

(No Model.)

C. E. RUSSELL.

BOBBIN WINDER FOR SEWING MACHINES.

No. 280,961.

Patented July 10, 1883.

Fig. 1.

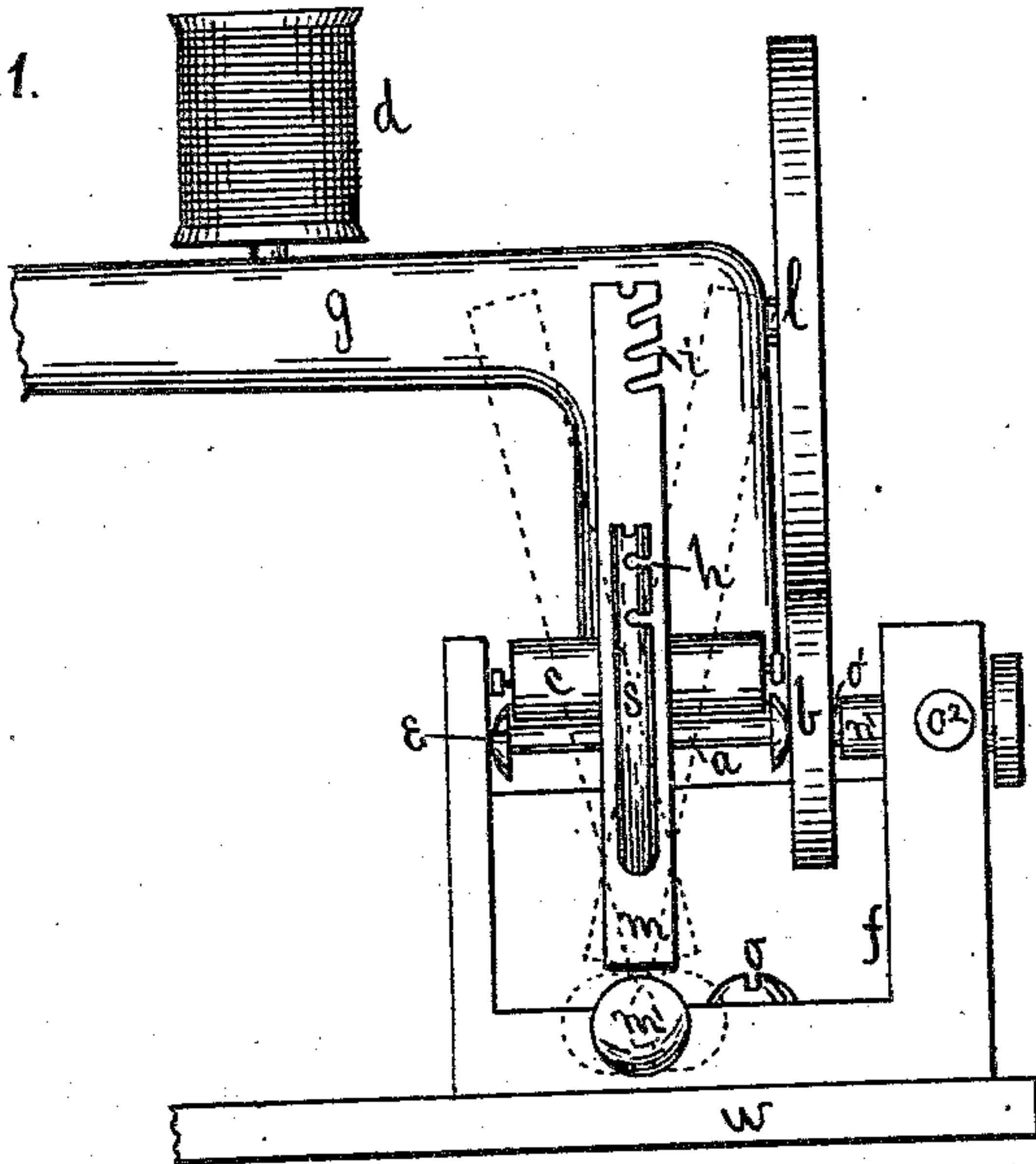


Fig. 2.

