(No Model.) 3 Sheets—Sheet 1.

J. SIMON.

GLOVE SEWING MACHINE.

No. 265,451. Patented Oct. 3, 1882.

Fig. 1.

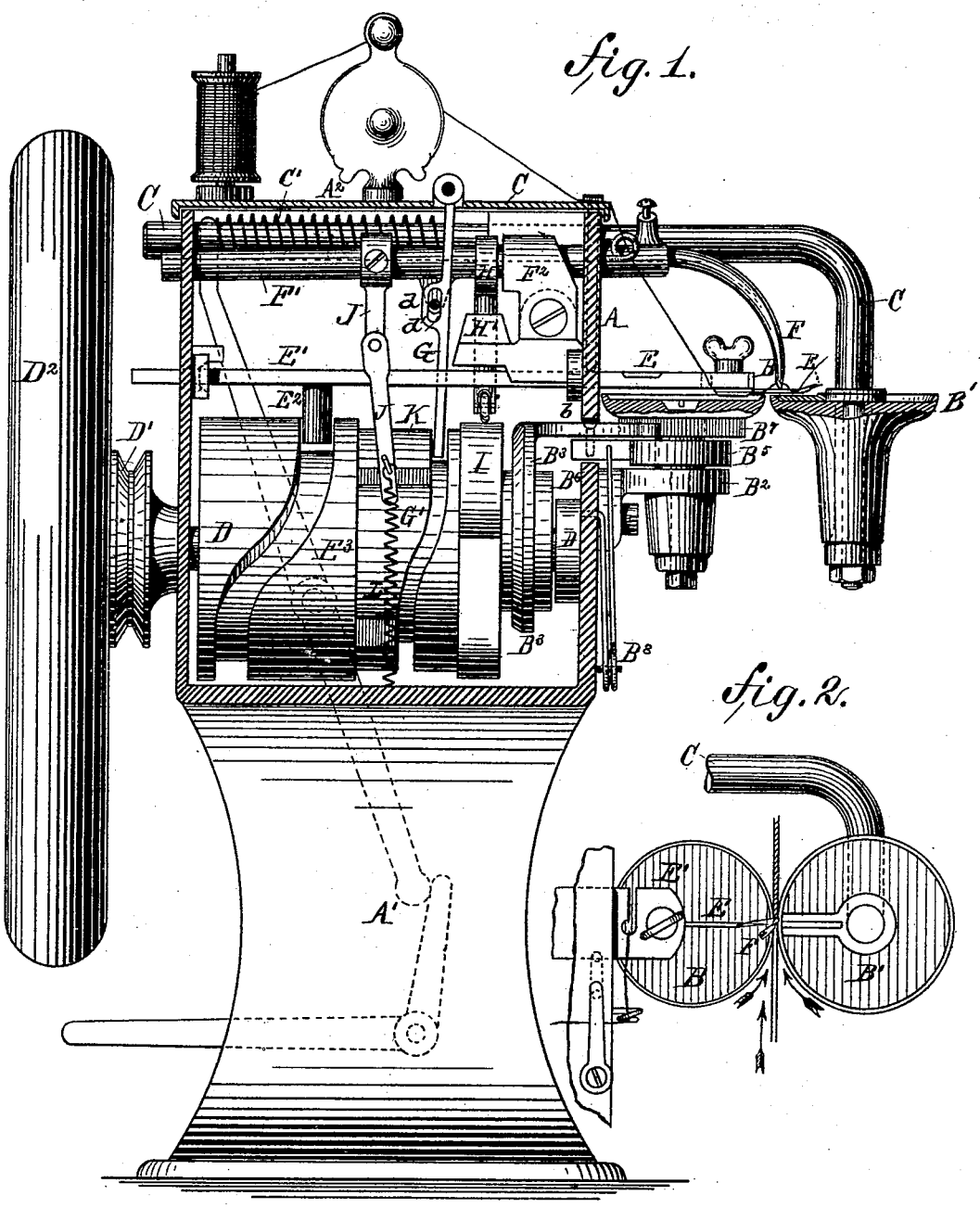

Fig. 2.

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Fig. 3.

