

H. HEATON.
KNITTING NEEDLE.
APPLICATION FILED MAY 10, 1911.

1,022,238.

Patented Apr. 2, 1912.

FIG. I.

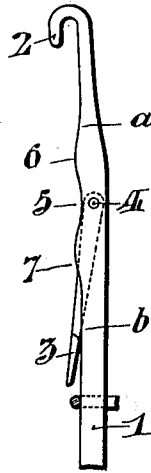
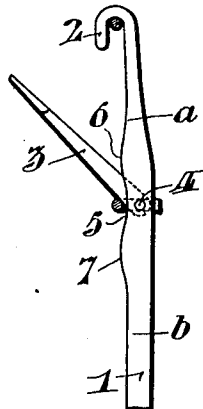


FIG. II.



Witnesses
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UNITED STATES PATENT OFFICE.

HERBERT HEATON, OF ROCKLEDGE, PENNSYLVANIA.

KNITTING-NEEDLE.

1,022,238.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT HEATON, of Rockledge, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Knitting-Needles, whereof the following is a specification, reference being had to the accompanying drawings.

The invention relates more especially to needles which are provided with a pivot latch.

An object of the invention is to provide a construction of needle which will aid in carrying the fabric loop past the pivot pin for the latch, so that if said pivot pin in any way projects beyond the side face of the shank of the needle, producing a slight roughness in the shank, said fabric loop will be caused to pass freely over the same without catching and fraying the yarn.

In the drawings, which show by way of illustration one embodiment of the invention, Figure I, is a side view of a needle having my improvements applied thereto, and showing the yarn loop in the lowest position on the shank of the needle. Fig. II, is a similar view showing the yarn loop as it passes over the pivot pin for the needle latch.

The latch needle herein shown consists of a shank 1, which is formed with a hook 2, at its upper end. Cooperating with the hook 2, is a latch 3, which is pivoted in a groove formed between the side walls of the shank of the needle by a pivotal pin 4, in the well known manner. This construction of needle so far as described, is of the usual type. The fabric loops are formed on the needles, and slide down on to the shanks of the needles opening the latches, and as the fabric loops are shed from the needles, the latches close so as to cause the loops to pass over the hook ends 2. It is found in practice that the pivot pins 4, for the latches often project beyond the side walls of the needles and catch the yarn which frays the same, and disturbs the proper action of the needle. The shank of the needle is usually enlarged adjacent the pivot pin for the latch, in order to strengthen the needle, and while the fabric loop is sliding over that portion of the shank adjacent the pivot pin, the loop is under a maximum strain which causes the yarn to lie flat against the side of the needle, and therefore to catch on any rough surface above referred to.

In the present form of needle the enlargement in the shank on the front face thereof extends from point *a* above the pivot pin to the point *b*, some distance below the pivot pin for the latch of the needle. The outer face of the shank directly in front of the pivot pin 4, is formed with a depression or concave portion 5, so that the maximum width of the shank is at the points 6, and 7, respectively above and below the pivot pin 4. By this construction, as the fabric loop slides along the needle shank, it will be drawn by the projections on the front of the shank. The maximum strain on the loop and the extreme distension thereon occurs at the points 6, and 7. As soon as the loop passes one of these points, the depression or concave portion 5, will release the loop from strain, so that the loop will be relaxed as it passes the pivot pin of the latch. If, therefore, there should be a slight roughness at the pivot pin of the latch, the loop will freely pass the same without engagement therewith, owing to the fact that the yarn is not as tightly stretched against the roughened parts of the needle at this time, as it was before reaching this point.

As is well known, during the formation of a stitch upon a latch needle, the pivotal point of the needle latch is twice drawn through the loop. The needle after taking the yarn draws the same to the stitch forming level where it is then arrested by the web holder or knocking over instrument. Thereupon the needle is elevated to a position to again take the thread. During this motion, the upper enlargement 6, of the needle shank becomes effective in distending the already formed loop, to facilitate the passing of the pivotal point, of the needles. After the needle has taken the thread for the new stitch, it is again depressed to shed the already formed stitch and in this motion, the lower enlargement distends the loop for the same purpose as above described. It will be apparent therefore, from certain aspects of the invention, that I am not limited to the specific construction herein shown, the essential feature of the invention consisting in providing the needle shank with a maximum width at a point or points near but not coincident with the pivotal connection of the latch, so that the width of the shank, directly in front of the pivotal point, is less than the width of the shank adjacent thereto, for it is by this construc-

tion solely that the loop is predistended and therefore relaxed as it passes by any roughened points of the latch pivot.

Having thus described my invention, I
5 claim:—

1. A latch knitting needle comprising a shank having a hooked end; a latch coöperating with said hooked end; a pivot for said latch; said shank having a depression
10 formed therein directly in front of the pivot of the latch, whereby the fabric loop on the shank of the needle is relaxed as said loop passes the pivot of the latch.

2. A latch knitting needle comprising a
15 shank having a hook end; a latch coöperat-

ing therewith; a pivot for said latch; said shank being enlarged at the parts thereof adjacent the pivot; and having a depression directly in front of the pivot of the latch, whereby the fabric loop on the shank of the
20 needle is relaxed as said loop passes the pivot of the latch.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this sixth day of May 1911.

HERBERT HEATON.

Witnesses:

ALBERT M. PIGEON,
JAMES H. BELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
