No. 822,401. PATENTED JUNE 5, 1906.

E. H. STURTEVANT.

KNITTING MACHINE NEEDLE

APPLICATION FILED JAN. 27, 1905.

Fig. 1.

Fig. 2.

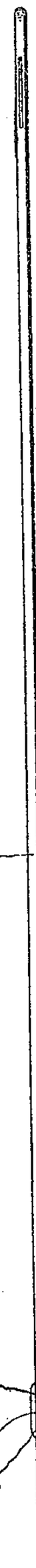


Fig. 4.

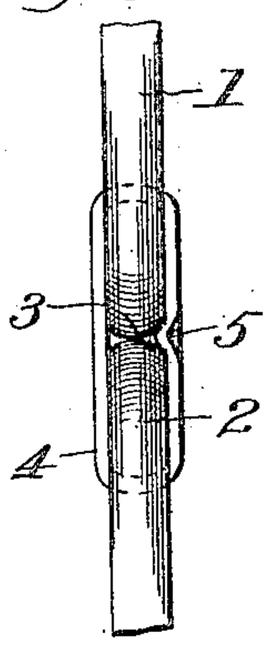


Fig. 3.

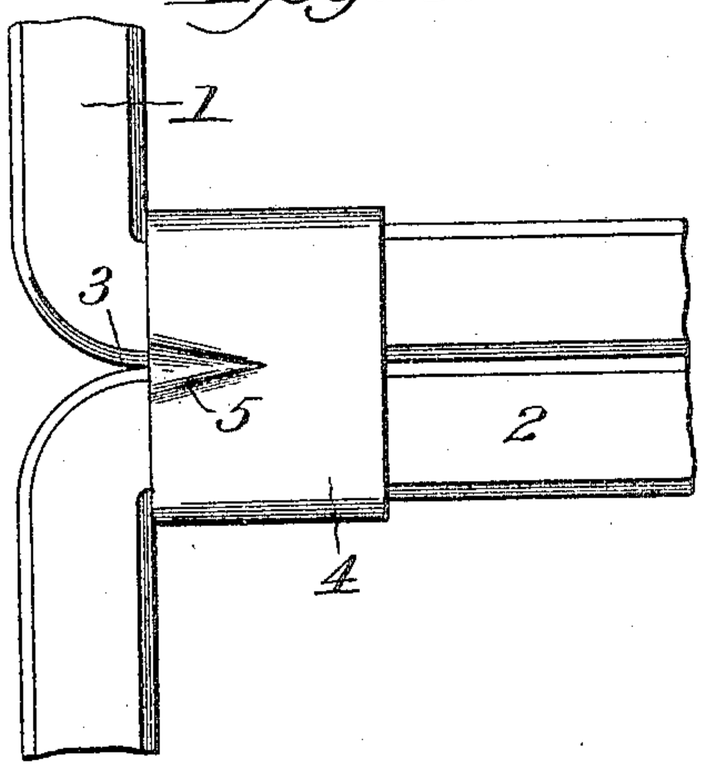
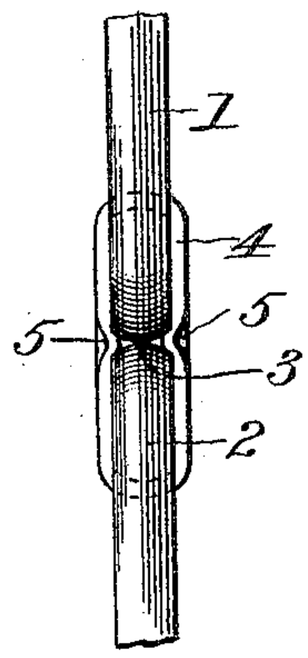


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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KNITTING-MACHINE NEEDLE.

No. 822,401. Specification of Letters Patent. Patented June 5, 1906.

Application filed January 27, 1905. Serial No. 242,960.

