ROBERT H. SMITH.

Improvement in Bobbin-Winders for Sewing Machines.

No. 115,124. Patented May 23, 1871.

Fig. 1

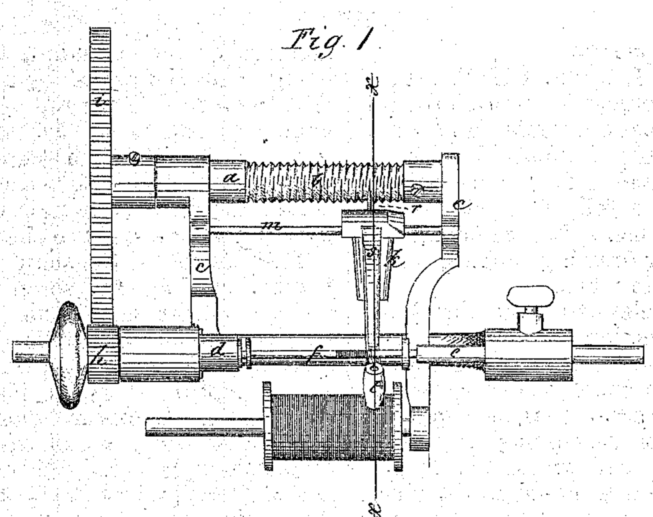
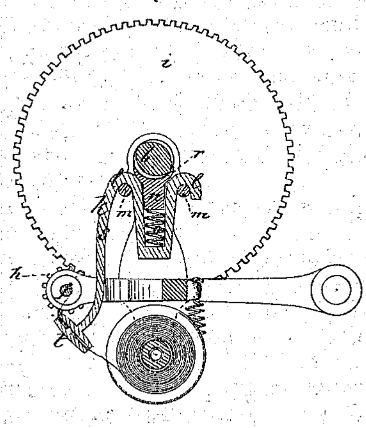


Fig. 2



Witnesses:

H. J. Aretz

Thos. D. D. Ourand

Inventor:

Robert H. Smith

Per Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

ROBERT H. SMITH, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF AND JAMES B. SANNER, OF SAME PLACE.

IMPROVEMENT IN BOBBIN-WINDERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 115,124, dated May 23, 1871.

To all whom it may concern:

Be it known that I, ROBERT H. SMITH, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and Improved Self-Filling Bobbin-Winder for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation, and Fig. 2 is a transverse vertical section.

This invention relates to improvements in the class of bobbin or spool-winders in which a right-and-left-hand screw-shaft is employed, to cause the thread or yarn-guide to traverse the bobbin from one end to the other; and the invention consists in a thread-guide, which is attached to a carriage so constructed as to rest and slide upon two horizontal parallel rods, and provided with a recess containing a spring, and also a chaser which is forked at its upper end, and works in the threads of the screw-shaft, and combined with operating devices, as and for the purposes hereinafter more fully explained.

Referring to the drawing, *a* is the shaft, on which is cut the right-and-left screw *b*, and which is supported horizontally in standards *c*, that are secured to the frame of the sewing-machine, when occasion calls, in any suitable manner. *d* is the live spindle, and *e* the dead spindle, which sustain the bobbin *f*. *h* is the pinion on the live spindle, which, gearing with the spur-wheel *i* on the shaft *a*, communicates to the latter the motion derived by the live spindle from the fly-wheel of the sewing-machine. *m m* are two parallel rods, extending from one standard, *c*, to the other, beneath the shaft *a*. *k* is a carriage, provided with ears *l*, by means of which it is hung between the rods *m*. *n* is a chaser placed within the carriage *k*, and extending above the same, being pressed upward by a spring, *o*, so far that the fork *r* on the top of the chaser bears against the screw *b*. *s* is an arm extending from one side of the carriage *k* downward beneath the bobbin. *t* is a thread-guide at the end of the arm *s*, through which the thread passes from the spool to the bobbin.

The rotation of the shaft *a* causes the fork *r* to travel along the screw *b* until it reaches the end of the same, where the fork passes from the thread it was following into the other thread of the screw, and is by that, without any perceptible stoppage, moved in the opposite direction backward along the shaft; arrived at the other end of the screw, the same thing takes place again. In short, the fork is made to reciprocate back and forth by the alternation of the right-and-left screw-threads. This motion the fork imparts to the carriage and the carriage imparts it to the thread-guide, which is thus enabled to lay the thread evenly upon the bobbin. The chaser is so arranged in the socket as to oscillate slightly on its axis, and is thus enabled to change from one thread to the other at the end of each movement. The spring *o* both keeps the fork of the chaser in close engagement with the threads of the screw-shaft and holds the carriage down to the rods *m m*.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the carriage *k*, ears *l l*, chaser *n r*, spring *o*, shaft *b*, rods *m m*, and guide *s t*, spindles *d e*, and gears *h i*, all constructed and arranged substantially as shown and described, for the purpose specified.

ROBT. H. SMITH.

Witnesses:

MARCUS RITGERT,

JAS. B. SANNER.