

(No Model.)

A. WOOD.
KNITTING MACHINE NEEDLE.

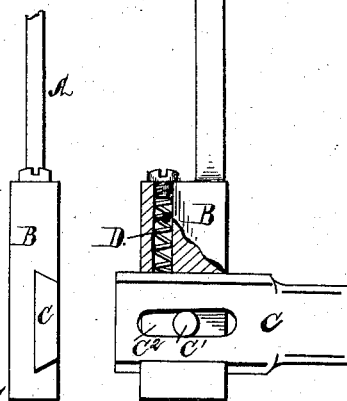
No. 305,403.

Patented Sept. 16, 1884.



Fig 1.

Fig 2.



WITNESSES

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ALFRED WOOD, OF DETROIT, MICHIGAN.

KNITTING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 305,403, dated September 16, 1884.

Application filed August 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALFRED WOOD, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Knitting-Machine Needles; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of a knitting-machine needle constructed as hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is an elevation of my needle, partly in section; and Fig. 2, an edge view with part of the needle broken away.

My invention is designed as an improvement upon the needle shown by me in two former applications of mine for patents for improvements in knitting-machines, filed, respectively, January 4, 1883, and April 27, 1883. In those applications a needle was described as provided with a heel pivoted to the shank of the needle, and adapted to be thrown into or out of engagement with the needle-actuating cam. In use, however, I have discovered that the said needle-heel was apt to shake loose, so as not to operate with certainty.

It is the object of my present invention to remedy this difficulty.

The drawings represent in enlarged form a knitting-machine needle, in which drawings—

A indicates the needle-shank.

B is the foot of said shank, consisting of a plate secured thereto.

C is the needle-heel, consisting of a slide. It is designed to engage the needle-cam in all respects the same as described in my former applications before named; but instead of being pivoted to the shank the heel C is adapted to slide in a dovetail or undercut guideway formed in the foot B, which is secured to or formed on the lower end of the needle-shank, a center-pin, C', and slot C'' being employed to prevent the heel from disengaging with said guideway.

D is a spring, which yields a frictional resistance against the heel, so as to hold the heel in position when it has been pushed down to engage the needle-cam, and likewise

hold it out of position when it has been disengaged from the needle-cam, the tension of the spring being regulated by a screw, D'. Of course the frictional resistance may be afforded by a spring between the heel and the foot B, as well as by the spring at the edge of the heel; and I would have it understood that I do not limit myself in this respect to any particular kind of a friction device and location of the same, that in the drawings having been found by me to be effective for the purpose. So, also, I do not limit myself to a dovetail connection between the heel C and foot B, for the heel may be simply held down squarely in a groove in the foot and be held in place by the head of a retaining-screw located in the position of the pin C'; or the heel might be fitted into a slot or mortise made through the foot B, so as to slide therein, the essential feature of my invention being the combination, with the needle-shank, of the sliding heel.

Having thus described my invention, what I claim is—

1. The combination, with the shank of a knitting-machine needle provided with a guideway, of a heel for engaging the needle-cam, adapted to be slid back and forth and be adjusted in said guideway, substantially as described.

2. The combination, with the shank of a knitting-machine needle provided with a guideway, of a heel for engaging the needle-cam, adapted to be slid back and forth and be adjusted in said guideway, and means for exerting a frictional resistance against said heel to hold it in adjusted position, substantially as described.

3. The combination, with the shank of a knitting-machine needle provided with an undercut or dovetail guideway, of a heel for engaging the needle-cam, adapted to be adjusted in said guideway, substantially as described.

4. The combination, with the shank of a knitting-machine needle provided with a guideway, of a heel, C, adapted to be adjusted in said guideway, and a spring, D, to hold it in adjusted position, substantially as described.

5. The combination, with the shank of a knitting-machine needle provided with a guideway, of a heel adapted to be adjusted in said guideway, and provided with a slot, and a pin

secured to the shank and engaging with said slot, whereby the movement of the heel transversely of the shank is limited, substantially as described.

- 5 6. The combination, with the shank of a knitting-machine needle, A, provided with a foot, B, having the undercut or dovetail guideway, of the heel C, having the slot C' therein, adapted to be adjusted in said guideway, the pin C',

for limiting the adjustment of said heel, the 10 spring D, and screw D', for holding the heel in adjusted position, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ALFRED WOOD.

Witnesses:

N. S. WRIGHT,

M. B. O'DOHERTY.