F. BURNS.

KNITTING-MACHINE NEEDLE.

No. 184,833. Patented Nov. 28, 1876.

Fig 1

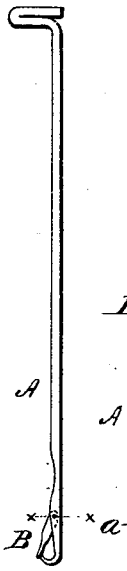

Fig 2

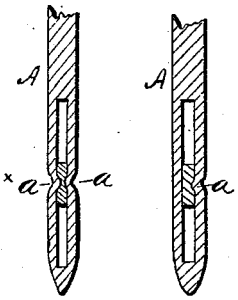

Fig 3

WITNESSES

Franck L. Durand

C. L. Ewert

By

INVENTOR

F. Burns

Alexander & Mason

Attorneys

UNITED STATES PATENT OFFICE.

FRANK BURNS, OF WALTHAM, MASSACHUSETTS.

IMPROVEMENT IN KNITTING-MACHINE NEEDLES.

Specification forming part of Letters Patent No. **184,833**, dated November 28, 1876; application filed March 4, 1876.

To all whom it may concern:

Be it known that I, FRANK BURNS, of Waltham, in the county of Middlesex, and in the State of Massachusetts, have invented certain new and useful Improvements in Knitting-Machine Needles; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to knitting-machine needles; and it consists in the method of pivoting the latches therein, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of a knitting-machine needle embodying my invention. Figs. 2 and 3 are enlarged sections thereof.

A represents an ordinary knitting-machine needle, and B is the latch thereof, constructed in any of the known and usual ways.

The ordinary method of pivoting the latch in the slot of the needle is by means of a rivet; but this is objectionable, as the rivet is constantly getting loose and working out, which does great damage to the fabric. At the particular point where the latch is pivoted the needles should be the thinnest, as they run very close to each other, especially in fine machines, as there are generally two sets of needles—one horizontal and the other perpendicular.

Instead of riveting the latch, I punch one or both sides of the needle when the latch is in the same, which forms a complete bearing, as shown at *a a*, for the latch to work on, and which cannot get loose, as it is a part of the needle itself; nor can it damage the fabric.

In case the latch should get broken or bent out of shape, it can be sprung out and another latch put in without injuring the needle. It also reduces the cost of manufacture.

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

The method herein described of securing the latch in a knitting-machine needle by punching one or both sides of the needle, and thus causing the metal so displaced to act as a pivot within the depression formed in the shank of the latch by the force of the blow, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of February, 1876.

FRANK BURNS.

Witnesses:

C. L. EVERT,

MICHAEL MOFFATT.