

G. J. MARTIN.
LEATHER SEWING MACHINE,
APPLICATION FILED DEC. 29, 1908.

921,426.

Patented May 11, 1909.
3 SHEETS—SHEET 1.

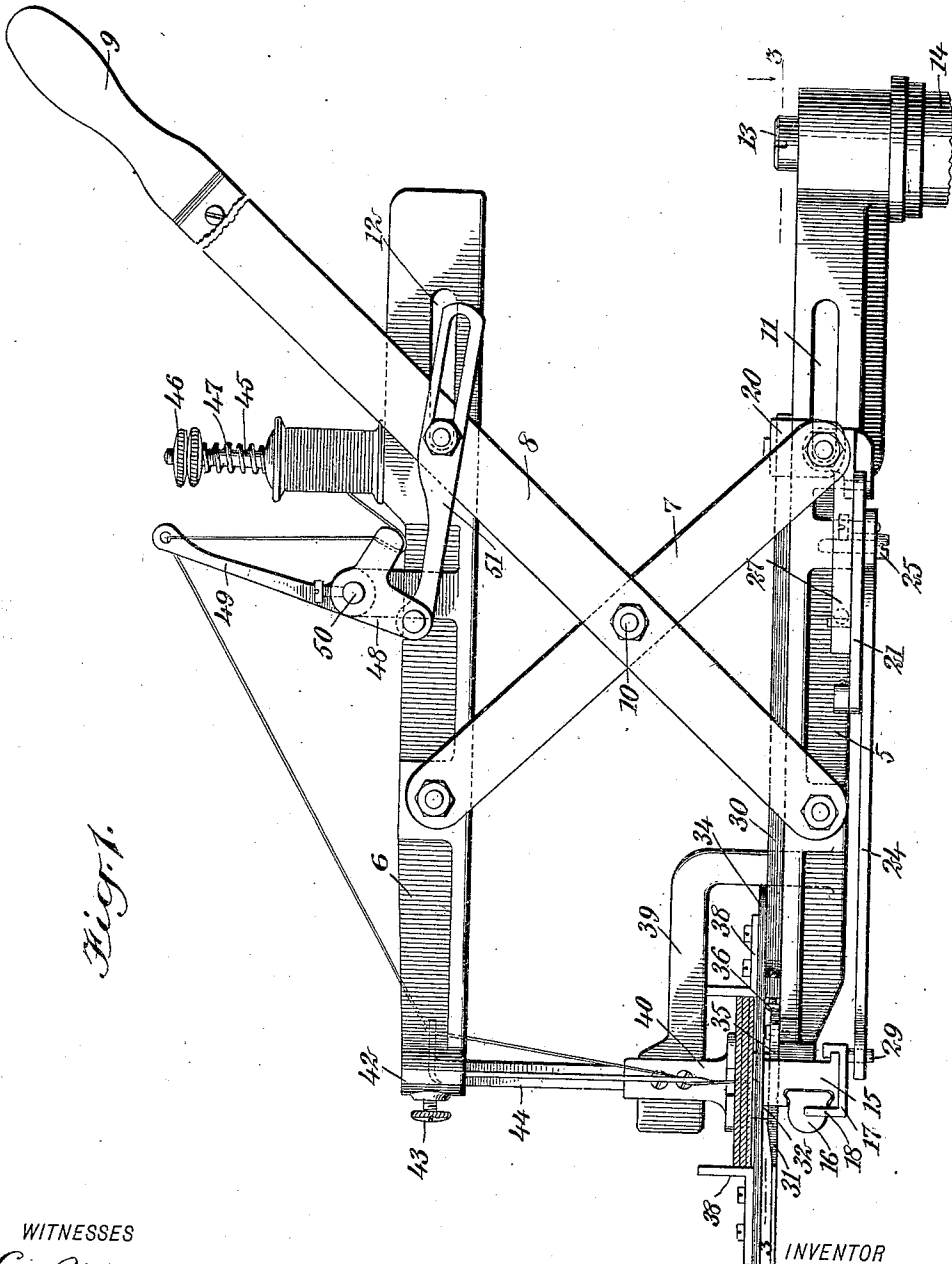


Fig. 1.

