

W. FRANZ & W. POPE.

Improvement in Yarn Tension Devices for Knitting
Machines.

No. 123,687.

Patented Feb. 13, 1872.

Fig. 1.

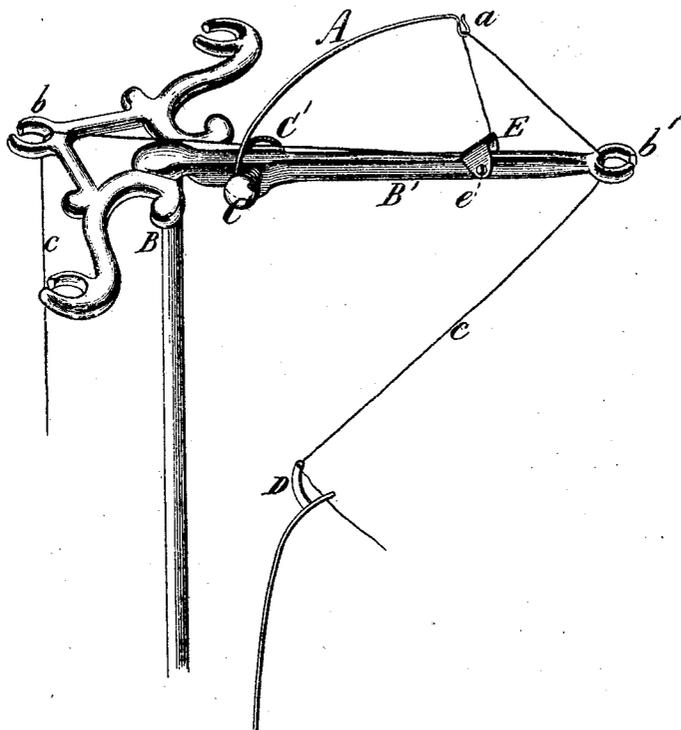
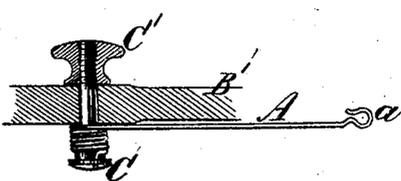


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM FRANZ, OF BUCYRUS, AND WILLIAM POPE, OF CRESTLINE, OHIO.

IMPROVEMENT IN YARN-TENSION DEVICES FOR KNITTING-MACHINES.

Specification forming part of Letters Patent No. 123,687, dated February 13, 1872.

Specification describing certain Improvements in Knitting-Machines invented by WILLIAM FRANZ, of Bucyrus, and WILLIAM POPE, of Crestline, both in the county of Crawford and State of Ohio.

The object of our invention is to provide an improved mechanism for taking up the slack of the yarn, which occurs in knitting the heels and toes of stockings or flat webs every time the action of the machine is reversed; and our improvement consists in the employment, in combination with the take-up spring, of an improved device for temporarily clamping the yarn and preventing any being drawn from the bobbin while the spring is taking up slack. This clamp or lock is pivoted to an arm of the yarn-stand, and is so constructed and arranged in relation to the take-up spring as to let the yarn pass freely through it while the needles are drawing upon the yarn, and to simply press the latter to the arm of the yarn-stand while the spring is taking up slack, so that the yarn will be left entirely uninjured by the action of the clamps or lock.

Figure 1 represents a perspective view of our improvement in knitting-machines. Fig. 2 shows the manner of securing the adjustable take-up spring to the yarn-stand.

The same letters of reference are used in both figures in the designation of like parts.

The take-up spring A consists of a steel wire, terminating at its free end in a loop, *a*, which is elevated some distance above the arm B' of the yarn-stand B. At its other end the take-up spring is permanently secured to the bolt C, around which it is wound with several turns, as clearly indicated in Fig. 2. The bolt C passes through a hole in the arm B', and is

clamped thereto by the thumb-nut C', so that the tension of the take-up spring can readily be regulated by the adjustment of the bolt. The yarn passes from the bobbin through an eye, *b*, on the yarn-stand, and, after being guided through the loop *a* of the take-up spring A, is carried through the eye *b'* on the outer end of the arm B' to the yarn-guide D on the machine, and thence to the needles, its course being indicated by the line marked *c*. The yarn, just before it enters the loop of the take-up spring, passes under the clamp or lock E, which is a U-shaped sleeve of sheet metal, embracing the top of the arm B' of the yarn-stand, and turning freely on the pivot *e*. While the needles are drawing upon the yarn the take-up spring will be bent down close to the arm of the yarn-stand, so that the yarn will run in a nearly straight line from the eye *b* to the eye *b'*, and consequently reeve freely through or under the oscillating lock E'; but in taking up slack the spring, rising, causes the yarn to turn the lock upon its axis and clamp or press the yarn to the arm of the yarn-stand, preventing the spring from drawing any yarn off the bobbin.

What we claim as our invention, and desire to secure by Letters Patent, is—

The oscillating clamp or lock E, in combination with the take-up spring A, arranged and operating substantially as specified.

In testimony whereof we have signed our names hereto this 26th day of December, 1871, in the presence of two attesting witnesses.

WM. FRANZ.

WM. POPE.

Witnesses:

C. FULTON,

GEO. QUINLY.