I. & A. TOMPKINS.

MECHANISM FOR OPERATING TAKE-UP ROLLERS FOR KNITTING-MACHINES.

No. 177,591. Patented May 16, 1876.

Fig. 1

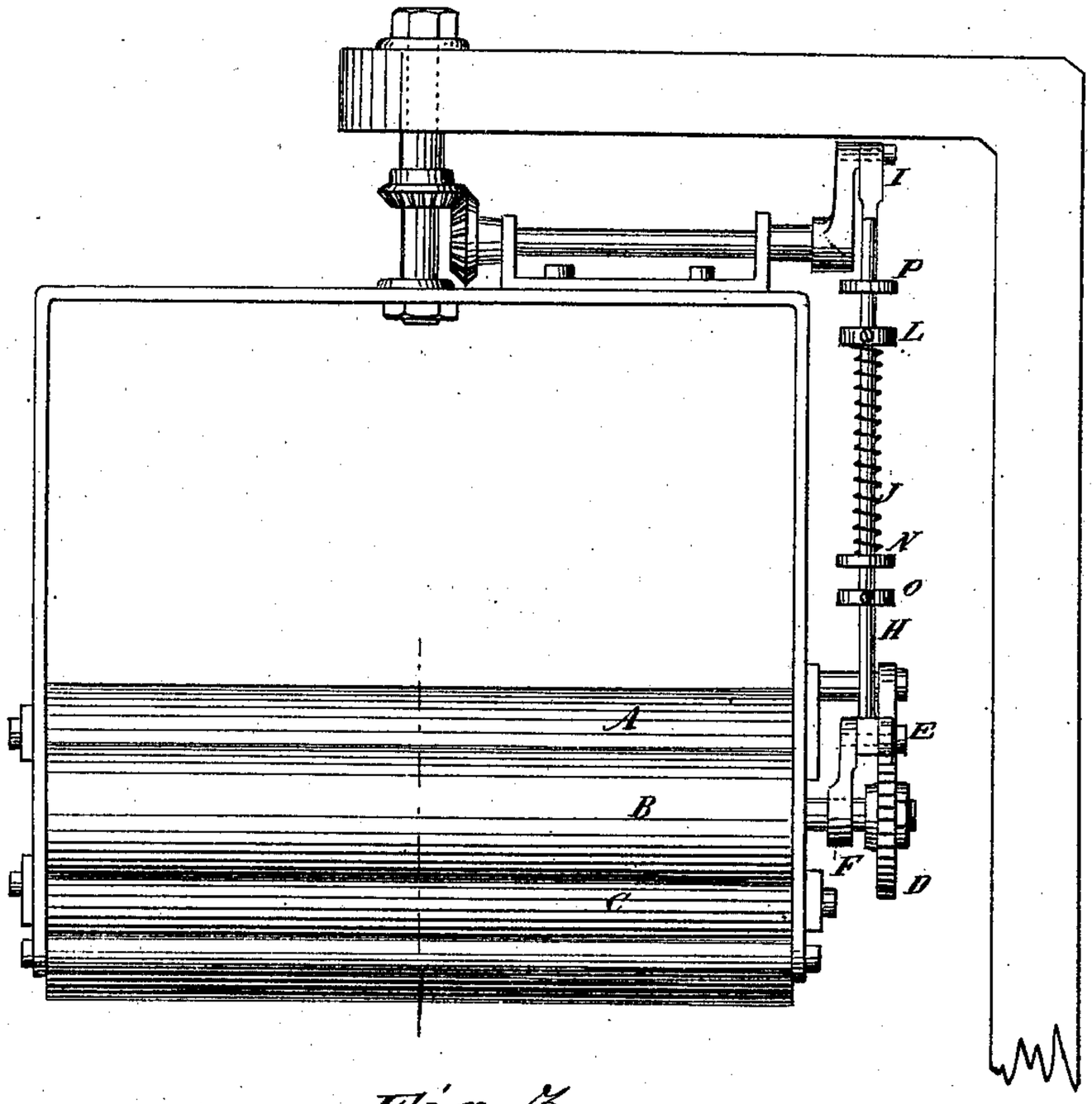