WITNESSES

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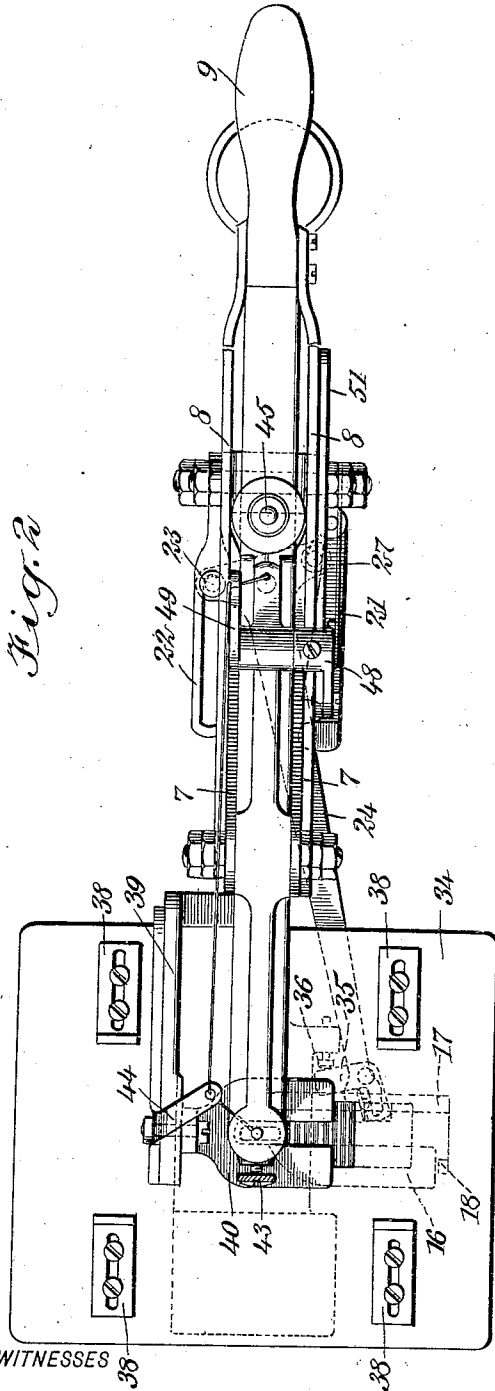


Fig. 2.

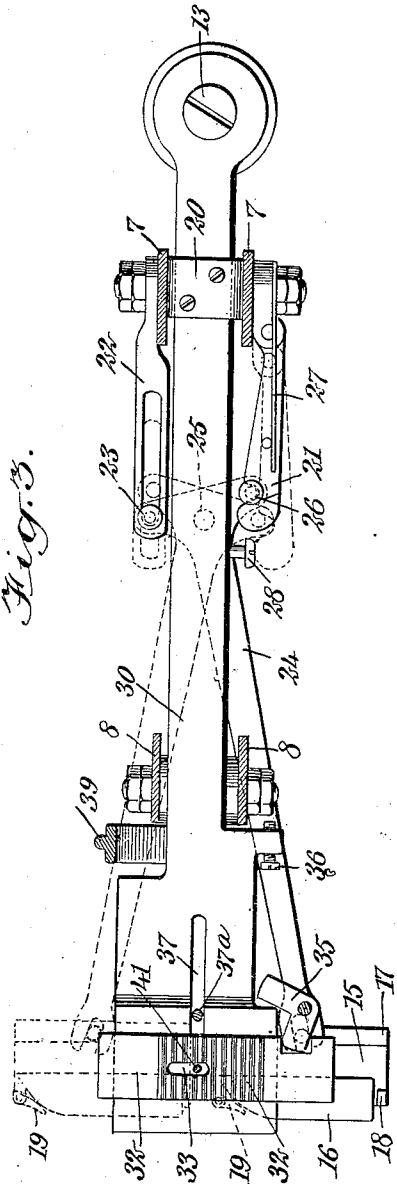


Fig. 3.

