No. 857,532. PATENTED JUNE 18, 1907.

C. McNEIL & C. L. STURTEVANT.

SEWING MACHINE.

APPLICATION FILED JUNE 1, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

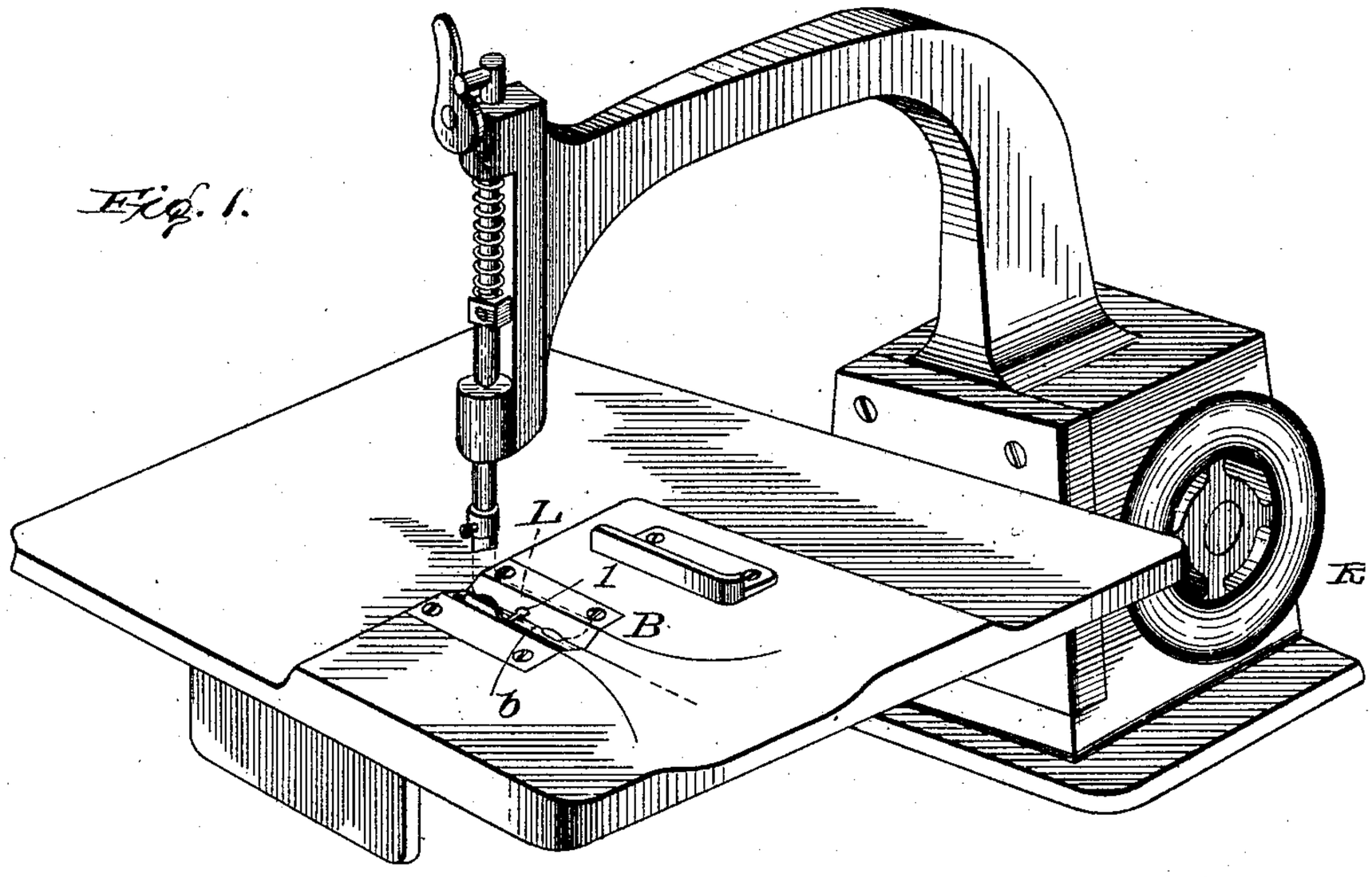
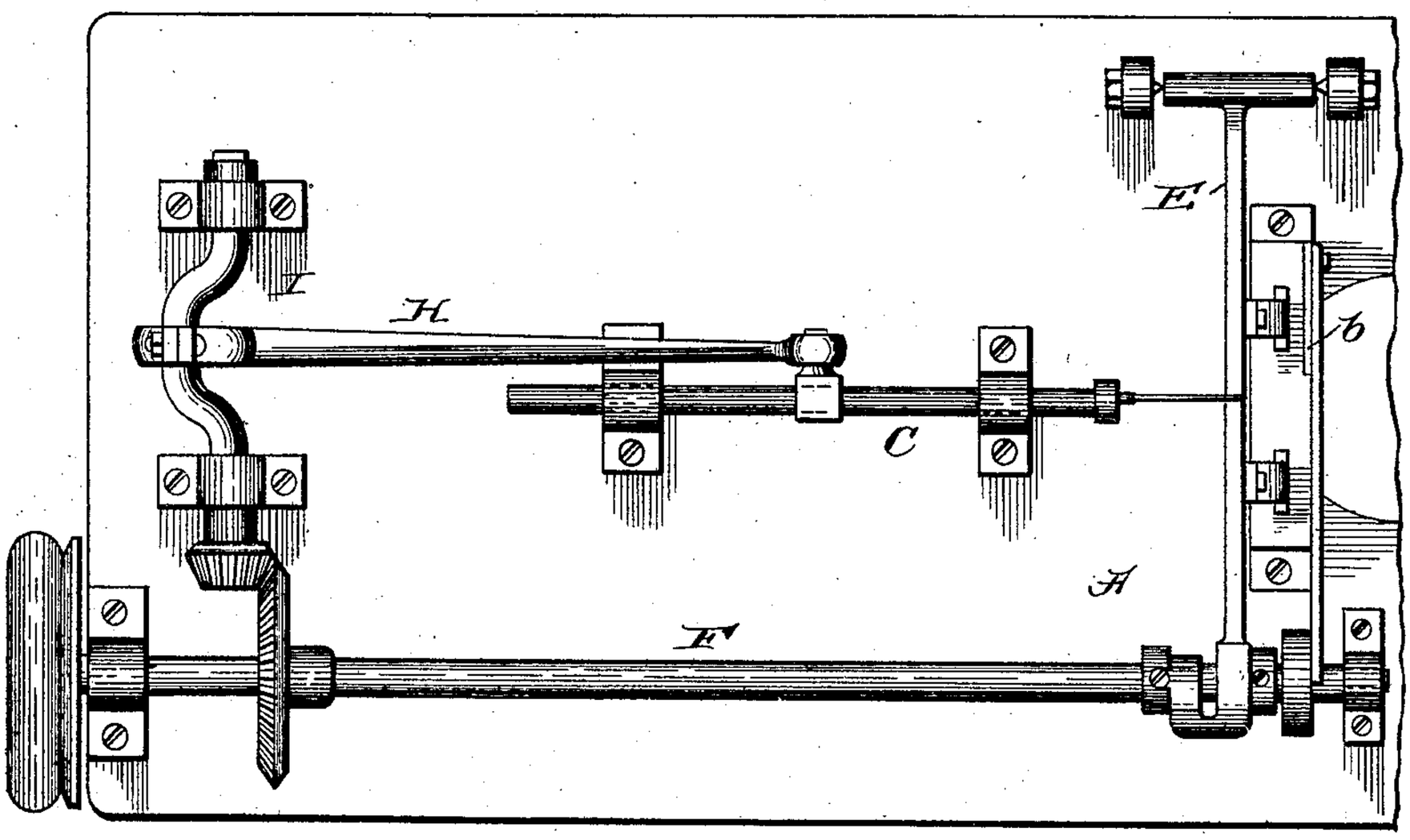


