F. WICKWIRE.

PRESSER FOR CIRCULAR KNITTING-MACHINES.

No. 179,637. Patented July 4, 1876.

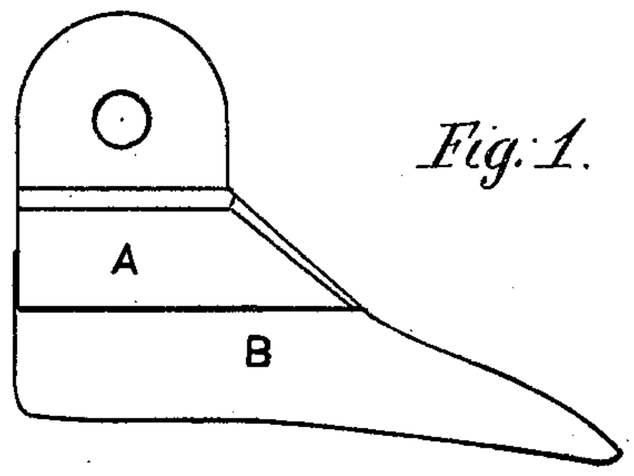


Fig. 1.

Fig. 2.

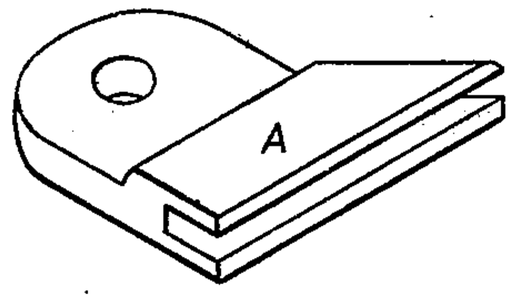
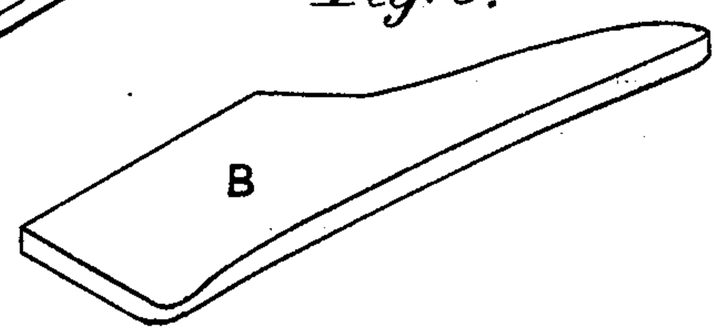


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK WICKWIRE, OF TROY, NEW YORK.

IMPROVEMENT IN PRESSERS FOR CIRCULAR-KNITTING MACHINES.

Specification forming part of Letters Patent No. **179,637**, dated July 4, 1876; application filed March 8, 1876.

To all whom it may concern:

Be it known that I, FRANK WICKWIRE, of the city of Troy, county of Rensselaer and State of New York, have invented a certain new and useful Improvement in Pressers for Circular-Knitting Machines; of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 is a plan of a presser complete, showing the holder and glass united. Fig. 2 is a view in perspective of the holder, and Fig. 3 of the glass.

A is the holder, and B the glass.

The nature of my invention consists in making pressers for circular-knitting machines in two parts—the part which comes in contact with the needles to be made of glass, and the part which is fastened to the standard of the machine to be made of metal or other suitable material—the two parts to be united, as hereinafter described.

The object of my invention is to avoid the friction of the needles of the machine, and the consequent serration of the edge of the presser, and other consequent difficulties hereinafter explained, so that a more uniform quality of knit goods may be produced.

Pressers for circular-knitting machines have been heretofore made of metal, and in two forms, one circular and the other oblong.

The circular presser revolves on a pivot, and the oblong presser is necessarily stationary. When heavy yarn is being knit, the circular presser is generally used, but when the machine is put upon a lighter grade of yarn, the oblong presser is substituted. The reason for such substitution is that the oblong presser extends from the sinker-wheel far enough to keep the barbs of the needles pressed close to the eyes until the stitches are raised above the barbs by the landing-wheel, thereby, in a measure, preventing fine yarn from dropping out of the needles.

The circular presser is preferable on yarn which is heavy enough to hold itself in the needles, because this presser revolves, and the friction of the needles is, therefore, very slight.

Friction is the chief difficulty with metal presses. The hard steel needles working against the presser necessarily produces great friction. The friction generates heat in the presser, and the presser then expands sufficiently to crowd the barbs of the needles to such an extent that some of them are frequently forced to one side of the eyes of the needles. When a barb is thus pushed to one side of the eye instead of directly against it, the stitch on the needle cannot pass off from the needle, and the following stitches on this needle then collect under the barb until the barb or the needle is broken, which is sometimes followed by the breakage of many other needles. This friction also produces, in a short time, a rough and serrated edge upon the metal presser, which destroys the needles and damages the article in process of manufacture.

When the barb of a needle is forced to one side of the eye it causes a tuck-stitch, and when a needle breaks it causes a long drop-stitch in the cloth, because a broken needle can take no stitch. These tuck and drop stitches injure the quality of the goods materially. They have to be taken up by hand, but cannot be fully restored, nor the damage to the goods remedied to any extent.

The breakage of needles not only injures the goods, but racks and injures the machine, causes delay and loss of time, and loss of needles, which constitute a large item of expense. The breakage of needles per day is from five to ten per cent., ordinarily, and is almost entirely due to friction. To avoid this friction, and the difficulties consequent thereunto, I make the presser in two parts. I make a holder, A, of suitable size for a presser, of metal or other proper material, that cannot be easily crushed or broken while being secured to the standard of the machine. At one end is a hole, through which is put the bolt or screw for the purpose of securing the holder to the standard in the ordinary manner. At the opposite end is a slot, into which, by means of gum-shellac or other adhesive substance, I secure the other part of the presser, which is made of a thin piece of glass of the proper length, and slightly concave on the inner side.

If, by accident or otherwise, the glass gets broken, another piece can be readily inserted in its place.

Circular pressers can be made of these two parts, but as no friction nor heat is produced

by the needles against the glass, the oblong form can be used on all grades of yarn, thereby avoiding the necessity of changing the pressers when the grade of yarn is changed. The needles come in contact with the glass, and not with the holder. No friction is produced by the needles against the hard and smooth surface of the glass, and no roughening of the edge by the action of the needles, which almost entirely removes the difficulties experienced in the use of pressers made of metal.

Another advantage is, that pressers can be made as above described at a less cost than of metal.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, as before set forth, of a glass presser for circular-knitting machines, and a holder, into which the glass is fixed, and by which the presser is secured to the machine.

In witness whereof I have hereto set my hand this 1st day of March, 1876.

FRANK WICKWIRE.

Witnesses:
EDWARD F. GREEN,
N. DAVENPORT.