

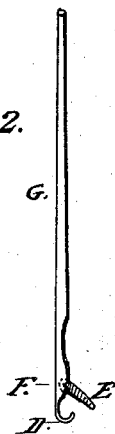
*A. C. Carey,*

*Knitting Mach. Needle.*

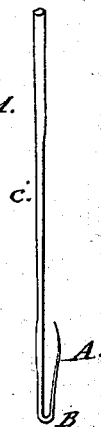
*Nº 47,488.*

*Patented Apr. 25. 1865.*

*Fig. 2.*



*Fig. 1.*



*Fig. 3.*



*attest:*

*John H. Batchelder  
Saml Batchelder Jr.*

*Inventor:*

*Augustus C. Carey*

# UNITED STATES PATENT OFFICE.

AUGUSTUS C. CAREY, OF LYNN, ASSIGNOR TO HIMSELF AND GEO. S. SULLIVAN, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN KNITTING-MACHINE NEEDLES.

Specification forming part of Letters Patent No. 47,488, dated April 25, 1865.

*To all whom it may concern:*

Be it known that I, AUGUSTUS C. CAREY, of Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Knitting-Needles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures marked thereon.

Figure I is a view of the common spring-needle. Fig. II is a view of the common latch-needle. Fig. III is a view of my combination of the spring and latch needle.

The "latch" knitting-needle as now used in machines for manufacturing coarse-knit fabrics is in many respects an improvement on the old spring needle, but there are several objections to its use. It is made with a very short, rigid hook, nearly semicircular in form, and having its point not more than one-sixteenth or one-eighth of an inch above the level of the base of the needle. The end of the latch rests upon this point, and when closed the needle is blunt at its base and the latch makes a large angle with the shank at a point near the pivot of the latch. This abrupt change of direction causes the loops or stitches to deliver hard. It is also very difficult to make the stitches even, and if used on fine work the fabric has the appearance of having been knit with needles of various sizes.

The spring needle, as compared with the common latch-needle, has this advantage, that it never changes in size near the end, so that if one needle is open more than another at the end of the hook the yarn in drawing toward the base or bend of the needle becomes equalized and all the loops are of the same size, thus making smooth work, either coarse or fine.

Fig. I shows the form of the common spring-needle with its long, flexible hook, A, and its

short bend at the base B, where it joins the shank C.

Fig. II shows the form of the common latch-needle, having a rigid, short hook, D, and a latch, E, turning on a pivot, F, in the shank G.

My improvement and combination of these two needles is represented in Fig. III.

To the shank H the latch I is attached by the pivot J. The elastic hook K is turned short at the base L, and extends upward three-eighths of an inch or more, according to the size of the needle. The end of the hook may be turned slightly outward at the point which rests in a small cavity in the lower end of the latch when the latter is closed. By this combination I thus produce a needle having a base as small as may be desired, an elastic or flexible hook, and a latch so placed that it offers little resistance to the passage of the loops or stitches, the angle of the latch with the shank at J being very small, and this angle is made still less by the yielding of the hook K when the latch I is pressed down upon it.

By my improvement the latch-needle, which has heretofore been used for making coarse work, is adapted for making the very best kinds of knit goods, and produces a fine, even, and firm fabric.

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

The combination, in a machine knitting-needle, of a latch with an elongated flexible hook that extends upward nearly parallel with the shank of the needle, and to such a distance or length as to reduce the angle that the latch makes with the shank, thus forming a narrow or slim needle that can be used for fine work, substantially as herein described.

AUGUSTUS C. CAREY.

In presence of—

JOHN M. BATCHELDER,  
SAML. BATCHELDER, JR.