

No. 614,938.

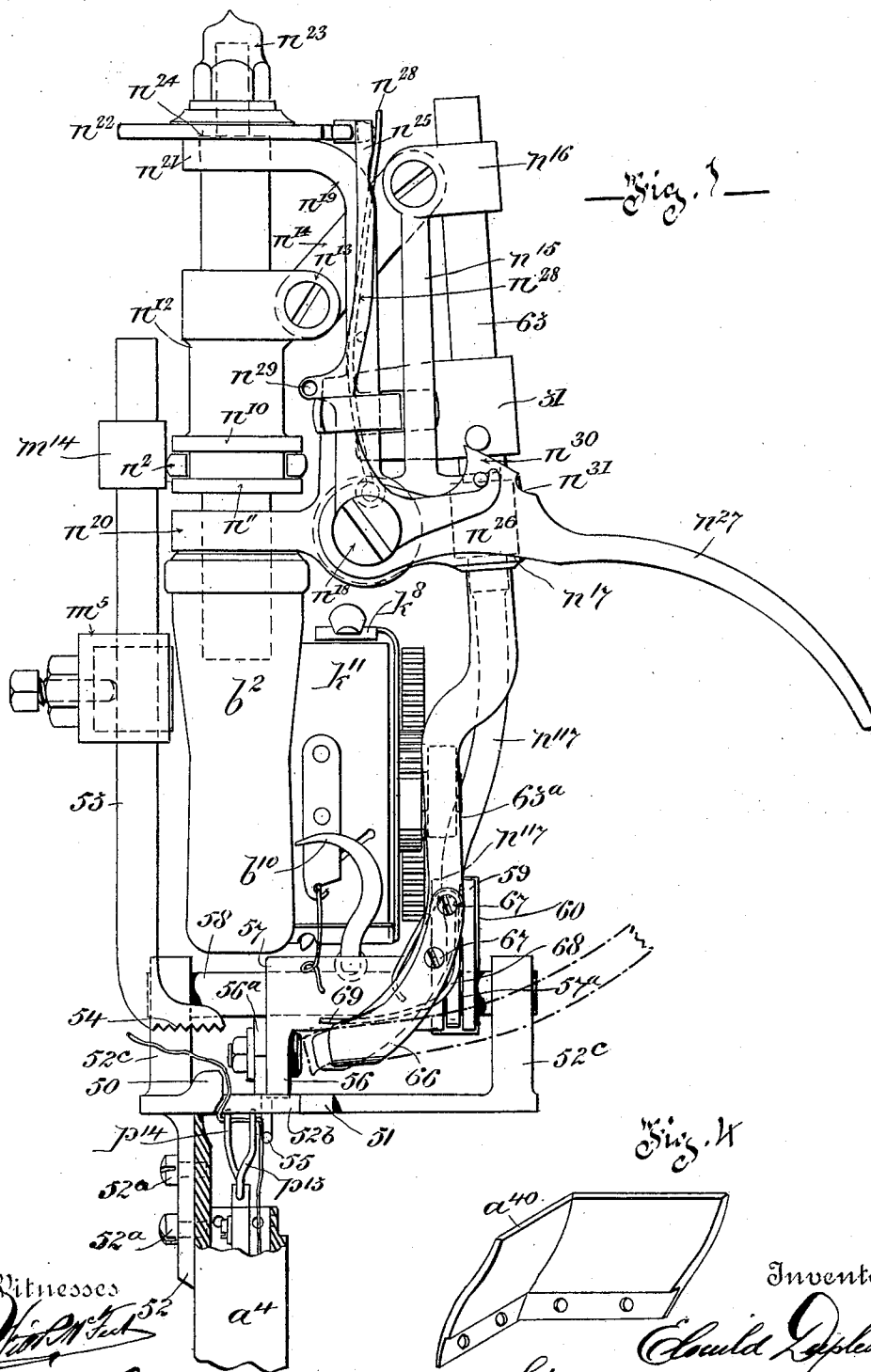
Patented Nov. 29, 1898.

