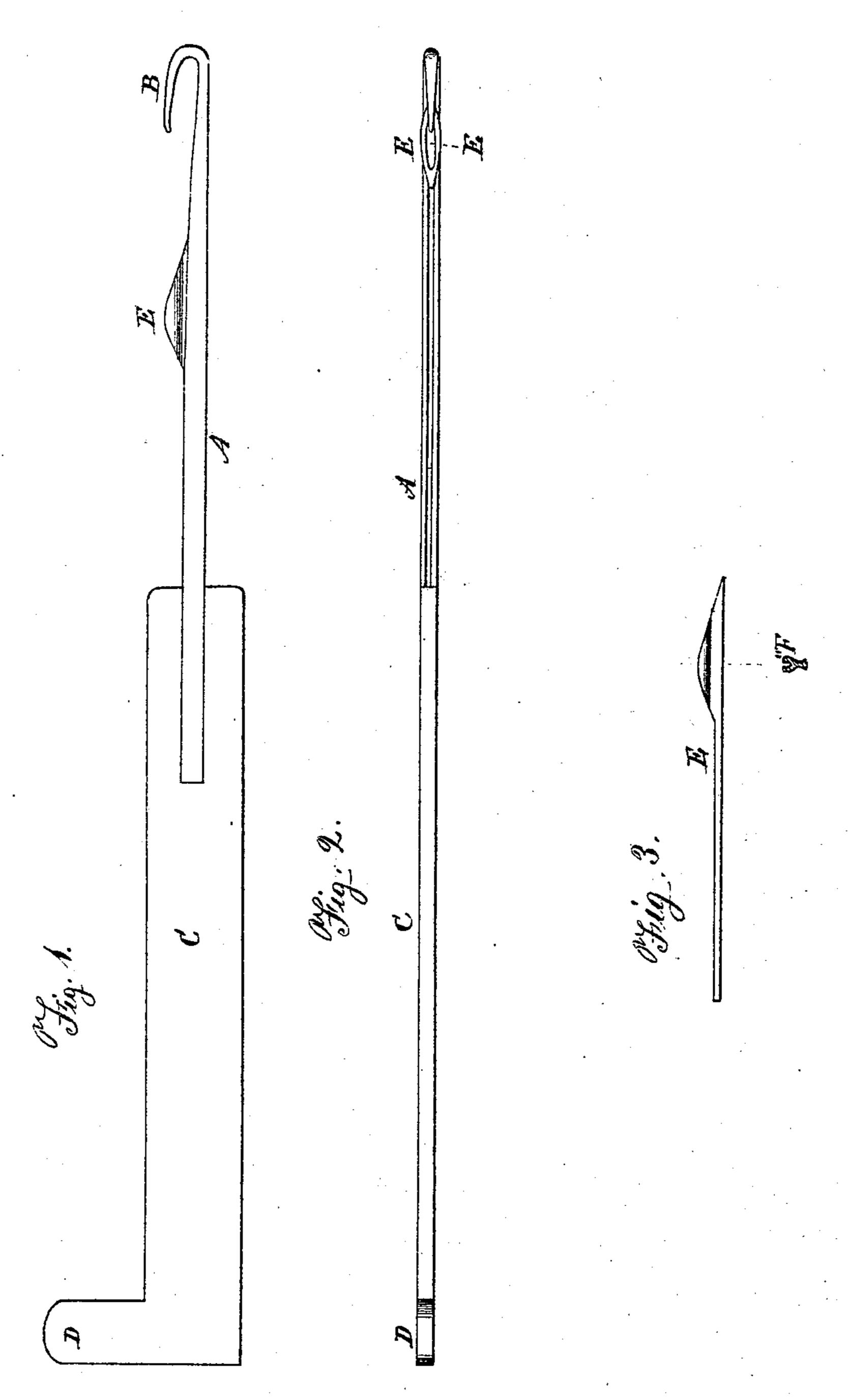
Miller,

Knitting Meedles.

No. 71.039.

Fatented Nov. 19.1867.



Attest, J. E. Dennis Cha' Hadaway Inventor, Job Miller Byhis Atty I Dennis Je

## Anited States Patent Pffice.

## JOB MILLER, OF WARREN, RHODE ISLAND.

Letters Patent No. 71.039, dated November 19, 1867.

## IMPROVEMENT IN KNITTING-MACHINE NEEDLE.

The Schednle referred to in these Tetters Patent and making part of the same.

## TO ALL WHOM IT MAY CONCERN:

Be it known that I, Job Miller, of Warren, Bristol county, State of Rhode Island, have invented certain new and useful Improvements in Knitting-Needles; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

The nature of my invention and improvements consists in a grooved knitting-needle, made or formed by bending or folding sheet metal to form a groove for the stitch-caster to traverse in, said groove being widest at the bottom, or dove-tailing, so as to hold in the stitch-caster, and allow it to traverse freely in the shank of the needle. In the accompanying drawings—

Figure 1 is an elevation of a needle adapted to a knitting machine,

Figure 2 is a plan, and

Figure 3 the caster.

In these drawings, A is a needle, made in the form shown, or in such other form as will answer the purpose, and provided with a pointed hook, B, and its shank is fastened into the needle-carrier or stock C by soldering or otherwise, to adapt it to a knitting machine. The carrier C has a projection, D, at the rear end, by which it is traversed. This needle is made by taking a piece of thin flat wire or sheet metal, of a proper width and thickness, and folding or bending it on a former, that will leave the groove, when it is bent, widest at the bottom, when the former is pulled out endwise, and that part which is to be turned around to form the outer part of the hook may be folded quite together, and pointed, and bent around to form the hook, and, if necessary, it may be heated in order to bend it. The caster E is made in the form and shape shown, or in such other form as will answer the purpose, and fitted to traverse in the groove of the needle, so that it will traverse freely to and from the point of the hook by the action of the loops of yarn or stitches; that is, it is pushed from the hook by the yarn to open the hook, so that the yarn may be fed or laid in the hook. When the stitch has carried the caster back a proper distance, it slips over it; and when the stitch moves towards the hook, it pushes the caster up to the hook, and then slips over both caster and hook, and a new loop pushes the caster back, and repeats the operation. The caster has a groove, F, in it, for the point of the hook B to make the yarn go over.

I claim a knitting-machine needle, constructed of sheet metal, and formed as described, in combination with

a stitch-caster, constructed as described, to fit said needle, as and for the purpose set forth.

JOB MILLER.

Witnesses:

HENRY H. LUTHER, WILLIAM B. LAWSON.