

(No Model.)

G. H. ADAMS.
KNITTING MACHINE NEEDLE.

No. 282,029.

Patented July 31, 1883.

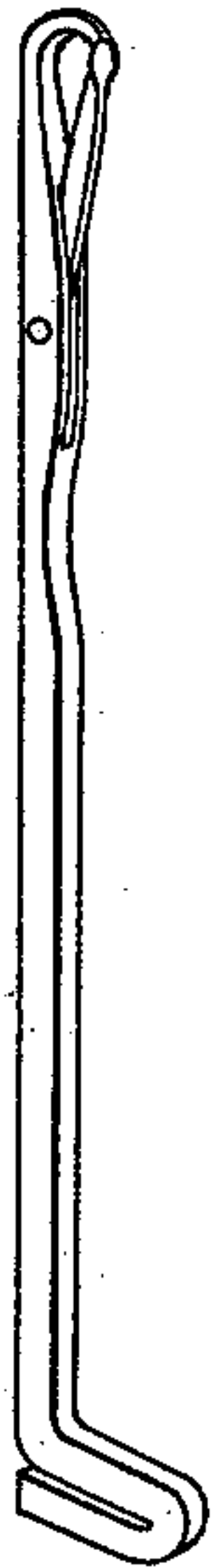


Fig. 1.

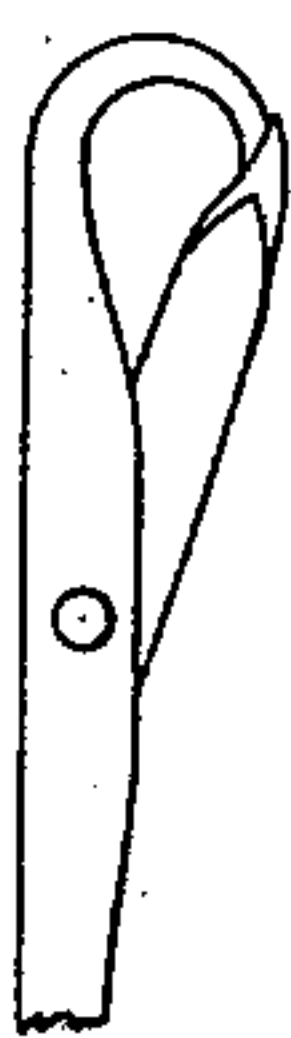


Fig. 2.

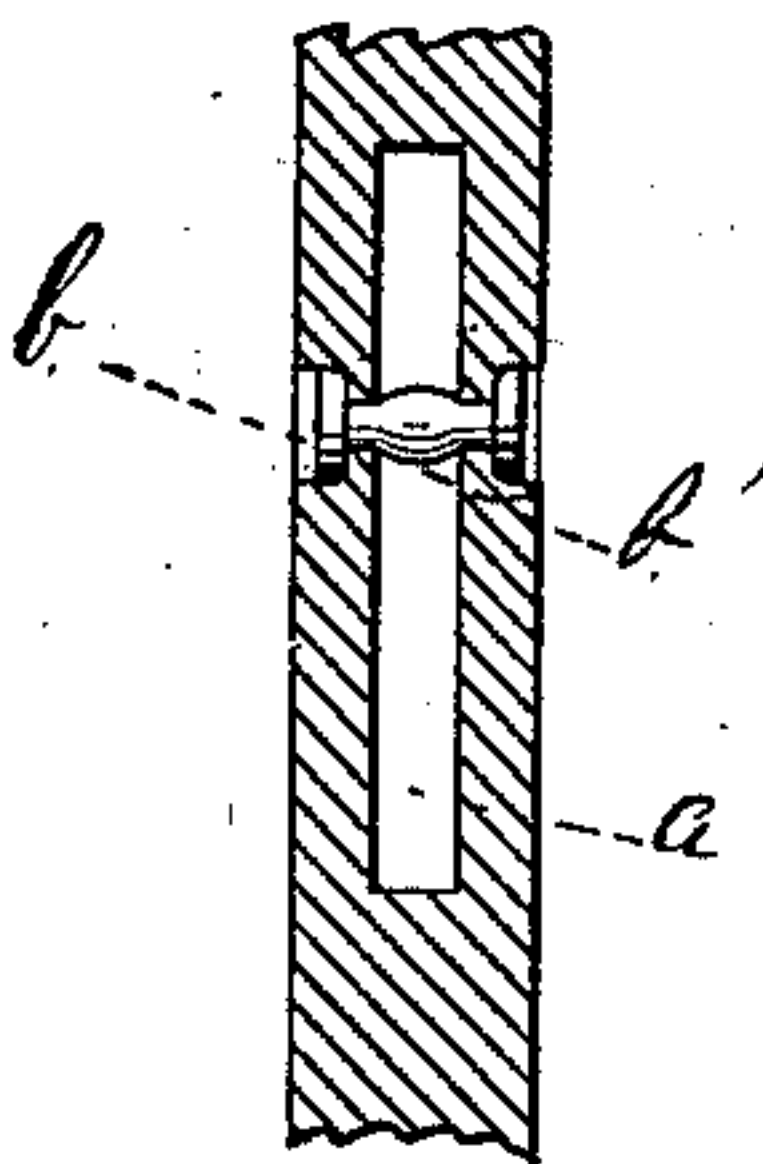


Fig. 3.