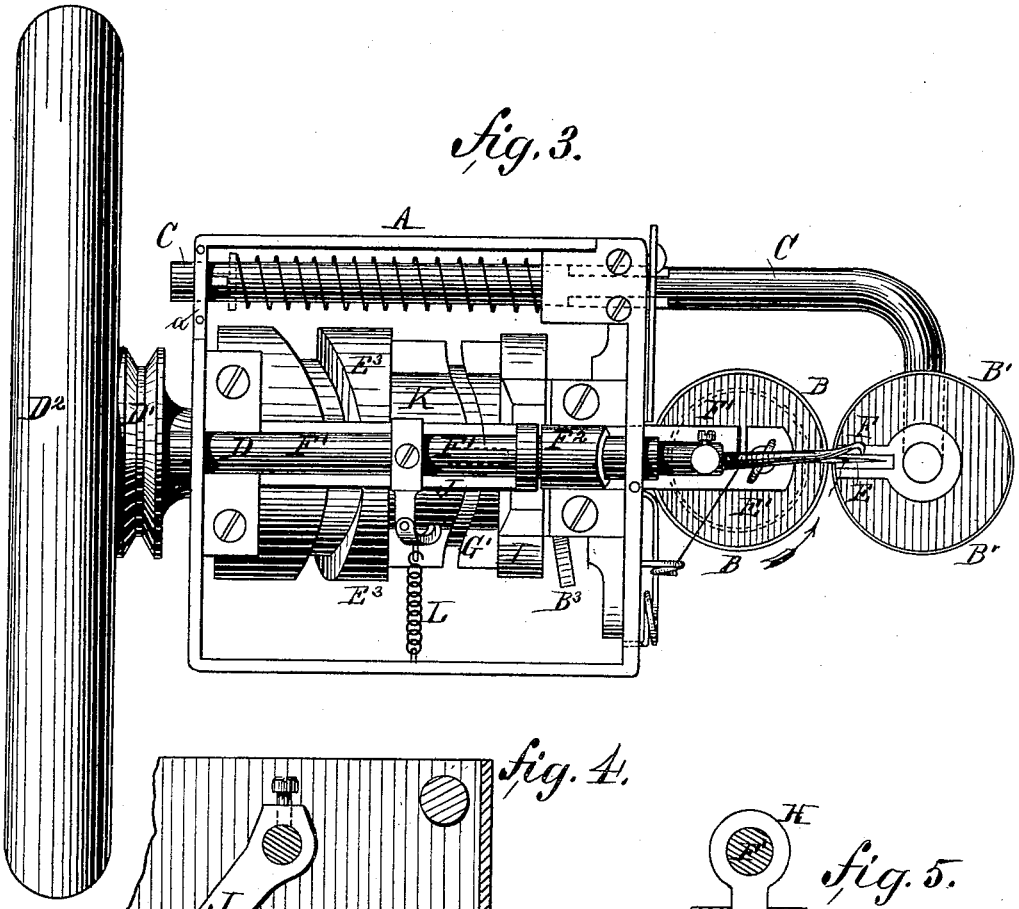


Fig. 4.

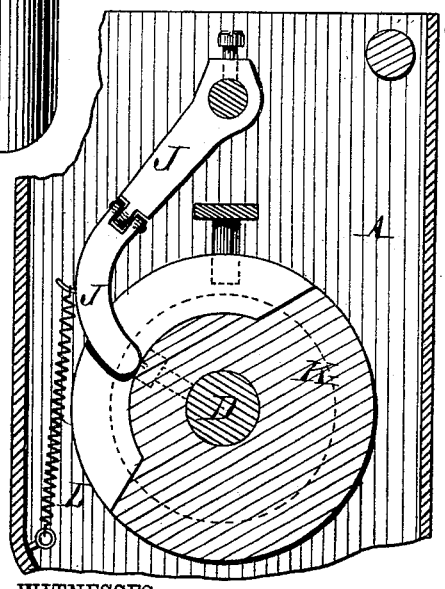


Fig. 5.

