(No Model.)

G. H. ADAMS.

KNITTING MACHINE NEEDLE.

No. 461,066. Patented Oct. 13, 1891.

Fig. 1

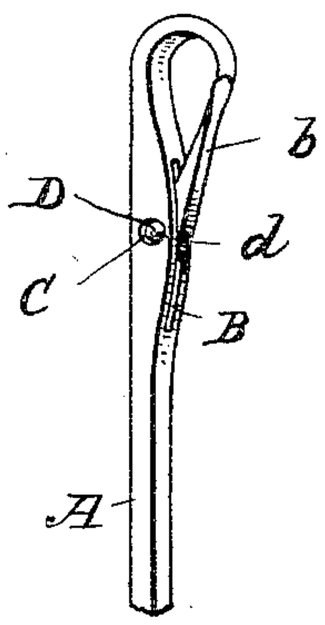
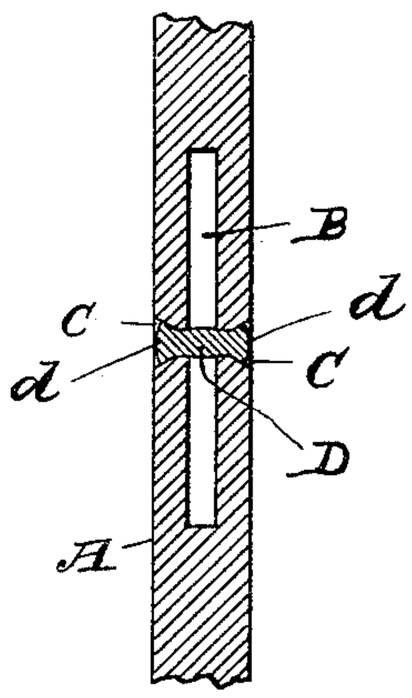


Fig. 2



Witnesses
F. A. Merrick
J. H. Stone

Inventor
George H. Adams
By his Attorney J. B. Thurston

UNITED STATES PATENT OFFICE.

GEORGE H. ADAMS, OF HILL, NEW HAMPSHIRE.

KNITTING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 461,066, dated October 13, 1891.

Application filed September 16, 1890. Serial No. 365,134. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. ADAMS, a citizen of the United States, residing at Hill, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Knitting-Machine Needles, of which the following is a specification.

My invention relates to the latch, &c., of knitting-machine needles, and particularly to the formation of the heads of the pivot by which it is secured within its slot in the needle.

Among the various methods employed for finishing the heads of the latch-pivots, and in fact the method most common at the present time, is to countersink the holes made in the needle for the reception of the pivot and spread the heads of the pivot, filling these countersunk portions of the holes in the needle, and afterward grinding off both sides until the heads of the pivot and sides of the needle are flush. While this method appears perfectly feasible, still there is oftentimes a slight ragged edge caused by the splitting of the heads of the pivot, which, while hardly perceived by the eye, is sufficient to catch the fiber of the yarn and cause injury to the work; but even should the head of the rivet be perfect—*i. e.*, entirely free from any ragged edges—it will in time invariably work loose, and the slightest movement will turn up a thin sharp edge, which causes damage to the work and renders the needle worthless.

In Letters Patent No. 282,029, granted to myself, dated July 31, 1883, I describe a method involving the counterboring of the outside edges of the holes in the needle and spreading the heads of the pivot therein, and when finished the heads of the pivot were slightly below the surface of the needle. This construction was designed to overcome the objections to the common method above referred to; but in practice I found that sufficient burr was formed on the edges of the counterbored holes in the needle to cause injury to the work and that the counterboring also weakened the needle.

By the following method, which comprises my present invention, I overcome the defects of and gain advantages over both the methods hereinbefore described.

The drawings accompanying the following specification and claim clearly illustrate my invention.

Figure 1 is an enlarged perspective view of that end of a needle which contains the latch; and Fig. 2 shows a vertical section, also enlarged, taken through the slot in the needle and the latch-pivot, the latch having been removed.

A represents a section of a needle, and B is the slot to receive the latch. C C are the countersunk holes, and D is the latch-pivot. In riveting the heads of the pivot I use a tool or punch having a concaved end, thus spreading and setting the outside edges of the heads of the pivot against the sides of the countersunk holes C C a little below the surface of the needle, where their ragged edges cannot be caught by the fibers of the yarn, leaving the centers *d d* of the heads of the pivot as nearly as possible flush with the sides of the needle and presenting only a smooth convexed surface for contact with the yarn.

This is a much stronger construction than that shown and described in my patent of 1883 and possesses all the advantages of the common method first above described, and successfully does away with the disadvantages of the latter by presenting nothing but the smooth convexed center of the heads of the pivot for contact with the yarn and hiding the possible ragged edges of said heads below the surface of the needle.

Having described my improvement, what I claim as new is—

A knitting-machine needle having a longitudinal slot near one end the walls of which are perforated and countersunk at the outer ends of said perforations, a perforated latch in the slot, and a rivet through the perforations of the needle and of the latch, the outer ends of said rivet being convex and expanded within the countersunk portions of the perforations of the needle, the apex or center of the convex portion of each end of the rivet being substantially flush with the sides of the needle, and the edge of the expanded portion being between the surface of the needle and the bottom of the countersink, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. ADAMS.

Witnesses:
J. B. THURSTON,
FRANK E. FOSS.