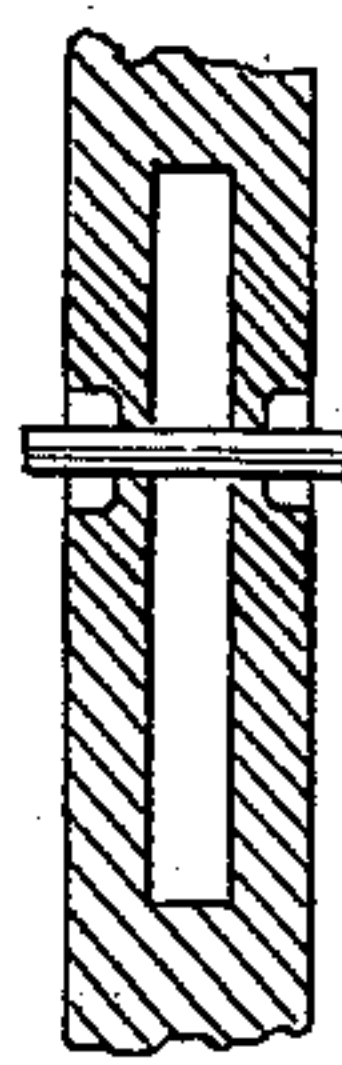


Fig. 4.

WITNESSES

A. B. Colesworth
W. N. Buckminster

INVENTOR

George H. Adams
By W. S. Hill Atty

UNITED STATES PATENT OFFICE.

GEORGE H. ADAMS, OF HILL, NEW HAMPSHIRE.

KNITTING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 282,029, dated July 31, 1883.

Application filed December 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. ADAMS, of Hill, in the county of Merrimack and State of New Hampshire, have invented a new and useful Improvement in Knitting-Machine Needles, which improvement is fully set forth in the accompanying specification.

This invention relates to knitting-machine needles; and it consists of a novel means, herein-
after described, of securing the pivot by which the latch of the needle is held in its place.

One of the means heretofore employed to pivot the latch to the body of the needle has been to use a pivot longer than the thickness of the body of the needle, said pivot passing through the body of the needle and through a hole in the end of the latch, there being a slot cut in the needle to receive the latch. The holes in the needle were countersunk at their outer sides, and the pivot was riveted down, thus forming heads at either end, which held the pivot in its place. The difficulty attendant upon this form of manufacture was that in the severe strain to which the needles were put in the rapidly-running machines the pivots frequently became loosened, and the thin edges of the heads projected above the surrounding surface and caught the fiber of the yarn, thereby causing injury to the quality of the work, and frequently much damage to the machine itself. In Letters Patent No. 210,653, granted to myself and Harrison Adams, December 10, 1878, is described a process of manufacture of knitting-machine needles designed to overcome this difficulty; and the present invention is designed to still further improve upon the method described therein.

In the specification of Letters Patent above referred to is described a needle wherein the pivot that holds the latch is made of a length shorter than the thickness of the needle, and is held in its place by a portion of the metal contiguous to the hole containing the pivot being forced into the hole and over the end of the pivot, thereby securing it in its place. While this invention overcame the difficulty from the fiber catching in the raised surface of the rivet heads, common to the earlier process employed, it did not possess the advantage derived from

the fact that the pivot also acted as a rivet to hold the sides of the needle from spreading apart when subjected to undue strain; and the object of my present invention is to secure the strengthening feature of a combined pivot and rivet, and at the same time retain the advantage of having the ends of the pivot kept below the surrounding surface of the body of the needle.

The drawings accompanying this specification will readily show the nature of my invention.

Figure 1 is a perspective view of a finished needle. Fig. 2 is an enlarged view of the same, more clearly showing the connection of the latch with the body of the needle. Fig. 3 is a longitudinal section, showing the slot to receive the latch, and also the form of the pivot when it is secured in its place. Fig. 4 shows the pivot in its place, but before it has been subjected to the action of the dies that form the heads to secure it in its place.

In the process of manufacture of my improved needle, the needle is slotted and drilled in the ordinary manner. The outer ends of the holes are then enlarged for a considerable depth, as shown in Figs. 3 and 4. The latch is then placed within the slot *a*, and the pivot *b* is inserted. The needle is then subjected to the action of suitable dies, which, as they come together, seize and compress or upset the metal forming the pivot, and it is not only enlarged at its ends, as shown at *b*, but it is also enlarged at the center *b'*, or at that part embraced by the hole in the latch, and it is thus made to form a perfect brace to support the needle, either from the spreading or the closing together of its sides, while the heads of the rivets lie within the enlarged ends of the holes and below the surrounding surface, where they can offer no obstruction to the passage of the yarn. Thus constructed the needle has all of the advantages of those made by either of the methods heretofore in use, while it is free from the objections hereinbefore named, and the test of actual use has demonstrated its practical utility.

Having thus fully described the nature and operation of my invention, what I claim as

new, and desire to secure by Letters Patent,
is—

5 A knitting-machine needle having a latch
and an independent pivot for securing said
latch, said pivot being of a length shorter than
the thickness of the body of the needle, and
having a central enlargement between the
walls of the needle and heads on the exterior

thereof, within the enlarged pivot-holes, where-
by the heads will lie below the surrounding
surface of the needle-body, substantially as
shown, and for the purpose set forth.

GEORGE H. ADAMS.

Witnesses:

GEO. A. SUMNER,
J. R. ROWELL.