Fig. 7.



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2 SHEETS—SHEET 2.

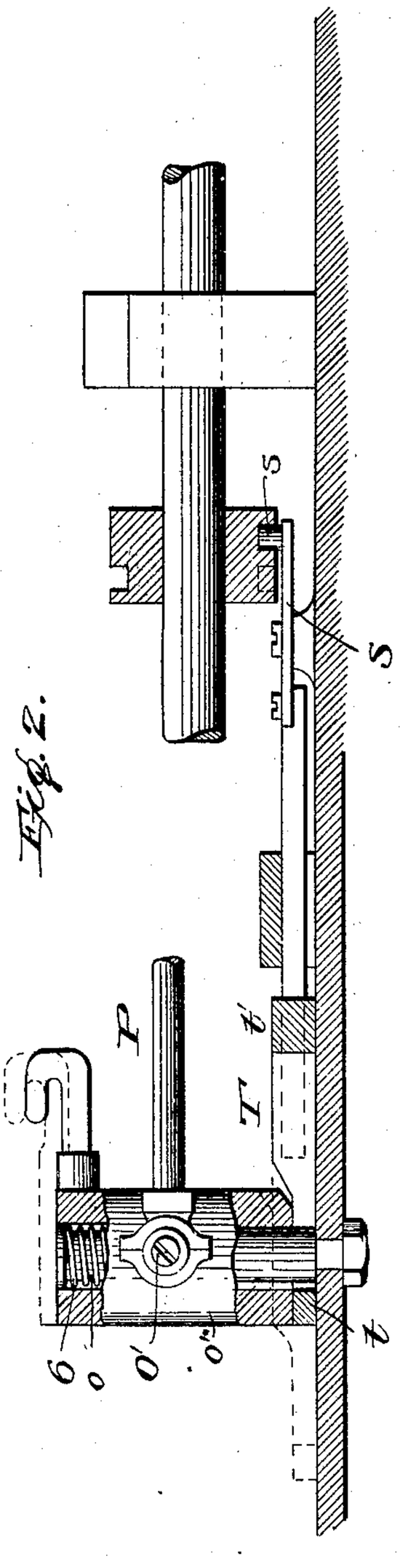

Fig. 2.