E. DUPLESSIS.
SHOE SEWING MACHINE.

(Application filed Aug. 12, 1895. Renewed Apr. 11, 1898.)

(No Model.)

7 Sheets—Sheet 1.



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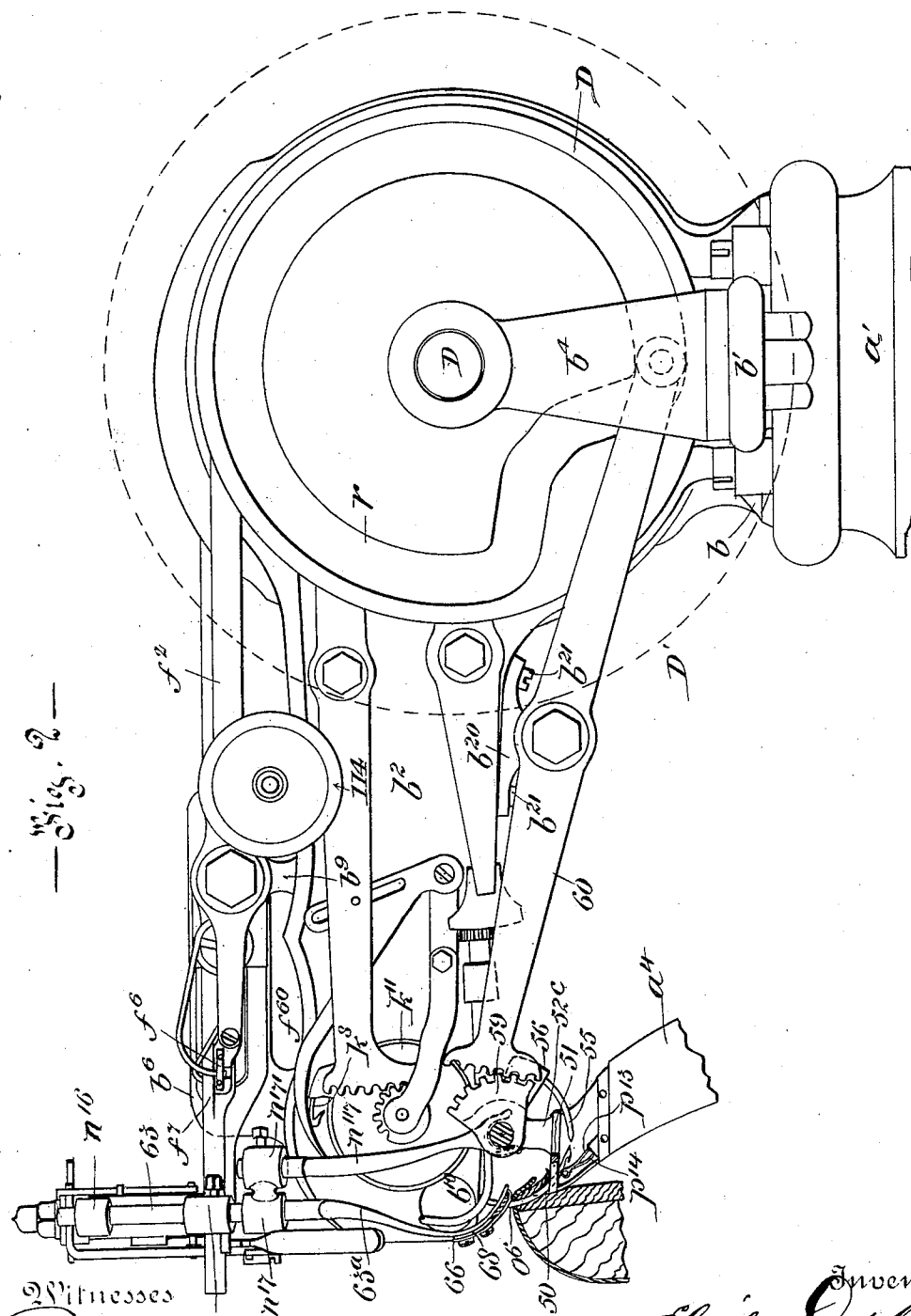
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7 Sheets—Sheet 2.



