

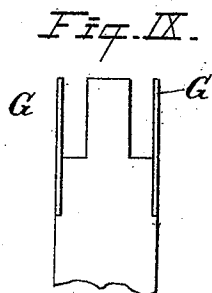
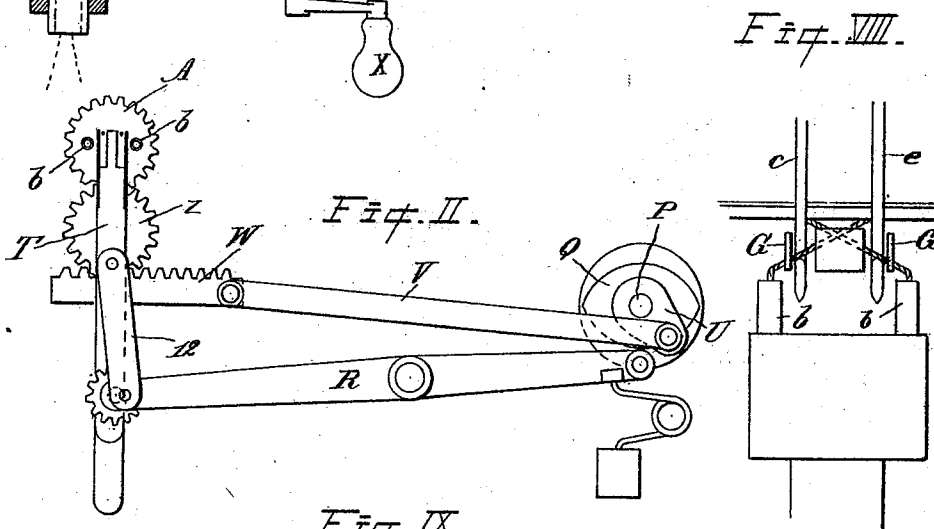
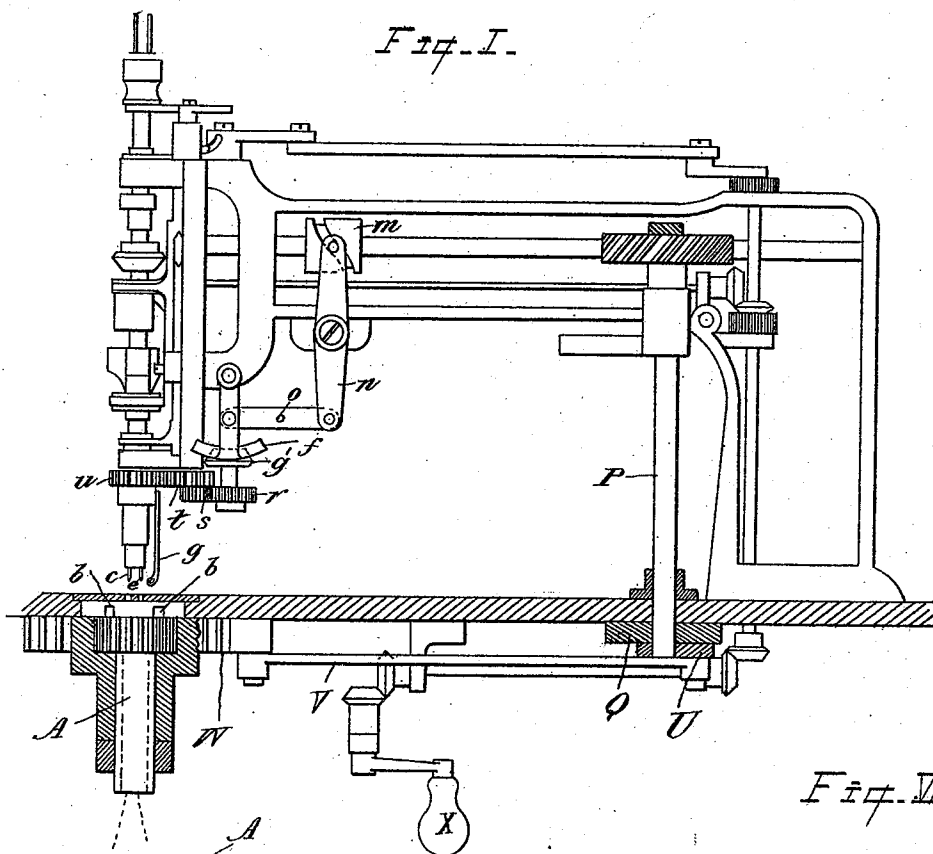
(No Model.)