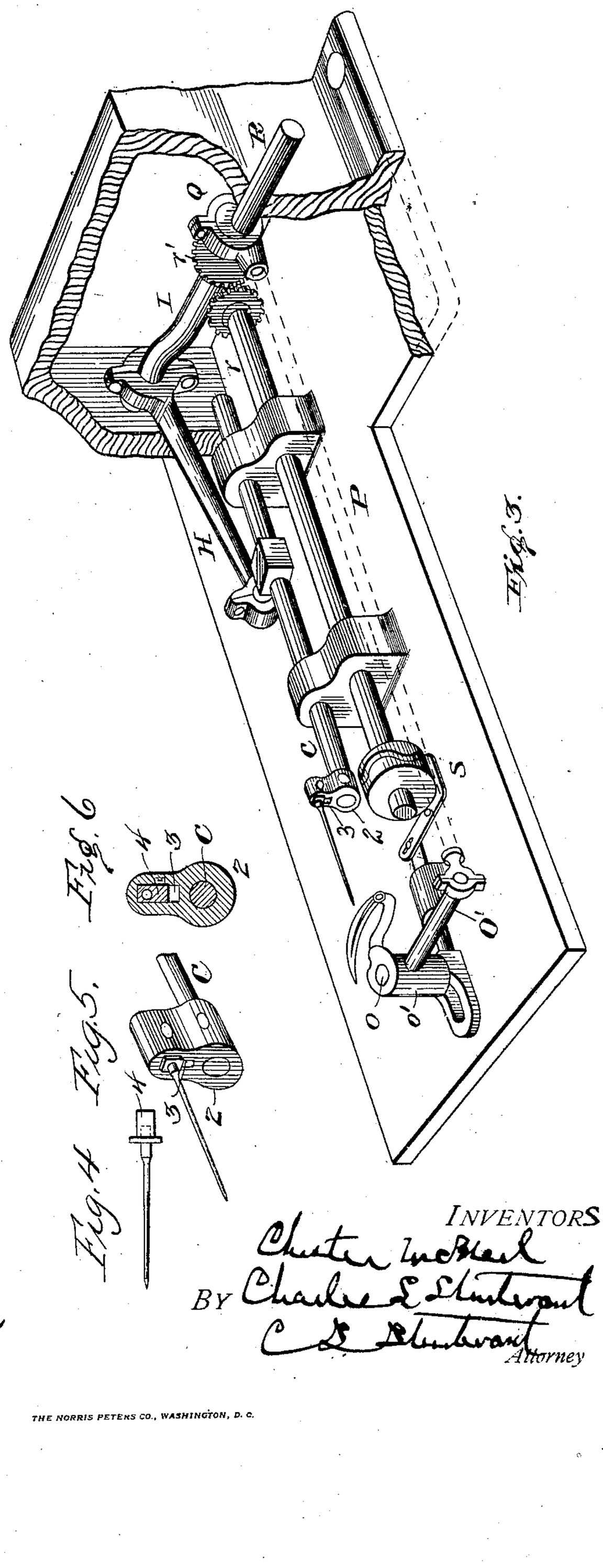

Fig. 3.

Fig. 6

Fig. 4. Fig. 5.

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UNITED STATES PATENT OFFICE.

CHESTER McNEIL, OF CHICAGO, ILLINOIS, AND CHARLES L. STURTEVANT, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNORS TO UNION SPECIAL SEWING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SEWING-MACHINE.

No. 857,532. Specification of Letters Patent. Patented June 18, 1907.

Original application filed November 29, 1899, Serial No. 738,666. Divided and this application filed June 1, 1903. Serial No. 159,648.

To all whom it may concern:

Be it known that we, CHESTER MCNEIL and CHARLES L. STURTEVANT, citizens of the United States, residing at Chicago, in the county of Cook, State of Illinois, and Washington, District of Columbia, respectively, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

This application is a division of our application for patent for improvement in sewing-machines, filed November 29th, 1899, Serial No. 738,666 and patented September 1, 1903, Number 738,054.

The present invention relates to an improvement in stitch-forming mechanism for blind stitch sewing machines, and particularly to the needle and looper mechanism, and comprises first a blind stitch machine having a needle reciprocating in a substantially horizontal plane, with means for reciprocating it, a looper-operating mechanism co-operating with said needle to form stitches, and means for crimping the work, whereby that portion through which the stitches are to pass is held at an angle to the body of the goods, whereby the needle may get a bite therein, with means for adjusting the needle to regulate the amount of bite.

