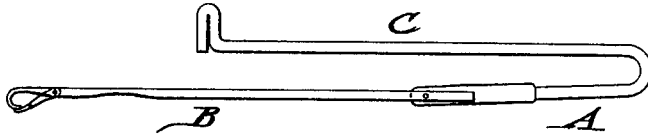


S. WOODWARD.

KNITTING-MACHINE NEEDLES.

No. 185,713.

Patented Dec. 26, 1876.



WITNESSES:

H. Pytquist.
J. H. Scarborough

INVENTOR:

S. Woodward.
BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

STEPHEN WOODWARD, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN KNITTING-MACHINE NEEDLES.

Specification forming part of Letters Patent No. **185,713**, dated December 26, 1876; application filed November 18, 1876.

To all whom it may concern:

Be it known that I, STEPHEN WOODWARD, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented a new and Improved Knitting-Machine Needle, of which the following is a specification:

The accompanying drawing represents a side view of my improved knitting-machine needle.

The object of my invention is to furnish an improved needle for knitting-machines, which is so constructed that the hook and latch of the same may be turned up from the work, and thereby a part only of the needles be used for knitting, without the trouble of removing the unused ones from the cylinder; and the invention consists of a knitting-machine needle provided with a hinge or loose joint between the latch-piece and the shank, and also with an extension or crook of the shank.

A in the drawing represents the shank of a straight or crooked knitting-machine needle, to the end of which is pivoted, hinged, or otherwise loosely jointed the end of the hook and latch-piece B, so that the same swings readily thereon, and may be thrown up out of the way of the work when not required, without necessitating the removal of it from

the needle-bed. The shank is made with a U-shaped extension or crook, C, that runs down along the inside of the cylinder, leaving the hinged part at the outside of the same. The crook C serves for the purpose of attaching the needles to a cylinder with straight inner side, and for dispensing with the tapering cam.

With this construction, when the hook is down the shank will be at the left, the crook C at the right, and the hinged part B on the right of the end of extension, so that the shank will readily run in the cam, while the part B will be turned up from the work.

The improved needle facilitates the working of the knitting-machine, and simplifies the construction of the same.

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

A knitting-machine needle consisting of shank A and part B, pivoted thereto, the former extended and bent to form the crook C, as shown and described.

STEPHEN WOODWARD.

Witnesses:

L. H. JAMES,
N. P. HUNT.