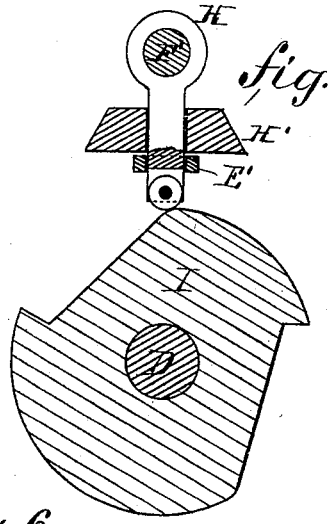
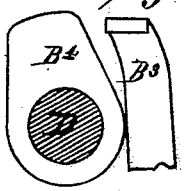


Fig. 6.



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3 Sheets—Sheet 3.

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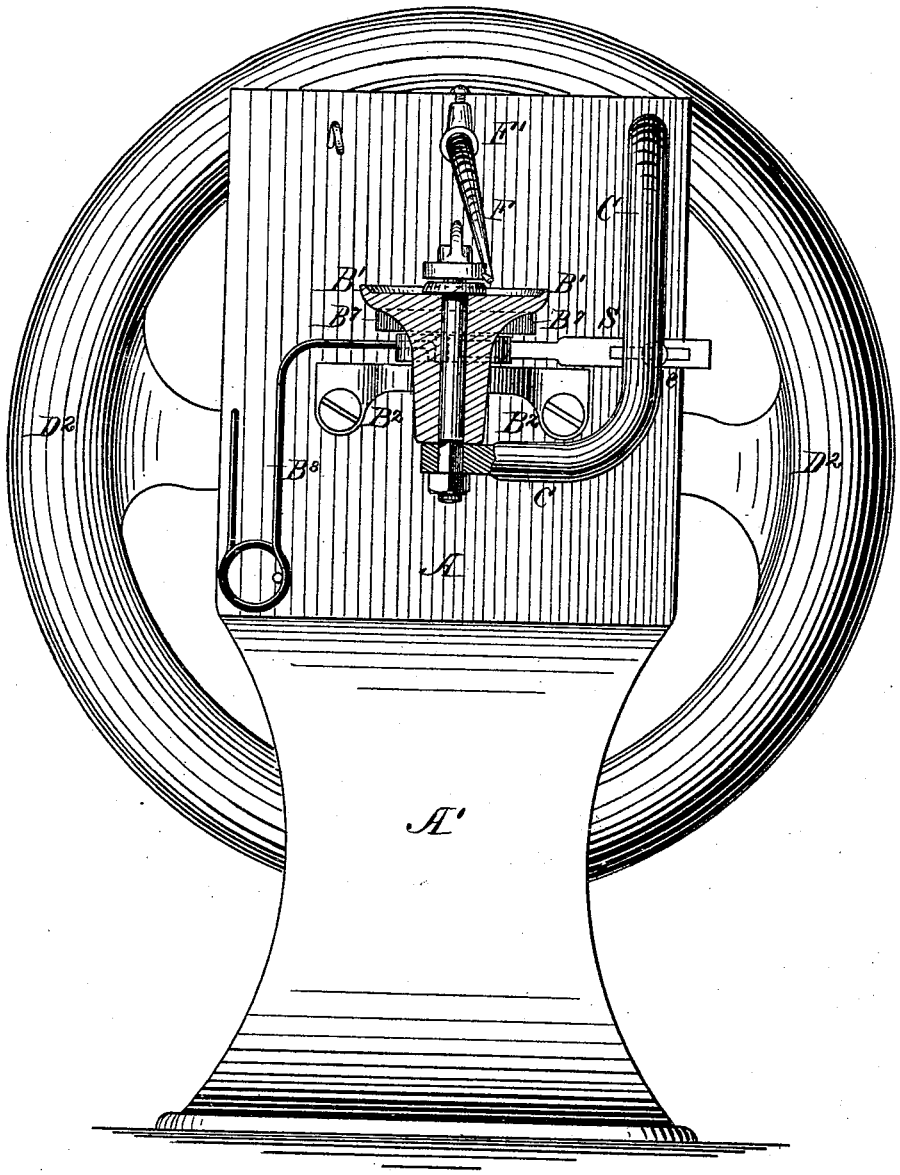
Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN SIMON, OF NEW YORK, N. Y., ASSIGNOR TO HERMANN E. BAUMEISTER.

GLOVE-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 265,451, dated October 3, 1882.

Application filed July 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN SIMON, of the city, county, and State of New York, have invented certain new and useful Improvements in Glove-Sewing Machines, of which the following is a specification.