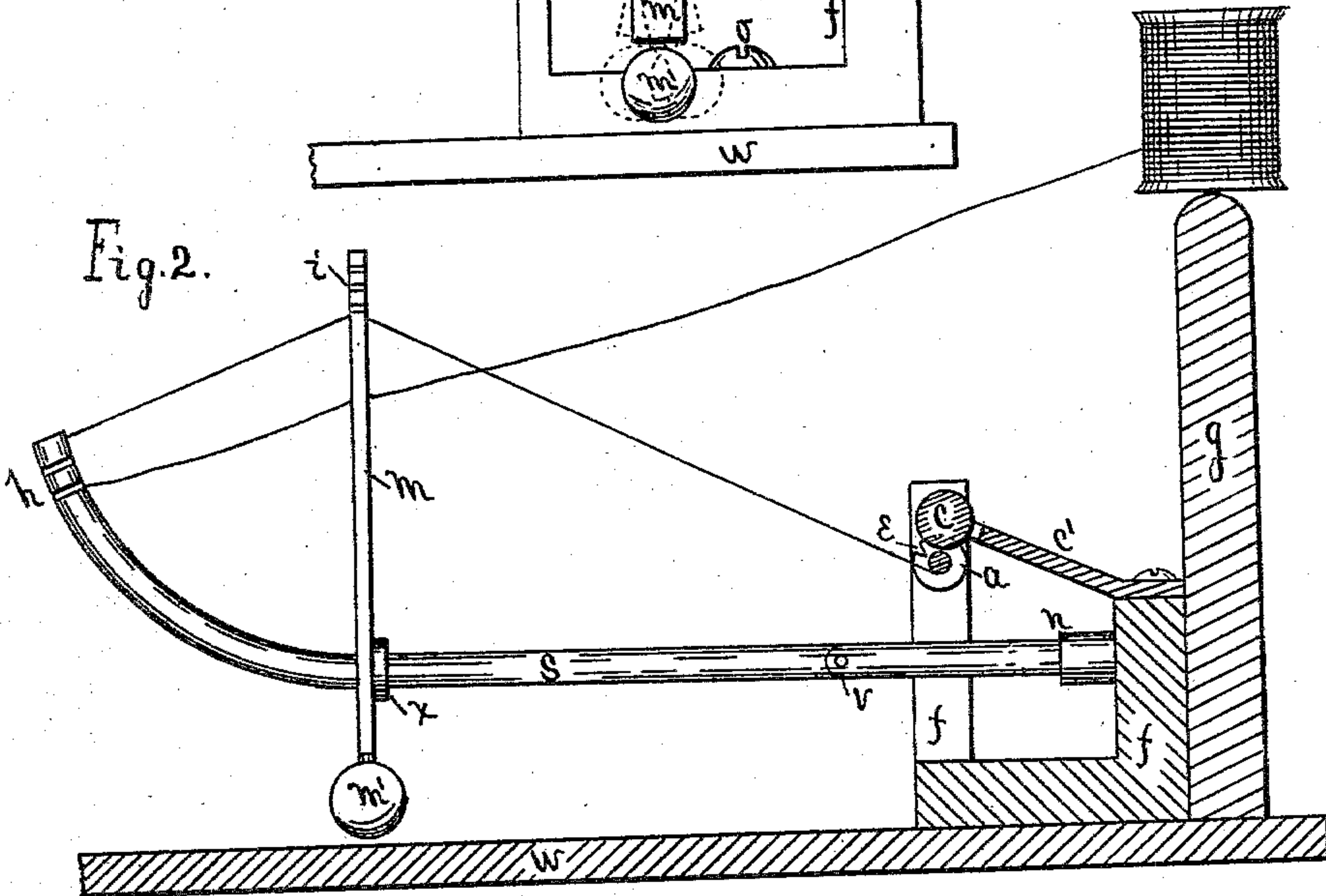


Fig. 3.



Fig. 4.

