

(No Model.)

A. M. WHIPPLE.
SEWING MACHINE.

No. 370,114.

Patented Sept. 20, 1887.

Fig. 1.

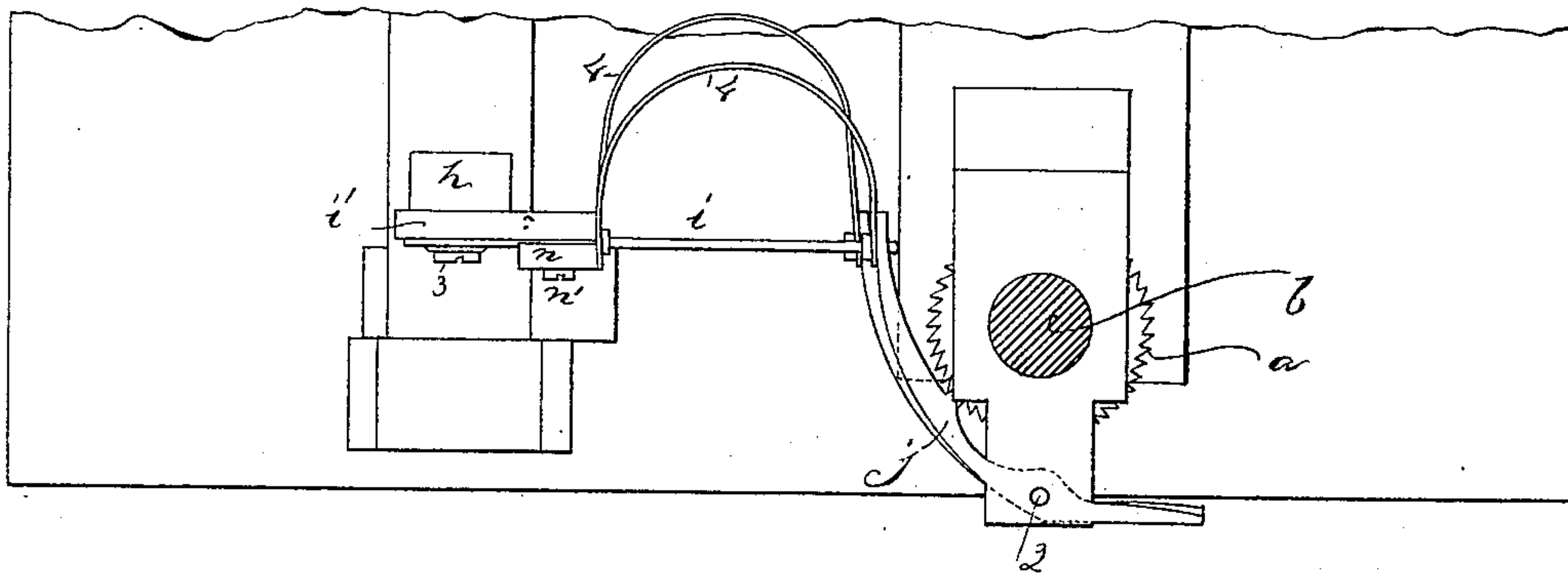
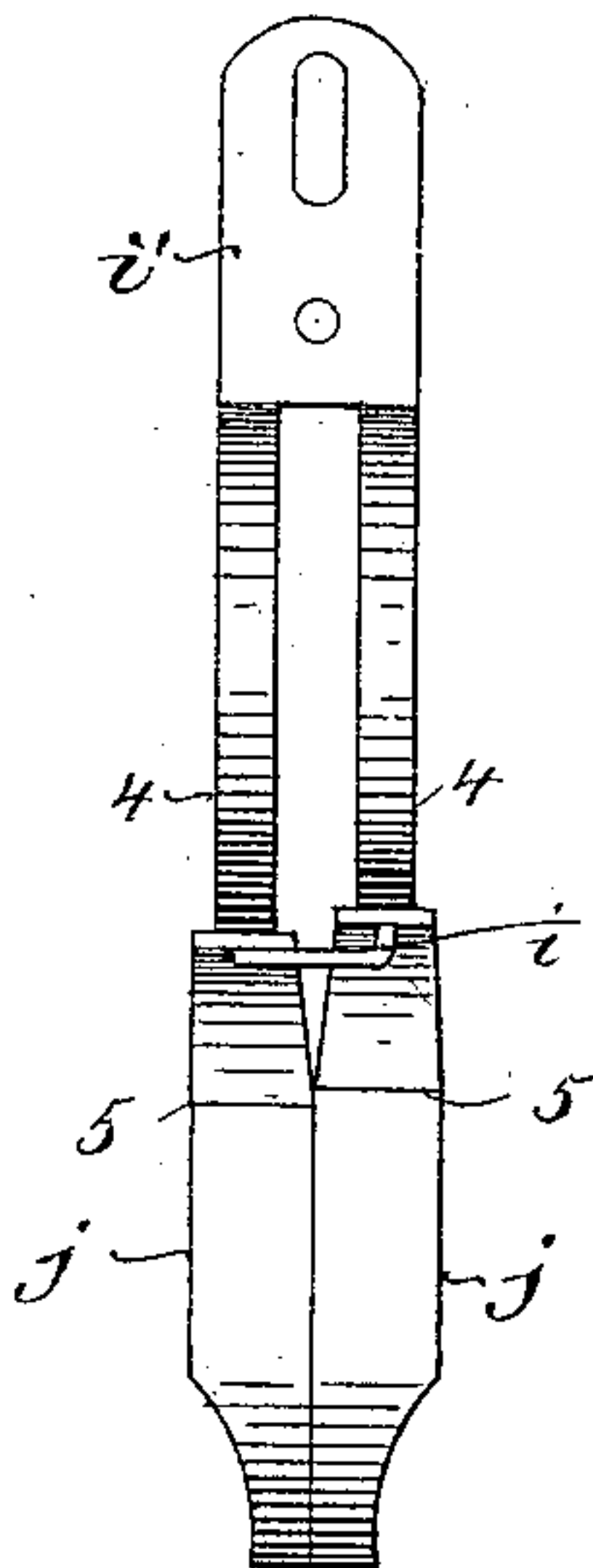