This invention has reference to an improved machine for sewing gloves, furs, and other articles in which an overseam stitch is required, the machine being composed of the well-known elements of glove-sewing machines—that is to say, of two parallel feed-disks, a reciprocating needle, and an oscillating looper—which, however, are worked by actuating mechanism of great simplicity from a cam-shaft arranged longitudinally and parallel to the axis of the machine; and the invention consists in the peculiar construction of the different actuating mechanisms, whereby the parallel feed-disks, reciprocating needle, and oscillating looper are operated, as will more fully appear hereinafter, and finally be pointed out in the claims.

In the accompanying drawings, Figure 1 represents a vertical longitudinal section of my improved glove-sewing machine. Fig. 2 is a detail top view of the sewing mechanism—to wit, the feed-disks, reciprocating needles, and the looper, which is shown in section. Fig. 3 is a plan view of the machine with the top part removed. Fig. 4 is a detail view of the mechanism for imparting an axial motion to the guide-rod of the looper. Fig. 5 is a detail view of the mechanism for imparting a vertical oscillation to said guide-rod. Fig. 6 is a detail view of the cam and of a part of the lever which imparts motion to the inner feed-disk. Fig. 7 is an end elevation of the machine.

Similar letters of reference indicate corresponding parts.

By referring to the drawings, which fully illustrate my invention, A represents an oblong casing, which is supported on a strong standard, A′. The casing A incloses actuating mechanisms of the parallel feed-disks, the reciprocating needle, and the oscillating looper, which latter are arranged outside of and at one end of the casing A. The casing A is closed by a top plate, A^2, on which the customary thread-holding and tension devices for this class of machines are arranged.

The shaft of the inner feed-disk, B, is supported on vertical bearings of a bracket, B^2, attached to the end wall of the casing A, and held in position by means of a nut at its lower end. The circumference of the feed-disk B is milled in the usual manner, so as to engage by friction the circumference of the second feed-disk, B′. The feed-disk B′ is supported in bearings at the lower end of an angular arm, C, which slides longitudinally in the casing A parallel to the driving-shaft, the outer front end of said arm extending longitudinally forward, thence vertically downward, thence horizontally sidewise, and thence vertically upward. This arm is acted upon at the interior of the casing by a strong expansive spiral spring, C′, one end of which bears against a transverse pin, *a*, of the arm, while the other end is steadied against the fixed guide-socket C^2 of the casing, as shown clearly in Fig. 3. The spiral spring tends to press this rod inward, and consequently to keep the outer feed-disk in frictional contact with the inner feed-disk, so that the former turns simultaneously with the latter, but in opposite direction thereto. The circumference of the outer feed-disk, B′, is also milled or serrated, so that the goods are properly taken hold of in being fed through between the disks.

All the operating parts of my improved glove-sewing machine receive motion from a driving cam-shaft, D, the axis of which is arranged parallel to the longitudinal axis of the machine, said shaft being extended to the outside of the casing A and provided with a fly-wheel, D^2, and a pulley, D′, to which latter motion is imparted by a belt from a treadle or power shaft, as the case may be. The inner feed-disk, B, receives intermittent axial motion from an angular lever, B^3, which is operated by a cam, B^4, on the driving-shaft D. This angular lever is pivoted to and supported by a short arm, B^6, attached to a ring, B^5, which is loose on a boss connected to the disk B. The horizontal upper arm of the lever B^3 projects through a slot in the front end of the casing A, and its outer end is adapted to bite against a milled or toothed disk, B^7, which is below and integral with the disk B. The vertical arm of said lever is curved and rests against the cam B^4. As the projecting face of the cam comes in contact with the vertical arm of the lever said lever turns horizontally on its pivot *b*, and its outer end bites against the

milled disk B^7. As the cam, by its increasing eccentricity, continues its pressure upon the lever B^3 the latter is carried bodily on its movable pivot a sufficient distance to impart the necessary feed-motion to the disks. As the projecting face of the cam recedes from the curved vertical arm of the lever the weight of said arm causes the lever to turn on its pivot, so as to release the disk B^7, and a spring, B^8, one end of which is attached to the casing A, while the other end presses against the arm B^6, returns the lever to its normal position, the arm B^6 resting against the end of an adjustable stop, S. This stop is slotted at one end and attached to the front side of the casing by means of a set-screw, *e*. By the adjustment of this stop the movement of the disks, and consequently the feed of the fabric, may be regulated.