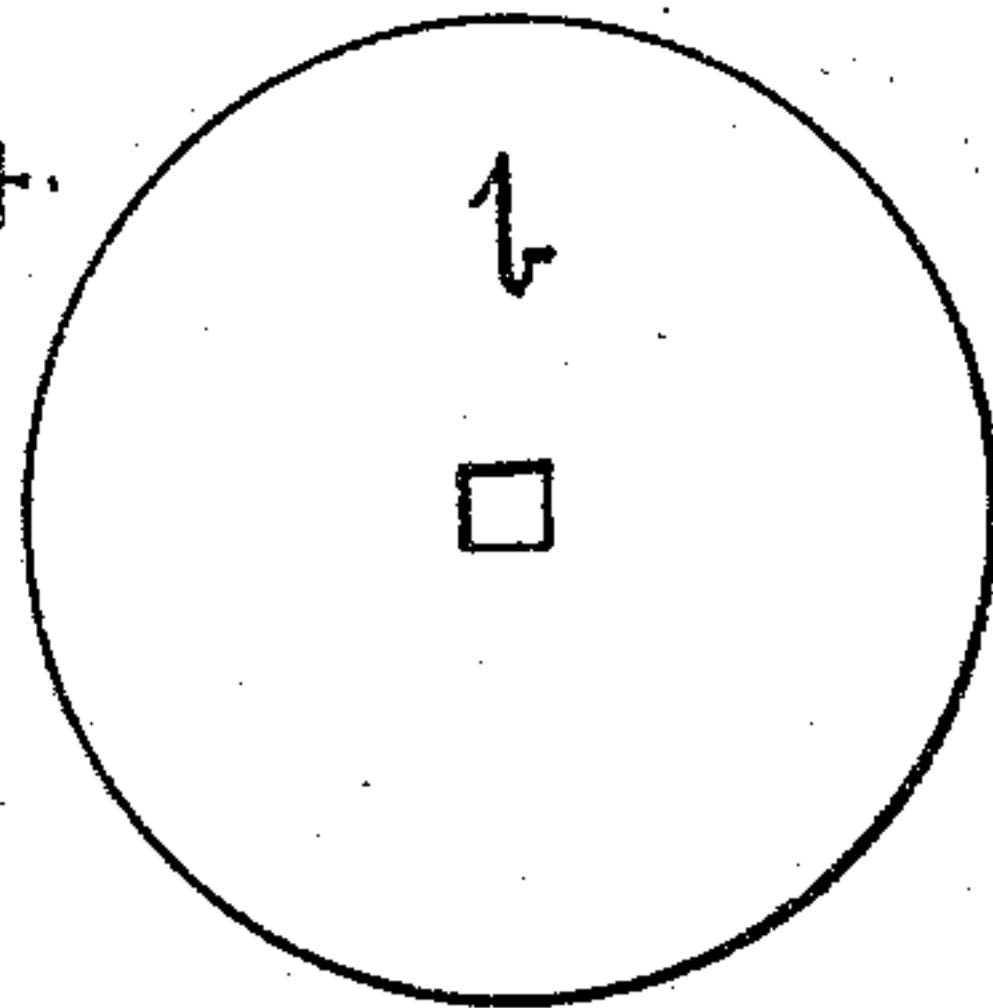
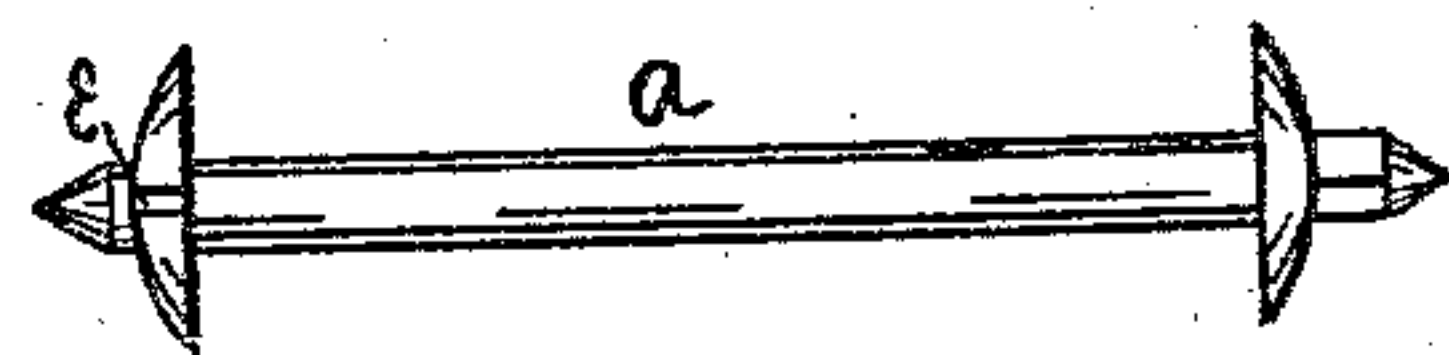


Fig. 5.



