

A. JEUDE.
BUTTONHOLE CUTTER FOR SEWING MACHINES.

APPLICATION FILED FEB. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

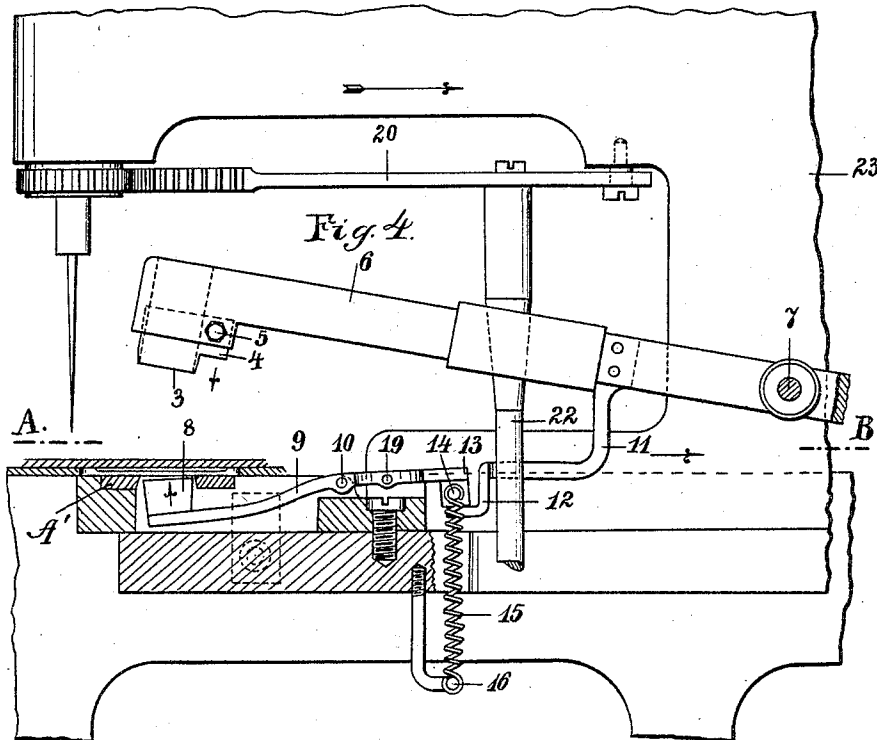


Fig. 5.

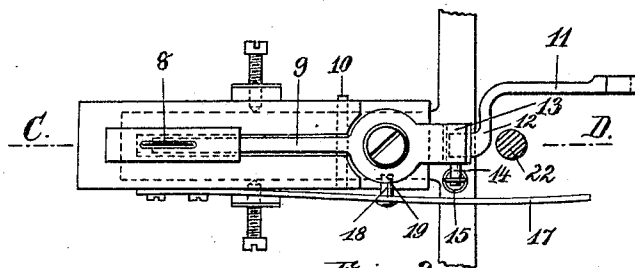


Fig. 1

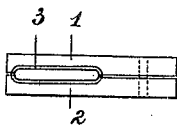


Fig. 2.

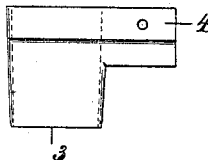
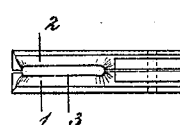


Fig. 3.



WITNESSES:

John A. Schlumberger.
John Lotka

INVENTOR

August Jeude
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his ATTORNEYS

No. 775,565.

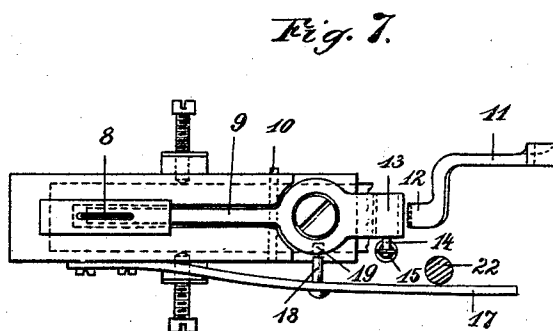
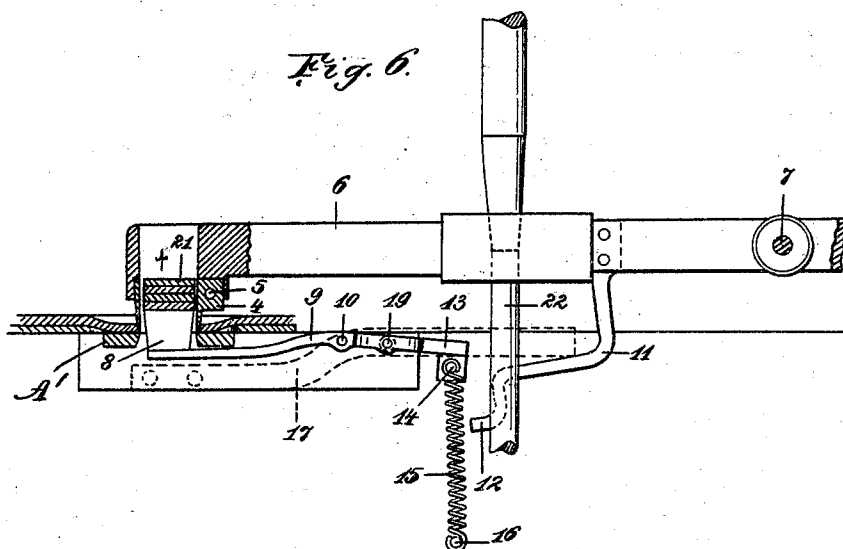
PATENTED NOV. 22, 1904.

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BUTTONHOLE CUTTER FOR SEWING MACHINES.