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT M. WHIPPLE, OF SWAMPSCOTT, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 370,114, dated September 20, 1887.

Application filed December 26, 1885. Serial No. 186,761. (No model.)

To all whom it may concern:

Be it known that I, ALBERT M. WHIPPLE, of Swampscott, county of Essex, and State of Massachusetts, have invented an Improvement in Sewing-Machines for Boots or Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

The sewing-machine represented in Reissue Patent No. 8,960, dated November 11, 1879, has a ratchet-toothed nut which is engaged by two pawls, the free ends of which are acted upon by spiral springs surrounding a wire link which is reciprocated by an arm of a rock-shaft, as is fully described and shown in the said patent. In practice the movement of the wire link in the said springs, which latter are compressed and then permitted to expand in rapid succession, causes such wear upon the springs that they are frequently broken in many pieces, and as a result thereof the toe of the pawl acted upon by the broken spring is not moved to operate correctly with the other pawl and ratchet-nut, and the toe of one or the other of the said pawls, by reason of sudden and unnatural strain, is broken off. The breaking of a spring, as stated, accompanied or not by the breaking of a pawl, is of frequent occurrence, and considerable time is wasted, not only of the operator, (a skilled laborer, only such being usually employed to operate the said machine,) but of the machine, and in case the pawl is broken a new one has to be supplied. I have found by practice that injury to the pawls may be entirely avoided, and that the springs, if made of steel, and as bow-springs, are practically indestructible.

To this end I have provided the wire link referred to with bow-springs; and my invention consists, essentially, in the combination, with the pawls which engage and hold the ratchet-nut and the block and wire link, of bow-springs located between the block and pawls and embracing the said link, substantially as will be described.

Figure 1 is a top or plan view of my improvements applied to a part of the sewing-machine referred to, and Fig. 2 a rear side elevation of

only the pawl, link, springs, and block referred to.

The ratchet-nut *a*, surrounding the presser-bar *b*, the rock-shaft having the arm *h*, the link *i*, attached to the block pivoted on the arm *h*, and the two pawls *j j*, each having a tooth, are all as commonly used in the so-called "McKay sewing-machine," and as represented in the said Reissue patent, where the said devices are designated by like letters.

The link *i* referred to is made as a wire loop, each arm of which is extended through a hole near the outer end of each pawl *j j*, pivoted at 2, the free ends of the said link being held firmly between the block or head *i'* and the clamp *n* by a screw, *n'*, the block being attached to the said arm by a screw, 3.

In accordance with my invention I have placed over each arm of the link *i*, between the block *i'* and the pawl *j*, the ends of a bow-spring, 4. By the term "bow" I mean a spring made of a strip or piece of steel which is made of loop shape, substantially as in the drawings, instead of spiral, to surround the arms of the link, as heretofore common and as in the Reissue patent referred to.

A spring of the kind herein shown is practically indestructible, and is productive of very considerable saving and prevents much annoyance.

The pawls *j* have each a tooth, 5, to engage the ratchet-toothed wheel *a*.

I claim—

The combination, with the presser-bar *b*, the ratchet-toothed wheel or nut thereon, and the pawls *j*, of the looped link *i* and the U-shaped bow-springs 4, one on each arm of said link, each of said springs pressing against one of said pawls at one end and against an abutment, as block *i'*, at the other end, substantially as described.

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

ALBERT M. WHIPPLE.

Witnesses:

F. CUTTER,
BERNICE J. NOYES.