Witnesses

George F. Robinson
Harry Robinson.

Inventor
Charles E. Russell
by Bradford Howland
Attorney

UNITED STATES PATENT OFFICE.

CHARLES E. RUSSELL, OF RAVENNA, OHIO.

BOBBIN-WINDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 280,961, dated July 10, 1883.

Application filed March 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. RUSSELL, of Ravenna, Portage county, Ohio, have invented a new and useful Improvement in Bobbin-Winders for Sewing-Machines, of which the following is a specification.

In the drawings forming a part of this specification, Figure 1 is a front elevation. Fig. 2 is a section; and Figs. 3, 4, and 5 are views of detached parts on an enlarged scale.

The frame *f* is attached to a sewing-machine table, *w*, by screw *o* in such position that the circumference of friction-wheel *b* will be in contact with the circumference of the balance-wheel *l* of the machine. Frame *f* supports bobbin *a*, friction-wheel *b*, arm *s*, spring *c'*, and roller *c*. The head of bobbin *a* is formed with a wedge-shaped slot, *e*, in which the end of the thread is to be placed preparatory to winding the thread on the bobbin. The ends of the bobbin projecting beyond its heads are pointed or cone-shaped in the usual form, that the bobbin may turn in the sewing-machine shuttle; but at the end which enters the center of wheel *b* the bobbin is of a square or angular form between the cone-shaped point and the head, to fit in an angular socket in the center of wheel *b*, in order that bobbin *a* may be rotated by the wheel.

The spool *d* on the sewing-machine arm *g* holds the thread. The end of the thread is first brought from the spool and passed through openings *h* in arm *s*, and then through one of the springs *i* in the swinging bar *m* on arm *s*, and down to bobbin *a*, where it is to be fastened by inserting it in slot *e* in the bobbin-head. The end of the thread may be placed in slot *e*, while the bobbin is out of the machine, if desired. Sufficient tension is produced by the thread passing through several openings *h* in arm *s*. Bar *m* is kept from slipping on arm *s* toward bobbin *a* by a collar, *x*, and is suitably weighted at its lower end by weight *m'* to keep it upright when not turned by the winding of the inlayers on the bobbin. Arm *s* is bent upward at its outer end to decrease the tendency of the tension of the thread to produce too great vibration of bar *m*.

Spring *c'* is provided at its upper end with

a roller, *c*, which presses on the layers of thread on the bobbin, and thus aids in causing the thread to be wound evenly. When the thread is winding on bobbin *a*, the tension causes bar *m* to turn on arm *s* and keep the thread between the bar and bobbin at right angles to the latter, or nearly so. Dotted lines in Fig. 1 show the positions of bar *m* when the thread is winding near the ends of bobbin *a*. In place of bar *m*, an upright spring that would move easily from side to side, similar to the motion of bar *m*, might be used on arm *s*; but the bar is deemed preferable. Arm *s* is jointed at *v*, and has a sleeve, *n*, which may be drawn tightly over the joint to hold the arm firmly in position when winding the thread.

When the bobbin-winder is not in use, sleeve *n* may be moved back to the position shown in Fig. 2, and then the outer part of arm *s* may be turned up to get it out of the way. Bar *m* may also be removed by sliding it off over the end of the arm.

The shaft *o'*, to which wheel *b* is attached, rotates in sleeve *n'*. By loosening set-screw *o''*, which holds the sleeve in position, the sleeve may be drawn back with wheel *b* away from bobbin *a* when it is desired to remove or replace the bobbin.

I claim as my invention—

1. The bobbin *a*, formed with a wedge-shaped slot, *E*, in its head, extending to or nearly to its spindle, substantially as described.

2. In a bobbin-winder for sewing-machines, the vibrating bar *m*, having guide-slots, in combination with arm *s* and the bobbin, the bar extending above and below the arm, and its lower part provided with a counter-balance, substantially as described.

3. The arm *s*, bent upward at its outer end and provided with guide-slots and the bobbin, in combination with vibrating bar *m*, arranged vertically on the arm and adapted to guide the thread to the bobbin, substantially as described.

CHAS. E. RUSSELL.

Witnesses:

BRADFORD HOWLAND,

HARRY L. BEATTY.