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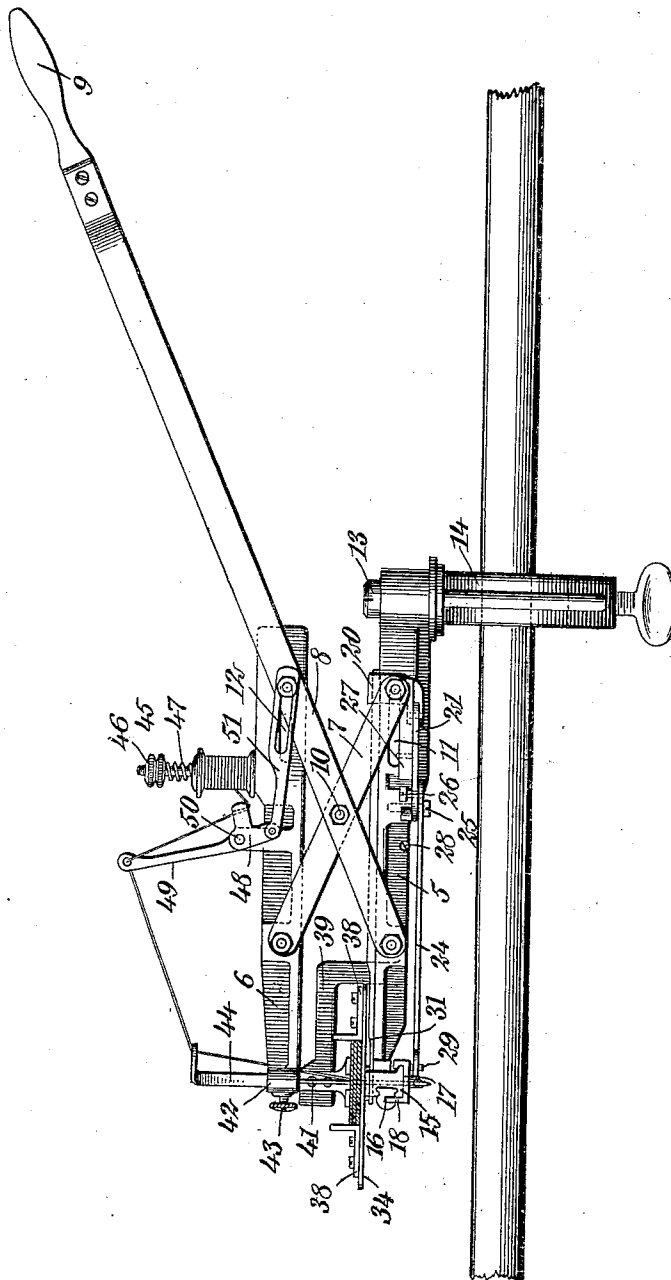
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3 SHEETS—SHEET 3.

Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

GREGORY JAMES MARTIN, OF EDGEWATER, NEW JERSEY, ASSIGNOR OF ONE-HALF TO DANIEL J. BRADY, OF EDGEWATER, NEW JERSEY.

LEATHER-SEWING MACHINE.

No. 921,426.

Specification of Letters Patent.

Patented May 11, 1909.

Application filed December 29, 1908. Serial No. 469,805.

To all whom it may concern:

Be it known that I, GREGORY J. MARTIN, a citizen of the United States, and a resident of Edgewater, in the county of Bergen and State of New Jersey, have invented a new and Improved Leather-Sewing Machine, of which the following is a full, clear, and exact description.

The invention is an improved sewing machine designed for sewing harness and leather in general, as well as other heavy and tough materials requiring considerable power to drive the needle.

The machine in its preferred embodiment in a general way consists of a supporting bar carrying the sewing table, a needle bar connected with the supporting bar by crossed levers, one of the levers having an operating handle for laterally moving the needle bar to and from the supporting bar, and means actuated by the levers to give the shuttle a forward and return movement and to feed the material forward in the machine as the needle bar moves from the supporting bar.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the preferred form of my invention; Fig. 2 is a plan of the same; Fig. 3 is a horizontal section of the machine directly above the supporting bar and with the sewing table removed; and Fig. 4 is a view similar to Fig. 1, with the parts in position as when the needle bar is depressed.

The invention, more specifically described, embodies in its construction a supporting bar 5 and a needle bar 6 which are connected together intermediate their ends by crossed levers 7 and 8 respectively, these levers being arranged at both sides of the machine, as shown in Figs. 2 and 3, with the levers 8 extended and secured to a common operating handle 9. The levers are pivotally connected together at their point of intersection by a bolt or equivalent device 10, and are also pivoted to their respective bars, the pivot bolts connecting the lower ends of the levers 7 passing through a longitudinal slot 11 in the supporting bar 5, and the pivot bolts connecting the upper portions of the levers 8 passing through a similar slot 12 in the needle bar 6. The rear end of the supporting bar 5 is journaled on the body of a vertical screw 13

which is threaded into the top of a clamp 14, the latter serving to attach the machine to a table or other suitable support, as shown in Fig. 4, and serving when the screw 13 is tightened to prevent the machine from swinging from its adjusted position.