If it is desired to release the fabric from the feed-disks, the outer feed-disk is moved forward away from the inner disk by means of a lever operated by a treadle, as shown in dotted lines in Fig. 1, the upper end of said lever being connected to the rod C, to which said disk is attached.

The horizontally-reciprocating needle E is operated by a horizontal needle-bar, E′, which is guided in bearings formed in the end walls of the casing A, said needle-bar having a downwardly-projecting pin, E^2, which is engaged by a grooved cam, E^3. The needle-bar is provided at its outer end with a socket or fastening devices for the needle, and with means whereby the thread is guided and conducted to the eye thereof.

The complex motion of the looper F is obtained by the joint action of a more complicated mechanism. This looper is socketed in the outer end of a slightly-inclined looper-rod, F′, which passes through slots in the end walls of the casing A, and which is supported by a pivoted socket, F^2. The first motion imparted to the looper is a longitudinal reciprocating movement, which is effected by means of a pendulous lever, G, fulcrumed at its upper end to the casing, and operated at its lower end by a grooved cam, G′, being connected about midway of its length to the looper-rod by a pin, *d*, which passes through lugs attached to said rod and through an eye, *d′*, on said lever. The second motion imparted to the looper is a vertical movement, which is produced by the action of a sleeve, H, on the looper-rod F′, the vertical shank of which sleeve is guided in a fixed socket, H′, supported by a bracket attached to the front end of the casing, said shank passing through the slotted reciprocating needle-bar, and resting at its lower rounded end on a peculiarly-recessed cam, I, on the shaft D, whereby, in connection with the pivoted supporting-bracket, a vertical oscillation of the looper-rod is obtained. The lateral motion of the looper is accomplished by an axial turning of the looper-rod, which is effected by an arm, J, adjustable on said rod, a recessed cam, K, on the driving-shaft, and a spring, L, which holds the lower end of the arm in contact with the cam. This arm J is composed of two members hinged together, so as to permit the looper-rod to move endwise. The three different motions described, which are imparted to the guide-rod F′ of the looper F—to wit, the forward-and-backward motion, the vertical oscillating motion, and the axially-turning motion—impart together the peculiar complex motion which the looper requires in taking up the thread and turning the same over the seam of the glove or fur, and by which the loops are tightened ready for the next stitch of the needle. The stitching-thread is stretched by the forward motion of the needle-bar, so as to bind off and tighten the loop. For this purpose the needle is guided in a radial recess or impression in the outer feed-disk, B. The looper is released before the loop is finally completed, so as to be ready to be returned to the other side of the seam for taking up the thread after the needle has passed through, bringing the thread over the same to be bound off.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the rotary feed-disks, the reciprocatory needle, the looper having a longitudinal, a vertical, and a lateral movement, a driving-shaft parallel to the needle, a series of parallel cams on said shaft, and mechanism connecting said cams with the feed-disk, needle, and looper, respectively, substantially as described.

2. The combination of the needle, the looper, the rotary feed-disks, and the mechanism for actuating said disks, consisting of a toothed disk attached to the inner feed-disk, a loose ring on a boss of the disk, provided with a projecting arm, an angular lever pivoted to said arm, the outer end of said lever being adapted to engage the toothed disk, a cam for operating the lever, and a spring which bears against the projecting arm and returns the parts to their normal position after they are acted upon by the cam, substantially as specified.

3. The combination, with the rotary feed-disks, of the toothed disk B^7, the ring B^5, provided with arm B^6, the angular lever B^3, pivoted to said arm, the cam B^4, the spring B^8, and the adjustable stop S, substantially as described.

4. The combination, with the looper-rod and looper, of an articulated lever, J, spring L, and cam K, whereby the looper-rod is made to oscillate axially and permitted to reciprocate longitudinally, substantially as specified.

5. The combination, with the looper-rod and looper, of the lever G, cam G′, sleeve H, socket H′, recessed cam I, articulated lever J, cam K, and driving-shaft D, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN SIMON.

Witnesses:
PAUL GOEPEL,
SIDNEY MANN.