED STATES PATENT OFFICE.

GEORGE W. BILLINGS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN APPARATUS FOR MAKING METALLIC SPOOLS.

Specification forming part of Letters Patent No. **197,011**, dated November 13, 1877; application filed June 14, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. BILLINGS, of Chicago, Cook county, Illinois, have invented Improved Apparatus for Making Metallic Spools, of which the following is a specification:

This tool is intended for use in carrying out my process for making metallic spools, referring to the process described in the pending application filed by me December 16, 1875.

The nature of the invention will be most readily understood by reference to the annexed drawings, in which—

Figure 1 represents a side elevation of said tool; Fig. 2, a plan of the same, showing by dotted lines the clamping-jaws *b* and *c* opened; Fig. 3, a vertical cross-section of the same, showing the tubular stem *n* as clamped by the jaws, and showing also a spool-head, *o*, as applied on the top of the jaws to the projecting end of the stem, preparatory to the insertion therein of the taper-set, by which the edge of said projecting end is turned over on such head to fasten it on the stem. Figs. 4 and 5 represent side and end views of an ordinary taper-set, such as is last mentioned.

a represents an iron or steel casting, forming the bed-plate; *b* and *c*, castings of similar material, forming the clamping-jaws, which are hinged at *d*. *e*, Fig. 1, is a recess formed in the under sides of the jaws *b* and *c*, parallel to the upper surface of the bed-plate, to receive the head. *f*, Fig. 2, is a recess formed in the jaws, at right angles with the upper surface of the bed-plate, to receive the stem of the spool. *g* and *h* are handles, which may be detachable. *i* is a dowel or pin, which projects from one of the jaws, and enters an open recess in the end of the other jaw, when the two jaws are brought together, a key being driven into the key-hole *j* to keep the jaws together, and thus firmly hold the stem of the spool in a position at right angles with the surface of the bed-plate during the operation of fastening the heads on the stem.

In the bed-plate *a* there is formed an aperture, *g*, Fig. 3, which is made circular or otherwise to correspond in cross-section with the cross-section of the stem. This aperture is partially filled by a removable plug, *p*, inserted from below, leaving between the top end of said plug and the top surface of the

bed-plate a recess, *k*, which is about three-fourths of an inch in depth, being intended to receive relays of plates of more or less thickness, as may be required, to overcome the difficulty in practice of always cutting the stems of an exactly uniform length. Instead, however, of thus adjusting the depth of the recess *k*, a screw-plug might be inserted instead of the plain plug *p*.

m, Fig. 3, represents one of the plates last referred to.

The tubular stems having been cut from longer tubes into proper lengths, as nearly uniform in this respect as is practicable, and having been tapered a little at each end—say, about one-sixteenth of an inch crosswise, and in depth about one-quarter of an inch—by insertion into an ordinary female taper-die, and the heads, with a central aperture to fit over the tapered ends of the stems, having been stamped out in the usual manner, the parts of the spool are put together, with the aid of the tool in question, as follows: A stem is placed in the recess *f*, and the jaws are keyed together. One of the heads is then placed on the projecting top end of the stem, over the top surface of the jaws. A hollow or tubular taper-set is then applied by hand to the head, forcing it down upon the projecting end of the stem into contact with the surface of the jaws. A male taper-set is then inserted by hand and driven into this end of the stem, to turn the edge over and rivet it down on the head. The stem is then inverted, and the jaws again keyed together. The other head is then applied and fastened on the stem in the same manner as above described.

I am aware of the patent, numbered 57,524, to H. O. Lothrop, August 28, 1866. I do not claim anything therein shown.

I claim—

The clamping-jaws *b* and *c*, the recess *e*, formed therein parallel to the surface of the bed-plate for the head, and the recess *f* for the stem at right angles with the surface of the bed-plate, in combination with the bed-plate and its recess *k*, in the manner and for the purpose substantially as set forth.

GEORGE W. BILLINGS.

Witnesses:

THOS. A. BURTT,
JNO. A. BELL.