APPLICATION FILED FEB. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

AUGUST JEUDE, OF OKRIFTEL, GERMANY, ASSIGNOR TO AARON VAIL ROWLEY, OF FRANKFORT-ON-THE-MAIN, GERMANY.

BUTTONHOLE-CUTTER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 775,565, dated November 22, 1904.

Application filed February 12, 1902. Serial No. 93,674. (No model.)

To all whom it may concern:

Be it known that I, AUGUST JEUDE, mechanician, residing at Okriftel, near Hattersheim-on-the-Main, German Empire, have invented new and useful Improvements in Buttonhole-Cutters for Sewing-Machines, of which the following is a specification.

In buttonhole-sewing machines of present construction the buttonhole is cut in the form of a slit by a straight knife, a loop-shaped enlargement being in some cases formed at one end or at both ends of the slit. In all cases it was necessary after forming the slit and before effecting the buttonhole-stitching thereon to seize the material on each side thereof and draw it apart, so as to cause the slit to gape. This was liable to several disadvantages. On the one hand by such drawing apart the material was distorted and the edges were bulged, and on the other hand when the buttonholes were formed in woven fabrics there was danger of the longitudinal threads on the one side of the buttonhole-slit being seized by the stitching on the other side.

The present invention has for its object to obviate the above-mentioned disadvantages; and it consists in cutting the buttonhole by means of a hollow knife in such manner that an actual oblong opening is formed in the material along the entire length of the buttonhole, the edges of which are therefore no longer in contact with each other. By this means the drawing apart of the material on both sides of the buttonhole is entirely dispensed with, and the buttonholes when finished have a freer and straighter shape than those made as heretofore. In employing such hollow knives according to the present invention special means must be provided for effectually removing the pieces of material cut out by the knife.

For the purposes of this invention the knife is made in the form of an oblong tubular punch, the interior of which widens out slightly from the cutting edge upward and which has at one end of its upper part a lateral projection by means of which it is se-

cured by a screw to the vertically-reciprocating arm of usual construction.

For removing the pieces of material from the interior of the knife there is provided under the needle-plate a small upright piece of metal or "ejector."

In order to enable anybody skilled in the art to carry out my invention, I have hereunto annexed drawings showing my invention as applied to a so-called "Reece buttonhole-sewing machine."

Figures 1, 2, and 3 are three views of the knife, seen from above, from the side, and from below, respectively. Fig. 4 is an elevation, partly in section, of that portion of the sewing-machine which comprises the new knife and the parts coöperating therewith. Fig. 5 is a top view of the parts shown in Fig. 4. Fig. 6 is a section through Fig. 5 on the line C D. Fig. 7 is a section on line A B of Fig. 4. Figs. 1 and 3 show the knife as composed of two halves 1 and 2, carrying the edge 3 and lugs 4, by which the knife, which may be made in one piece, is attached to a lever 6 by screw in a well-known way.

The ejector 8 is a small plate fixed to an arm 9, which is fulcrumed at 10 and sprung upward by a spring 15, fixed to the pin 16 of the machine-frame at one end and to the pin 14 at the rear end 13 of the arm 9 at its other end. This rear end 13 is raised and the ejector 8 lowered by a finger 12 of the arm 11, which is fixed to the lever 6. This lever 6 is oscillated on its fulcrum 7 and the machine-arm 23 carried forward and backward, as well known in the type of buttonhole-sewing machines shown in drawings hereto attached. Also a horizontal toothed sector 20 is oscillated in a well-known way. This sector carries a finger 22, which is by the movement of the sector brought to bear against a spring 17. This spring is provided with a pin 18, which protrudes into a cavity 19 of the arm 9 when the ejector 8 reaches its deepest position. By moving the spring 17 sideward the finger 22 liberates the arm 9, and thus pushes the ejector 8 into the cavity of the knife 1 2 after the lat-

ter has cut the fabric. By these means the uppermost piece 21 of cut fabric is ejected at the upper edge of the knife-cavity. The goods rest on a perforated table or support A', toward which the knife or cutter moves.

What I claim, and desire to secure by Letters Patent, is the following:

1. In a buttonhole-sewing machine, the combination of a hollow knife, an ejector arranged to enter the knife, means for projecting the ejector into the knife, a locking device for temporarily keeping the ejector stationary, and means operated by the machine for releasing the ejector from said locking device.

2. In a buttonhole-sewing machine, the combination with a hollow knife, an ejector adapted to enter said knife, and means for locking the ejector in an inoperative position, of mechanism for projecting the ejector into the knife, means connected with the knife and arranged to bring the ejector back to its locked position upon the return of the knife, and mechanism for releasing the ejector from the locking mechanism after the operative movement of the knife.

3. In a buttonhole-sewing machine the combination of a hollow knife with a spring-driven ejector fixed to an oscillating arm with a spring attached to the said arm, a finger fixed to the lever carrying the knife and adapted to lower the ejector and a spring adapted to lock the ejector in its lowest position and a

finger adapted to release the said spring, substantially as described.

4. In a buttonhole-sewing machine, the combination with two members, viz: a hollow knife and an ejector adapted to enter the same, of means for projecting one of said members toward the other, mechanism for temporarily locking said member in an inoperative position, means for imparting an operative movement to the other member, mechanism connected with the last-named member and arranged to bring the first-named member back to its locked position, and mechanism for releasing said first-named member from the locking mechanism after the operative movement of the other member.

5. In a buttonhole-sewing machine, a support for the goods, and a buttonhole-cutter movable toward and from said support, the operative portion or face of said cutter being sufficiently wide from end to end to remove a portion of the fabric from one end of the cut to the other, instead of simply slitting the fabric.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AUGUST JEUDE.

Witnesses:

JEAN GRUND,
CARL GRUND.