3 Sheets—Sheet 1.

E. & R. CORNELY.
OVERSEAMING SEWING MACHINE.

No. 501,057.

Patented July 11, 1893.



Attest:
Arthur W. C. C.
Per Lewis.

Inventors:
Emile Cornely
Robert Cornely
by J. J. Manno
their attorneys.

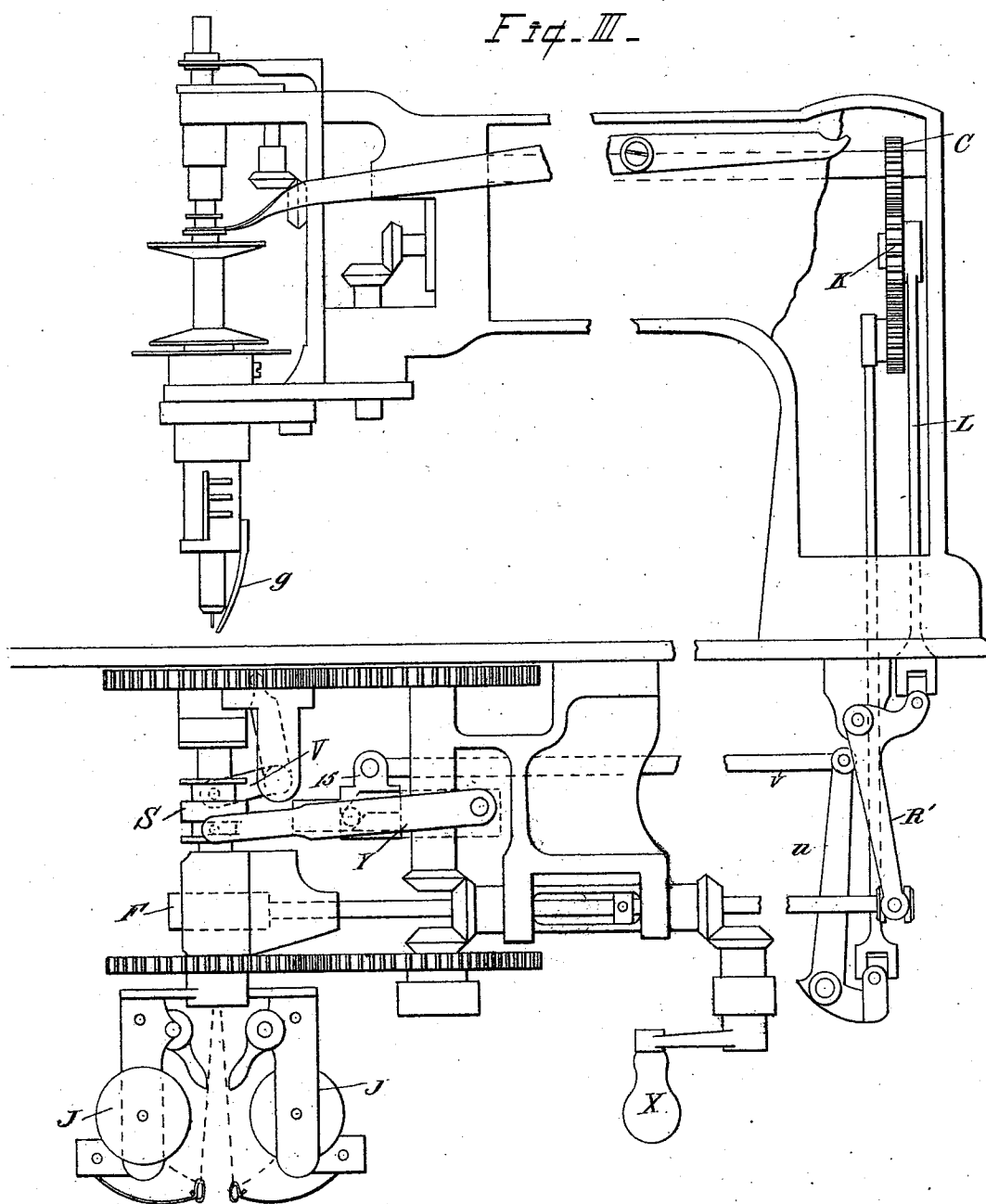
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Inventors:
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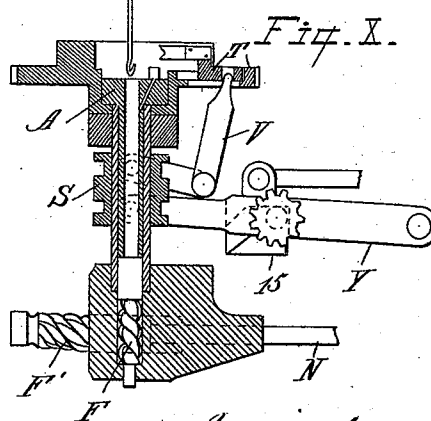
