

Sept. 18, 1923.

1,468,518

R. W. SCOTT
KNITTING MACHINE NEEDLE
Filed Feb. 5, 1921

Fig. 1.

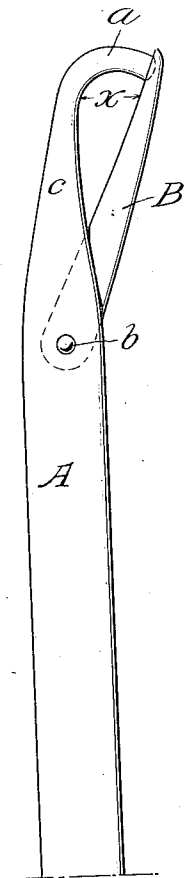
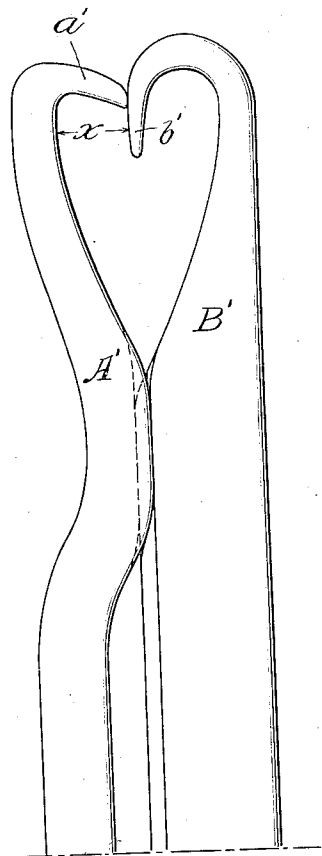


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT W. SCOTT, OF BABYLON, NEW YORK.

KNITTING-MACHINE NEEDLE

Application filed February 5, 1921. Serial No. 442,749.

To all whom it may concern:

Be it known that I, ROBERT W. SCOTT, a citizen of the United States of America, residing in Babylon, in the county of Suffolk, in the State of New York, have invented certain new and useful Improvements in Knitting-Machine Needles, of which the following is a specification.

The object of my invention is to so construct a knitting machine needle that the ordinary yarn imperfections can pass freely through the opening formed in the head of the needle when the latch is closed, while at the same time the over-all depth dimensions of the head of the needle are not increased.

This object I attain by making the hook of the needle without a return bend so that not only will the normal space for the yarn in the head of the needle be increased by the taking away of the return bend, but furthermore, any lump or imperfection of unusual size in the yarn can bear against the latch and tend to spring the latch sufficiently away from the needle shank to permit the said imperfection to pass it.

My invention may be applied equally well to knitting machine needles with pivoted latches or sliding latches.

In the accompanying drawings—
Fig. 1 is a side view, drawn to an enlarged scale, of my improved form of knitting machine needle with pivoted latch.

Fig. 2 is a similar side view of my improvement as embodied in a knitting machine needle of a special sliding latch type which forms the subject of my application for patent filed May 1, 1920, Serial Number 378,233.

It will be understood that the smaller the head of the knitting machine needle the finer will be the fabric possible to be made thereon. H. Swinglehurst had such an aim in view in making the construction of needle which forms the subject of his Patent Number 1,168,039, dated January 11, 1916. But in seeking to reduce the over-all dimensions of the head of such a needle, it was found that if the opening for the yarn was too small, knots and imperfections in the yarn would not pass freely through and would cause breakage of the yarn and consequently imperfections in the knitting. To meet this situation I construct my needle in the following manner:

Referring to Fig. 1, A is the shank of

the needle, to which is pivoted the latch B at b, as usual. The head of the needle above the pivoting point of the latch is preferably inclined forwardly as at A in the manner described in the patent of H. Swinglehurst, No. 1,168,039, dated January 11, 1916. The latch B may be of the usual type.

The hook a of the needle, however, is formed with practically no return bend, such as in usual knitting machine needles, as seen, for example, in said Swinglehurst patent. The hook may be slightly curved to properly engage and hold the loop, but the distance from the inner edge of the upper portion of the shank to the latch as indicated at x in Fig. 1 and constituting the space to receive the yarn, is quite large because of the absence of the usual return bend.

Furthermore, if the knots, lumps or other imperfections of unusual size in the yarn appear, they can bear against the latch and spring it away sufficiently to permit such imperfections to pass.

In Fig. 2, I have shown the same improved construction embodied in a special type of knitting machine needle with sliding latch, invented by me. In this construction, A' is the shank of the needle and B' is the sliding latch with return bend hook b' facing towards the needle hook to close the opening after the fresh loop has been taken, and later to take that loop after the latter has been carried down the shank, by the rising of the needle through the loop, to take a new loop. This construction of sliding latch needle however, forms no part of my present invention. The feature of my present invention in this construction lies in the formation of the hook a' of the needle without the usual return bend, so as to leave the largest possible space for the yarn at x between the upper part of the shank of the needle and the end of the latch a' for the same purposes as described with reference to the construction shown in Fig. 1, and in the same way to permit an extra large lump in the yarn to bear against the end b' of the latch and spring the latter away sufficiently to let the lump pass.

In both these constructions, I can obtain either of two advantages. Either I can secure a gain in the size of the opening for the yarn without increasing what I have termed the over-all dimensions of the needle

head, that is to say, the depth of the parts over which the loop of yarn has to pass in knocking over; or on the other hand, I can secure a reduction in the over-all dimensions of the needle head while maintaining the old size of opening for the yarn and thus knit finer fabric.

It will be understood that my improvement may be applied to other forms of needles with sliding or other latches, so long as the loop-taking hook of the needle

is formed with substantially no return bend.

I claim as my invention:

A knitting machine needle, having a latch and a loop-taking hook with substantially no return bend, leaving a large opening for the yarn between the inner side of the upper part of the shank and the latch.

In testimony whereof I have signed my name of this specification.

ROBERT W. SCOTT.