Secondly, it consists in the particular means for adjusting the needle, and finally in a special construction and arrangement of looper mechanism to coöperate with the substantially horizontally reciprocating needle.

The invention is illustrated in the drawings, in which

Figure 1 is a front perspective view of a sewing machine embodying our invention; Fig. 2 is a side view showing the looper support and the means for operating the same, certain parts being in section and certain parts being broken away. Fig. 3 a perspective view of the sewing machine, with the bed plate removed, illustrating the needle and looper mechanism; Fig. 4 is a side elevation of the needle together with the needle supporting block. Fig. 5 is a detail perspective of the end of the needle bar and the means for supporting the needle. Fig. 6 is a cross-section of the needle bar head and needle supporting block. Fig. 7 is a bottom plan view.

In these drawings, A represents the work plate of a sewing machine of the blind stitch type, B is the throat plate, and C the needle bar. The throat plate is formed with a V-shaped groove, *b* into which the fabric is bent or crimped by a presser-foot indicated by the dotted lines L in Fig. 1. E is the feed bar; F the feed-operating shaft. The opening in the throat plate through which the needle passes is shown at 1, and is of such diameter as to allow for the adjustment of the needle up or down, to vary the bite taken in the goods. This adjustment is illustrated in Figs. 5 and 6, where the head 2 on which the needle is supported, is provided with an elongated slot 3, in which is adjustably secured a block 4 by a set screw and in which the needle shaft fits. The looper shank also may be adjusted up or down in its supporting block, to correspond with the adjustment of the needle.

In Figs. 2 and 3 is shown in sectional elevation and perspective respectively, a looper and needle-operating mechanism for blind stitch machines. The looper O is mounted on a sleeve *o'* journaled in the stud *o*. The looper rod or pitman P connects by a ball and socket connection with the arm O', on the sleeve *o'*, to which the looper is secured, and at the other end has a strap connection to the eccentric Q on the driving shaft R of the machine.

Beveled pinions *r r'* impart motion to the feed shaft, and a connection rod H, secured to the needle bar C, imparts reciprocating motion from the crank shaft I, the needle bar being guided in lugs on the machine bed.

The oscillating movement of the looper is caused by the eccentric Q acting through the pitman P upon the arm O', connected to the sleeve *o'*, to which the looper O is secured.

A clamp having a groove in its periphery is engaged by a roller *s*, upon the rocking lever S, which in turn, is pivotally secured to a reciprocating slide T, which has a reduced portion *t*, and a thickened portion *t'*, which causes the sleeve *o'* to be elevated and depressed alternately, so that the looper passes the needle first upon one side and then upon

the other, the cam groove causing the cam surfaces t, t', to remain in a stationary position, with relation to the sleeve o', during the oscillation of the looper, when no vertical movement is desired.

A spring 6 keeps the looper normally depressed.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is:—

1. In a blind stitch sewing machine in combination with a driving shaft, a needle, a bar supporting the same, with means for reciprocating in a substantially horizontal plane, a looper co-operating with the needle to form stitches, means for crimping the work, whereby that portion through which the stitches are to pass is held at an angle to the body of the goods to enable the needle to get a bite therein, and means for adjusting the needle on said bar, to regulate the amount of bite, substantially as described.

2. In a blind stitch sewing machine, in combination with a driving shaft, a needle a bar, having a head supporting the needle with means for reciprocating it in a substantially horizontal plane, a looper co-operating with the needle to form stitches, means for crimping the work, whereby that portion through which the stitches are to pass is held at an angle to the body of the goods to enable the needle to get a bite therein, and means for adjusting the needle on said head to regulate the amount of bite; substantially as described.

3. In a blind stitch sewing machine of the character described, including means for crimping that portion of the fabric through which the needle passes, and including also an eye-pointed needle a bar, having a head supporting the needle and moving in a substantially horizontal plane, means for adjusting said needle vertically on said head, whereby it will operate in different horizontal planes; substantially as described.

4. A sewing machine having stitch-forming mechanism, including a needle reciprocating in a substantially horizontal plane, a looper supported on an upright shaft, with means for oscillating said shaft, and means for raising and lowering said looper, comprising a reciprocating slide having a reduced portion, and a thickened portion, whereby the looper passes the needle first upon one side and then upon the other; substantially as described.

In testimony whereof we affix our signatures, in presence of two witnesses.

CHESTER McNEIL.
CHARLES L. STURTEVANT.

For signature of McNeil:
HELEN GILLIS,
CARRIE RASMUSSON.

For signature of Charles L. Sturtevant:
M. V. THOMPSON,
GRACE P. BRERETON.