To all whom it may concern:

Be it known that I, EDWARD H. STURTEVANT, a citizen of the United States, residing at Franklin, in the county of Merrimack and State of New Hampshire, have invented a certain new and useful Improvement in Knitting-Machine Needles, of which the following is a full, clear, and exact description.

The well-known Mayo knitting-machine needles have applied to their butts or heels brass bands which coöperate with the grooved cylinder and skeleton frame interposed between the grooved cylinder and cam-cylinder to prevent the needles from tipping over. These bands by reason of imperfect fitting or constant usage become loosened from the butts or heels, and when the needles are taken out of the machine to clean the cylinders and for other purposes they drop off, and when the needles are replaced without the bands on any one or more of the needles such bandless needles by consequent displacement serve to seriously derange and often damage the machine.

Many variations in the manner of applying bands to needles have been devised; but the Mayo construction is perhaps the most economical from a manufacturing viewpoint; and therefore this present invention has for its primary object a construction of the Mayo band in which the liability to insecure application and to becoming loosened by usage is greatly reduced, if not wholly removed.

The invention consists of a knitting-machine needle having a band applied to its butt or heel and secured thereon by forcing the stock into the bend between the limbs of the butt or heel.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation, enlarged, of one form of latch-needle. Fig. 2 is a rear view thereof. Fig. 3 is a side view, greatly enlarged, of the butt or heel portion of the needle of Figs. 1 and 2; and Fig. 4 is a rear view of same. Fig. 5 is a rear view similar to Fig. Fig. 4, showing one of many modifications of which the invention is susceptible.

The needle 1, here shown of the latch variety, has its butt or heel 2 formed in any usual or approved manner. The wire from which the needle is made is doubled or folded or bent to form the butt or heel, and there is more or less space between the limbs of this fold or bend, as indicated at 3. The band 4 is of usual form and applied to the butt or heel in any usual way, excepting that its stock is forced down into the space 3, as at 5, and it is thereby securely locked in place, so as to resist the loosening effect of usage.

As indicated in Figs. 1 to 4, the depression of the stock of the band into space 3 may be effected by a V-shaped punch, the apex pointing rearwardly; but other forms of punches may be used. Also, as shown in Figs. 1 to 4, the stock may be punched down from one side only; but, as shown in Fig. 5, it may be punched down from opposite sides. Furthermore, this punching down of the stock of the band may be done at other points, the principle of the invention consisting in the locking of the band upon the butt or heel by displacing its stock externally into some cavity in the needle as distinguished from passing the stock of the band through the needle from one side to the other.

What I claim is—

1. A knitting-machine needle, having a butt or heel, and a band applied to said butt or heel and locked thereon by punching its stock in between the limbs of the butt or heel.

2. A knitting-machine needle, having a butt or heel formed by doubling the wire of the needle upon itself, a band externally applied to said butt or heel, and a depression in said band entering the butt or heel between its limbs and locking said band in place.

3. A knitting-machine needle of the class described having an endless band extending around the heel of said needle, said band projecting into a recess formed in said heel.

4. A knitting-machine needle of the class described having an endless band extending around the heel of said needle, said band projecting into a recess between the limbs of said heel.

5. A knitting-machine needle of the class described having a band extending around the heel of said needle, said band provided with a projection upon its inner surface projecting into a recess formed in the heel of said needle.

6. A knitting-machine needle of the class described having an endless band extending

around the heel of said needle, said band indented upon its outer surface and having a projection upon its inner surface formed by said indentation and projecting into a recess between the limbs of said heel.

7. A knitting-machine needle of the class described having an endless band extending around the heel of said needle said band having lateral projections upon its inner face upon opposite sides thereof which project into a space between the limbs of said heel.

In testimony whereof I have hereunto set my hand this 25th day of January, A. D. 1905.

EDWARD H. STURTEVANT.

Witnesses:

GEO. L. HANCOCK,

B. I. STEVENS.