To the forward end of the supporting bar is suitably attached a shuttle-race 15, which, as shown in Figs. 1 and 4, has a dove-tailed way in its front face for receiving the shuttle 16. It is further flanged at the bottom for slidably supporting a shuttle carriage 17, the latter having a finger or projection 18 at one end which engages one end of the shuttle, and a suitable spring-pressed member 19 engages the other end of the shuttle. The pivot bolt passing through the slot 11 of the supporting bar also passes through a slide 20 which straddles this bar, and pivotally carries at one side a forwardly-projecting dog 21, and rigidly carries at its opposite side a longitudinally slotted arm 22 likewise projecting forwardly. In the slot of this arm engages a pin 23 attached to the T-shaped inner end of a lever 24, the latter being fulcrumed on a pin or screw 25 carried by the supporting bar. The lever 24 also carries a pin 26 arranged nearly opposite to the pin 23 and adapted to be engaged by the dog 21, the latter as shown in Fig. 3, being forced inwardly by a spring 27 and having a cam-head arranged in the path of a screw-head 28 or other similar projection which is shown to be fixed to the supporting bar 5. The lever 24 is extended underneath the supporting bar and has a forward forked end engaging with a pin or projection 29 extending from the under side of the shuttle carriage.

On the upper face of the supporting bar is slidable a feed bar 30, the rear end of which is secured to the slide 20, and the forward end extended in width and passing over or through the shuttle-race 15. The widened portion of the feed bar at the extreme end is depressed or reduced in thickness as best observed in Fig. 1, with the more elevated inner portion connecting therewith by an inclined or cam surface 31. On the widened portion of the feed bar seats a feed plate 32 having the usual gripping teeth on its upper face, and a needle slot 33, the gripping teeth projecting in a slot formed in the sewing table 34, as is usual in sewing machine constructions. One end of the feed plate is notched for the engagement of a bell-crank lever or dog 35

which is fulcrumed to the under side of the sewing table, and has its other arm projecting into the slot formed in the edge of the feed bar 30, the feed bar at one end of the slot having a screw 36 for regulating the effective length of the slot. The feed bar is enforced to travel in a straight path at its forward end by suitable guiding means, which in the present instance is shown to be a slot 37 in the feed bar, through which a screw or pin 37^a passes carried by the supporting bar 5. The sewing table 34 is attached at suitable points to the supporting bar and shuttle-race and is provided with adjustable guides 38 at opposite sides for engaging the work at the edges and directing it through the machine. Rigid with the supporting bar is an arm 39 overhanging the table and carrying a presser-foot 40, through which passes the machine needle 41 which is held in the needle socket 42 of the needle bar 6 by a set-screw 43. A standard 44 also attached to the arm 39 has an overhanging upper end portion provided with an eye through which the thread from a spool-holding pin 45 passes to the needle. The spool-holding pin 45 carries a nut 46 at its upper end for regulating the tension on the spring 47, which bears directly on the spool, the thread from the spool preparatory to passing to the stationary thread-guide 44, passing through the arm of a bell-crank lever 48 which is made rigid with an upwardly-projecting arm 49 by a pivot-pin 50, the arm 49 also having a thread opening at its upper end for the passage of the thread. The lower arm of the bell-crank lever 48 is connected to the pivot bolt passing through the slot 12 of the needle bar, by a link 51, the latter also being slotted for receiving this bolt.