Fig. 2

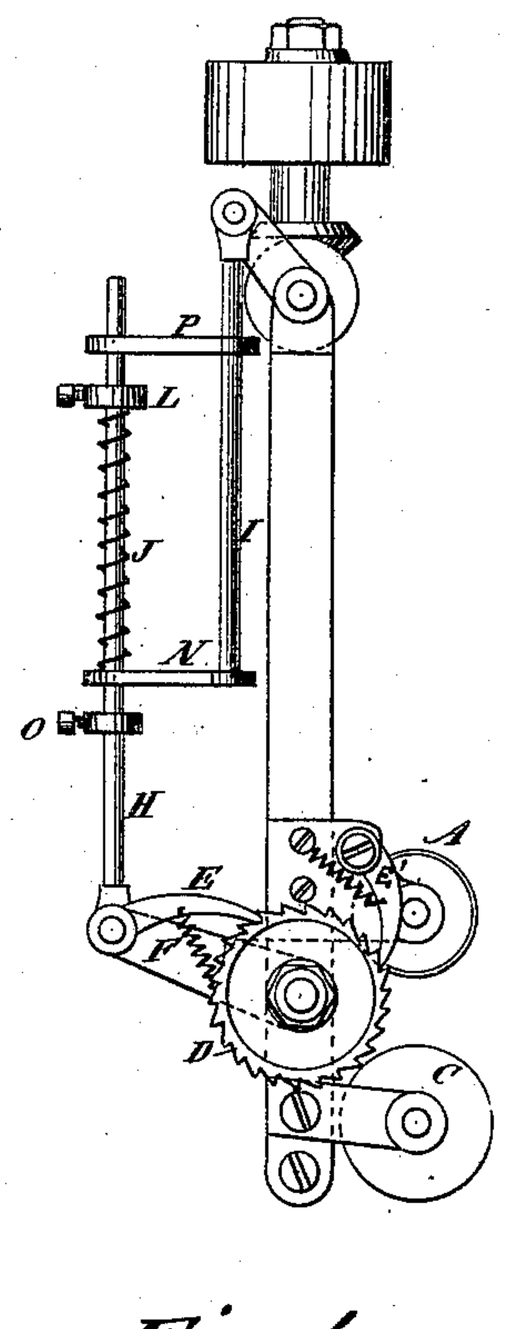


Fig. 3

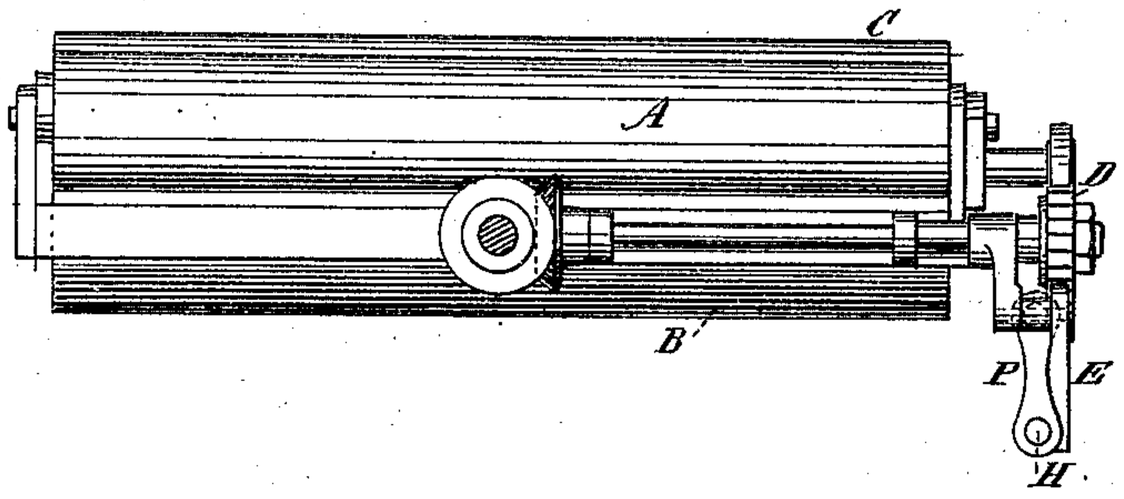
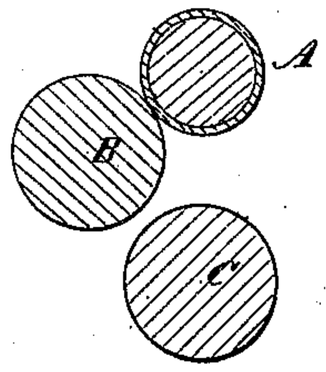