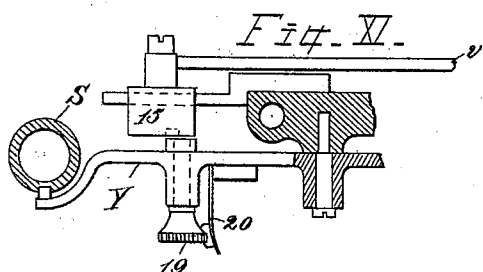
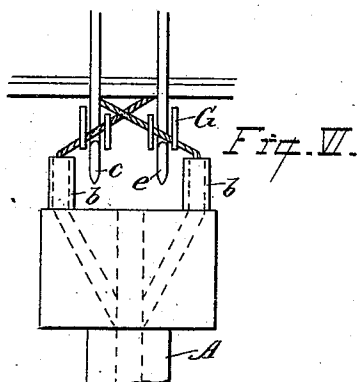
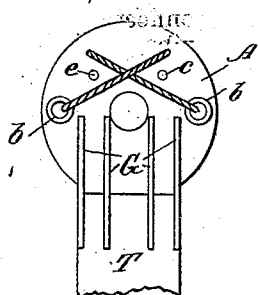
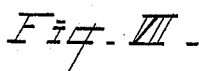
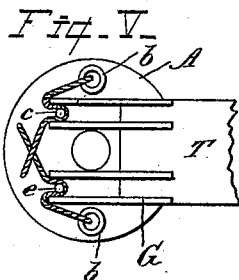
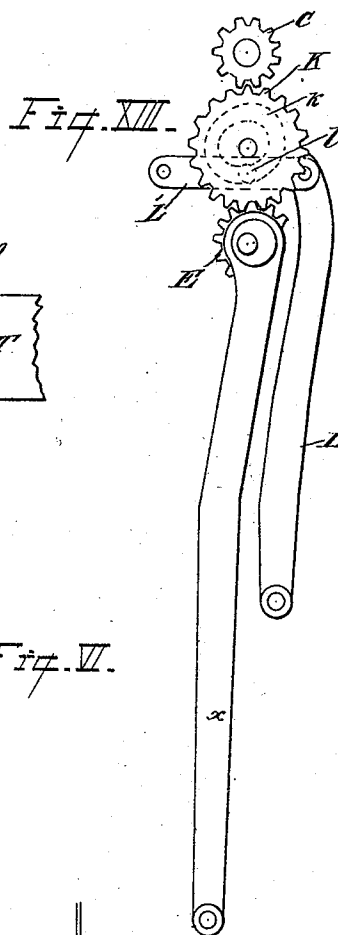
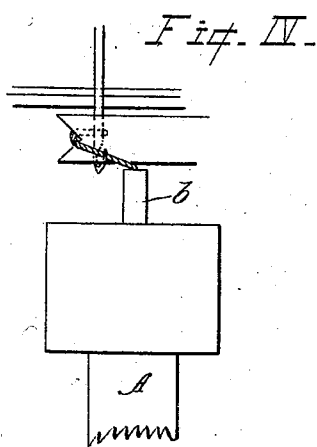
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3 Sheets—Sheet 3.