Assuming the parts of the machine to be in the position in Fig. 4, in which position the needle bar is depressed, on raising the handle 9, the dog 21 will force the lever 24 and the shuttle carriage engaged thereby from the position shown in full lines in Fig. 3 to the other extreme position shown in dotted outline. As the lever reaches the dotted position, the cam-head of the dog engages the screw-head 28, which moves the dog away from the pin 26. At this time the pin 23 reaches the end of the slot in the arm 22 and is enforced by the latter to move the arm back to initial position as the operating lever reaches the upward limit of its movement. During this movement of the needle bar, the feed bar 30 is moved forwardly and by reason of the elevated portion at its forward end it moves the feed plate vertically until the teeth project slightly above the sewing table, at which time the screw 36 engages the lever 35 and forces the feed plate forward with the work. The upward movement of the operating lever further acts to draw the feed-carrying arm of the bell-crank lever 48 to the needle bar, pulling a length

of thread sufficient for making the stitch from the spool and pinching the thread to the needle bar, as observed in Fig. 1. On the downward stroke of the lever the shuttle-operating mechanism remains stationary except the dog 21 and slotted arm 22, which move into engagement with the pins 26 and 23 respectively, in readiness for another feeding movement when the operating lever is elevated; the feed bar is retracted first to drop the feed plate and then move it to initial position, and the needle is forced through the work. This operation is repeated on the continued working of the operating lever.

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

1. The combination of a supporting bar having a sewing table, a needle bar, and crossed levers connecting the bars together, with one of said levers having an operating handle for laterally moving the needle bar to and from the supporting bar.

2. The combination of a supporting bar, a needle bar, a slide carried on the supporting bar, crossed levers connecting the bars together, with one of said levers connected to the slide, a shuttle, and means for operating the shuttle from the slide.

3. The combination of a supporting bar having a sewing table, a needle bar laterally movable to and from the supporting bar, a slide carried on the supporting bar, a shuttle, a feed plate, means for operating the shuttle and the feed plate from the slide, and a lever mechanism to actuate the slide and needle bar and on which the needle bar is supported from the supporting bar.

4. In a sewing machine, a shuttle carriage, a slide movable at substantially right-angles to the movement of the carriage, a member in engagement with the carriage, means carried by the slide, engaging said member for moving the carriage from one extreme position to the other in a partial movement of the slide in one direction, and independent means carried by the slide and engaging said member for returning the carriage to initial position on the completion of the movement of the slide in the same direction.

5. In a sewing machine, a shuttle carriage, a slide, a lever in engagement with the carriage, a dog carried by the slide adapted to engage with the lever and move the carriage from one extreme position to the other in a partial movement of the slide in one direction, means for returning the dog, and independent means carried by the slide, engaging said lever for returning the carriage to initial position on the completion of the movement of the slide in the same direction.

6. In a sewing machine, a supporting bar, a sewing table carried by the supporting bar, a shuttle-race carried by the supporting bar

under said table, a shuttle carriage carried by the shuttle-race, a T-shaped lever fulcrumed on the supporting bar and in engagement with the carriage, a slide carried by the bar, a
 5 dog carried by the slide having a spring tending to force it into engagement with one arm of the lever, and a slotted arm carried by the slide in engagement with the opposite arm of the lever.

10 7. In a sewing machine, the combination of a supporting bar having a longitudinal slot, a needle bar having a longitudinal slot, levers pivoted to said bars, with certain of the pivots passing through the said slots, and an operating handle secured to one of the levers.
 15

8. In a sewing machine, the combination of a supporting bar, a needle bar, crossed levers pivotally connecting the bars together, a shuttle carriage and a feed plate, and means
 20 operatively connecting the carriage and plate with the pivot of one of said levers.

9. In a sewing machine, a slotted supporting bar, a slotted needle bar, crossed levers, means pivotally connecting the levers to the
 25 bars, with certain of said means passing through the slots of the bars, and a thread feed carried by the needle bar having a slotted link operatively connecting it with one of said levers.

10. In a sewing machine, a sewing table, a
 30 needle bar, an operating lever for laterally moving the needle bar to and from the sewing table, a shuttle, and means for giving the shuttle a forward and return movement, operatively connected with the operating lever
 35 when said lever is moving in a direction to move the bar from the table.

11. In a sewing machine, a supporting bar having a sewing table, a needle bar laterally
 40 movable to and from the supporting bar, an arm rigid with the supporting bar, a presser-foot carried by the arm over the table, a standard fixed to the arm having a thread guide overhanging the table, a spool holder
 45 carried by the needle bar, means for operating the needle bar, and a thread feed arranged between the spool holder and the thread guide actuated directly from the needle bar operating means.

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

Nov. 9th 1908.

GREGORY JAMES MARTIN.

Witnesses:

ANDREW RILEY,
 D. J. BRADY.