Fig. 4



WITNESSES:

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IRA TOMPKINS AND ALBERT TOMPKINS, OF TROY, NEW YORK.

IMPROVEMENT IN MECHANISMS FOR OPERATING TAKE-UP ROLLERS FOR KNITTING-MACHINES.

Specification forming part of Letters Patent No. **177,591**, dated May 16, 1876; application filed September 4, 1875.

To all whom it may concern:

Be it known that we, IRA TOMPKINS and ALBERT TOMPKINS, of Troy, in the county of Rensselaer and State of New York, have invented a new and Improved Take-Up for Knitting-Machines, of which the following is a specification:

Our invention consists of the tension-spring employed to regulate the tension of the cloth, interposed between the crank-rod and the rod for working the take-up pawl-lever, and so arranged that when the machine does not deliver cloth for any reason, as when not making stitches, the spring will compress and allow the crank-rod to work its regular course, while the pawl-lever will be held by the tension of the cloth until the cloth delivers from the machine again.

Figure 1 is a front elevation of our improved machine. Fig. 2 is a side elevation. Fig. 3 is a top view, and Fig. 4 is a section of the cloth-roller and the emery-rollers used in the machine.

Similar letters of reference indicate corresponding parts.

A represents the cloth-roll, and B and C the emery-rolls, employed for taking up the cloth by drawing away from the machine with a certain degree of tension, regulated by a spring or weight, as fast as the cloth is made, one of said rolls being worked by a ratchet-wheel, D, pawl E, spring-detent E′, and pawl-lever F.

In the take-up gear we use a stationary wheel on the spindle, whereon the take-up frame turns, and around which the wheel of horizontal shaft at top of take-up frame is carried by the latter, and is thereby made to revolve, while the take-up frame itself is revolved by the fabric which is operated on by the machinery.

In order that the take-up apparatus shall not work, and thus strain the cloth with over-tension at times when the machine does not deliver as fast as at others, we propose to connect the pawl-rod H and the crank-rod I, by which the pawl-rod is to be worked, by the tension-spring J, arranged between the adjustable stop L of the pawl-rod and the arm N of the crank-rod, for lifting the lever to work the ratchet by the spring, so that when the resistance of the cloth is greater than the power of the spring, the spring will compress, and the arm of rod I will rise on rod H without lifting the pawl, and thus allow the crank-rod to work when the cloth does not deliver without straining the cloth; and we put another adjustable stop, O, on the pawl-rod under the arm N, for the latter to push the pawl-lever down, as it would otherwise be held up by the spring. The arm P serves for a guide to the rod H.

In practice, the take-up will be geared to take up a little faster than the machine delivers, to be compensated by the stoppage of the pawl-lever.

The advantages of this contrivance over all others are: it avoids making distorted lines in the goods and narrowing up the web by our tension; the take-up runs easier, is more sensitive, less troublesome to set and keep in order, does not require so heavy a spring, and makes a more even stitch, and hence produces better goods.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, with ratchet-wheel D, pawl E, spring-detent E′, and pawl-lever F, of the rods H I, connected by a spring arranged between pawl-rod stop L and crank-rod arm N, the stop O, and arm P, as shown and described, so as to lift or pull on ratchet-pawl and cause spring to exercise a lengthwise tension upon the cloth.

IRA TOMPKINS.
ALBERT TOMPKINS.

Witnesses:
WILLIAM COX,
GEORGE W. CLARK.