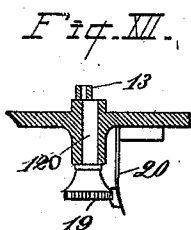
E. & R. CORNELY.
OVERSEAMING SEWING MACHINE.

No. 501,057.

Patented July 11, 1893.



Attest:
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UNITED STATES PATENT OFFICE.

EMILE CORNELY AND ROBERT CORNELY, OF PARIS, FRANCE.

OVERSEAMING SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 501,057, dated July 11, 1893.

Application filed December 8, 1892. Serial No. 454,506. (No model.)

To all whom it may concern:

Be it known that we, EMILE CORNELY and ROBERT CORNELY, residents of Paris, France, have invented a new and useful Improvement in Overseaming-Machines, which is fully set forth in the following specification.

The present improvement relates to mechanism for producing a cross-stitch seam on the under side of the material which in conjunction with the stitches described in Letters Patent Nos. 405,146 and 461,737, which are produced on the upper side of the material, constitute very solid overseaming stitches for binding the edges of textile fabrics. In former machines of this class the two parallel rows of stitching, connected by threads wound around the same on top and bottom of the fabric, were in many instances made by separate and distinct threads and in cases where the abutted ends of two pieces (or of the same piece) of fabric are joined by such a seam, the entire strain rests upon the threads which are wound, generally loosely, from one parallel row to the other. To obviate this defect we alternately pass the threads of the parallel rows from side to side, first forming a stitch in one row with a thread and then passing it to the other row where a like stitch is formed, and so on, thus producing a double line of cross-stitching on the underside of the fabric. This object we produce by the use of an oscillating thread-carrier which alternately crosses the two threads after each stitch and feeds them to the opposite needle from the one with which they were in engagement at the preceding stitch.

In the accompanying drawings forming a part of this specification:—Figure I, represents a side view of the machine for producing the seam in straight lines or with a limited crank motion of the feed. Fig. II, is a detachable bottom view of mechanism for operating the thread-carrier and reciprocating blades. Fig. III, represents an elevation of the machine for producing the work with a full universal crank motion in all directions. Figs. IV, V, VI, and VII, are enlarged views in elevation and plan showing several different positions of the thread-carrier, needles and reciprocating blades at different periods in the operation of forming the cross-stitch.

Fig. VIII, is a similar view with a different form of reciprocating blades, shown in Fig. IX. Fig. X, is a vertical sectional view of the mechanism below the work-plate in Fig. III, showing my improvement applied to a machine having a universal feed-mechanism. Figs. XI and XII, are respectively, plan (partly in section) and detail views of the mechanism used in connection with a universal feed machine, for oscillating the blades and for adjusting their positions relative to the needles, and Fig. XIII is an elevation of a portion of the connections through which the oscillatory or vibratory motion is transmitted to the blades and thread-carrier from the main driving shaft.

In the drawings A is a vertically arranged hollow spindle or thread carrier, having an enlarged upper end, which is provided with two thread guides *b*, situated diametrically opposite each other, and through which the threads are fed to the needles. The enlarged end of the thread-carrier A, is formed with teeth whereby an oscillatory or reciprocating motion in half-revolutions, alternately in opposite directions, is imparted thereto, by a pinion *z*, engaging said teeth, rack-bar W, connecting rod V, crank-arm U and shaft P, as plainly shown and described in Patent No. 219,225.

