W. R. BLAIR.

THREAD GROOVE CUTTER FOR SEWING MACHINES.

APPLICATION FILED FEB. 20, 1911.

1,009,716. Patented Nov. 28, 1911.

FIG. 1

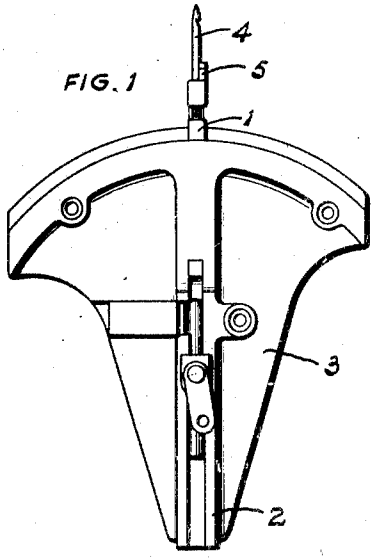


FIG. 2

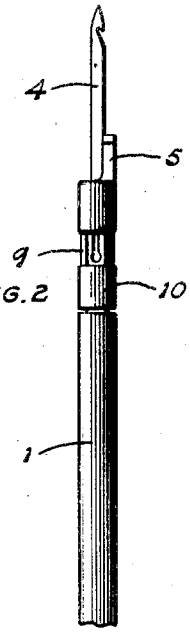


FIG. 3.

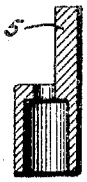


FIG. 4.

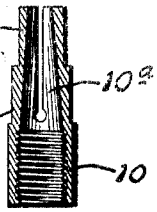


FIG. 5.

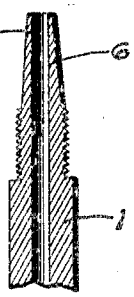


FIG. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM R. BLAIR, OF ST. LOUIS, MISSOURI, ASSIGNOR TO LANDIS MACHINE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

THREAD-GROOVE CUTTER FOR SEWING-MACHINES.

1,009,716. Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed February 20, 1911. Serial No. 609,698.

To all whom it may concern:

Be it known that I, WILLIAM R. BLAIR, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Thread-Groove Cutters for Sewing-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of a portion of a sewing machine showing a needle bar provided with a needle and grooving-tool; Fig. 2 is an elevation of the needle-bar, needle, and grooving-tool; Fig. 3 is a vertical section of the grooving-tool; Fig. 4 is a vertical section of the clamping-nut; Fig. 5 is a vertical section of the upper part of the needle-bar; and Fig. 6 is an elevation of the grooving-tool as seen from right to left in Fig. 2.

This invention relates to an improved grooving-tool, designed to be secured to the needle-bar of a leather sewing machine, the object being to construct the parts in such manner that the grooving tool may be adjustably mounted in position and clamped in such adjusted position by the usual clamping nut employed for holding the needle in place.

In the drawings, 1 indicates the needle-bar, which slides in a recess 2 in the frame 3 of the machine, said needle-bar carrying a hooked needle 4 and a grooving-tool 5 at its upper end. The grooving tool is of the form shown, and is intended to operate in the manner described in the patent to Wheeler, No. 446,398. The needle-bar is provided with a reduced extremity and a socket 6, in which the shank of the needle is held by jaws 7, formed by tapering and splitting the end of the needle-bar.

The clamping nut 10 has a threaded lower portion to engage the reduced threaded portion of the needle-bar, and also a tapered portion 10^a, which engages the tapered jaws 7 to clamp them upon the needle and hold the needle in position. The clamping nut 10 is provided with a non-circular portion 9, by which it may be turned on the upper extremity. This clamping nut is reduced, as shown at 8, such reduced portion being split and preferably made circular, so as to provide clamping jaws for the grooving-tool socket. The socket of the grooving-tool 5 is made circular and fits upon the reduced portion 8 of the clamping nut, being free to be rotated and moved longitudinally when the clamping nut is loose. When, however, the needle is in position and the clamping nut is screwed down, its jaws 7 are forced inwardly by the tapered portion of the clamping nut against the needle. The tighter the clamping nut is screwed down, the farther the jaws 7 will project into the tapered portion of the clamping nut, and, consequently, the split cylindrical jaws constituting the cylindrical portion 8, will be forced apart. The socket of the grooving tool, being arranged upon the cylindrical portion 8, will thus be clamped tightly in position. The grooving-tool can be adjusted rotatively or vertically in any desired position, and by screwing the clamping nut down, the grooving-tool will be locked in such adjusted position.

What I claim is:

1. In a device of the character described, the combination with a needle bar adapted to receive a needle, a clamping nut one end of which is slotted to form expansible jaws, and a grooving tool mounted on said expansible jaws and adapted to be gripped thereby.

2. In a device of the character described, the combination of a needle-bar, having tapered clamping jaws, a clamping nut cooperating therewith the upper end of which clamping nut is slotted to form an expansible mount for a grooving-tool, and a grooving-tool mounted on slotted portion of said expansible mount.

3. In a device of the character described, the combination of a needle bar having tapered clamping jaws and threaded portion, a clamping nut having a tapered bore for coöperating with said clamping jaws and being provided with a threaded portion to engage the needle-bar, said clamping nut also having splits at the end containing the tapered bore, said split end being designed to receive the socket of a grooving-tool, and a grooving-tool for coöperating with said split end.

4. In a device of the class described, the combination with a needle bar adapted to

receive a needle, a clamping nut adapted to be applied to the needle bar the upper end of which clamping nut is slotted to form a pair of expanding jaws, and a grooving tool having a socket adapted to inclose the expanding upper end of the clamping nut.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 16th day of February, 1911.

WILLIAM R. BLAIR.

Witnesses:
J. W. CLIFT,
M. P. SMITH.