The connection and operation of the blades G on the bar T, are effected by connecting link 12, adjustably connected to rocking arm R, which latter is oscillated by cam Q, as described in the patent above referred to, except that in the present case two threads being used, four blades are required.

The mechanism for forming the seam on the upper side of the cloth is substantially the same as that described in Patent No. 405,146 (the seam being similar to that shown in Fig. 16 of said patent) consisting of the two needles *c* and *e*, an upper thread-carrier *g*, which is oscillated by connection with cam *m*, through pinions *u*, *t*, *s*, *r* and *g'*, link *o*, rack *f*, and lever *n*.

Any suitable form of seam on the upper part of the fabric, may be used in place of that described in said patent, by changing the form of mechanism. For instance, if it is desirable to form a seam such as shown in

Fig. 1 of Patent No. 461,737, a revolving thread-carrier is substituted for the oscillating form shown in the Patent No. 405,146.

We have so far described our improvement as applied to embroidering machines in which the deviation in the direction of the seam from a straight line is limited, the feed being adjusted by the movement of the crank X, and connections substantially equivalent to those shown in Patent No. 461,737, and of a well known construction. In Figs. III, X, XI, XII and XIII however, we have shown our improvement applied to a machine having a universal feed, the general construction of the said feed and its connections, together with the mechanism for oscillating the thread-carrier and the reciprocating blades being substantially similar to that shown in Patents Nos. 262,743 and 292,285. In the present instance the thread-carrier A, is of the construction hereinbefore described with the exception that the upper end is not formed with teeth, being provided in lieu thereof with a screw gear F at its lower end which is engaged by screw-gear F', on shaft N, which is reciprocated lengthwise by bell-crank R', connecting bar L, pivoted arm L', (see Fig. XIII) carrying pin l, engaging in cam-groove k in a pinion K driven by pinion C on driving shaft D. The blades G on bar T, resting in a suitable slide-way, are oscillated by bell-crank V, sleeve S, pivoted arm Y, which is adjustably connected with grooved block 15, by stud 120 carrying at its outer end toothed wheel 19, engaged by spring catch 20, and at its inner end an eccentrically arranged friction roller 13, engaging said grooved block, rod v, bell-crank u, bar x engaged at its upper end by a cam on a pinion E, which engages pinion K.

J, J are spool-holders of a known construction and which are suitably connected with the universal feed mechanism, as described in Patent No. 479,057.

The operation of our improved machine can be fully understood by reference to Figs. IV, V, VI and VII. In Figs. VI and VII the needles are descending to make a fresh loop, the threads having been crossed at the end of the preceding stitch, and the blades G are advancing to feed the threads to the needles.

In Figs. IV and V the needles are at the limit of their downward stroke and the blades at the limit of their forward stroke, the threads being forced against the needles in such a position that upon the ascent of the latter, the threads will be engaged by the hook-eyes of the same, and drawn up through the fabric, thereby forming a loop. As the needles ascend the blades are drawn back and the thread-carriers are revolved half a revolution again crossing the threads.

As shown in Figs. VIII and IX instead of using four reciprocating blades G (as shown in Figs. IV, V, VI, and VII) we have omitted the two middle blades and substituted therefor an extension of the bar T, which projects out between and of an equal distance with the two side blades.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a machine of the character described, the combination with the two hook needles and mechanism for forming the seam, of a thread-carrier for alternately crossing the two threads of which the seam is formed to the opposite needle from that with which it was last engaged, and a series of reciprocating blades for forcing the threads into engagement with the needles, substantially as described.

2. In a sewing or embroidering machine provided with a universal-feed mechanism and an operating handle therefor, of two needles and their actuating mechanism, for forming parallel rows of chain stitches, and a thread-carrier having two thread guides for supplying threads to the needles, said thread-carrier being connected with and following the movements of said handle, and means for vibrating said carrier between the needle strokes, so as to cross the threads from one needle to the other at each stitch, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

EMILE CORNELLY.
ROBERT CORNELLY.

Witnesses:

ROBT. M. HOOPER,
D. T. S. FULLER.