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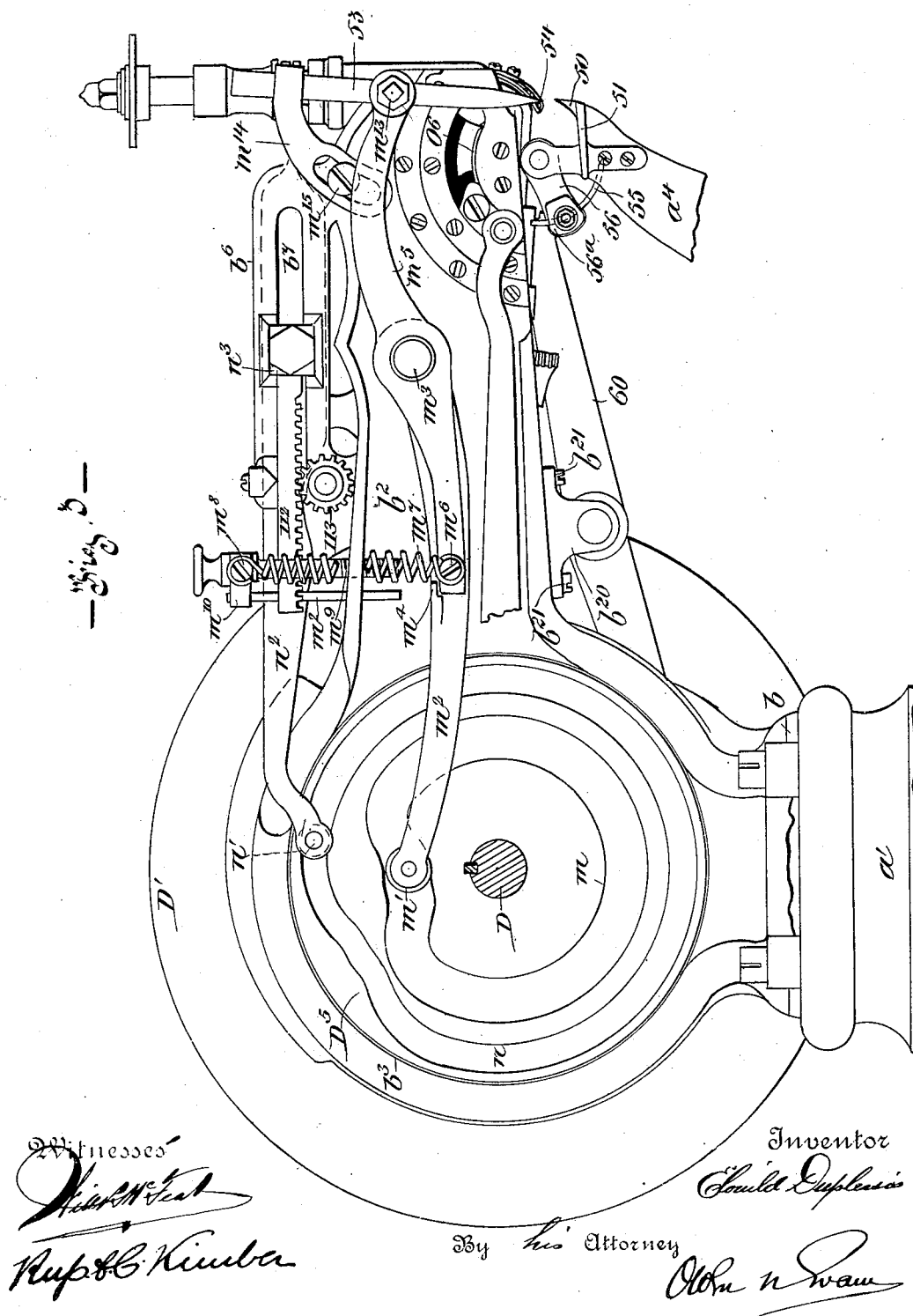
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7 Sheets—Sheet 3.



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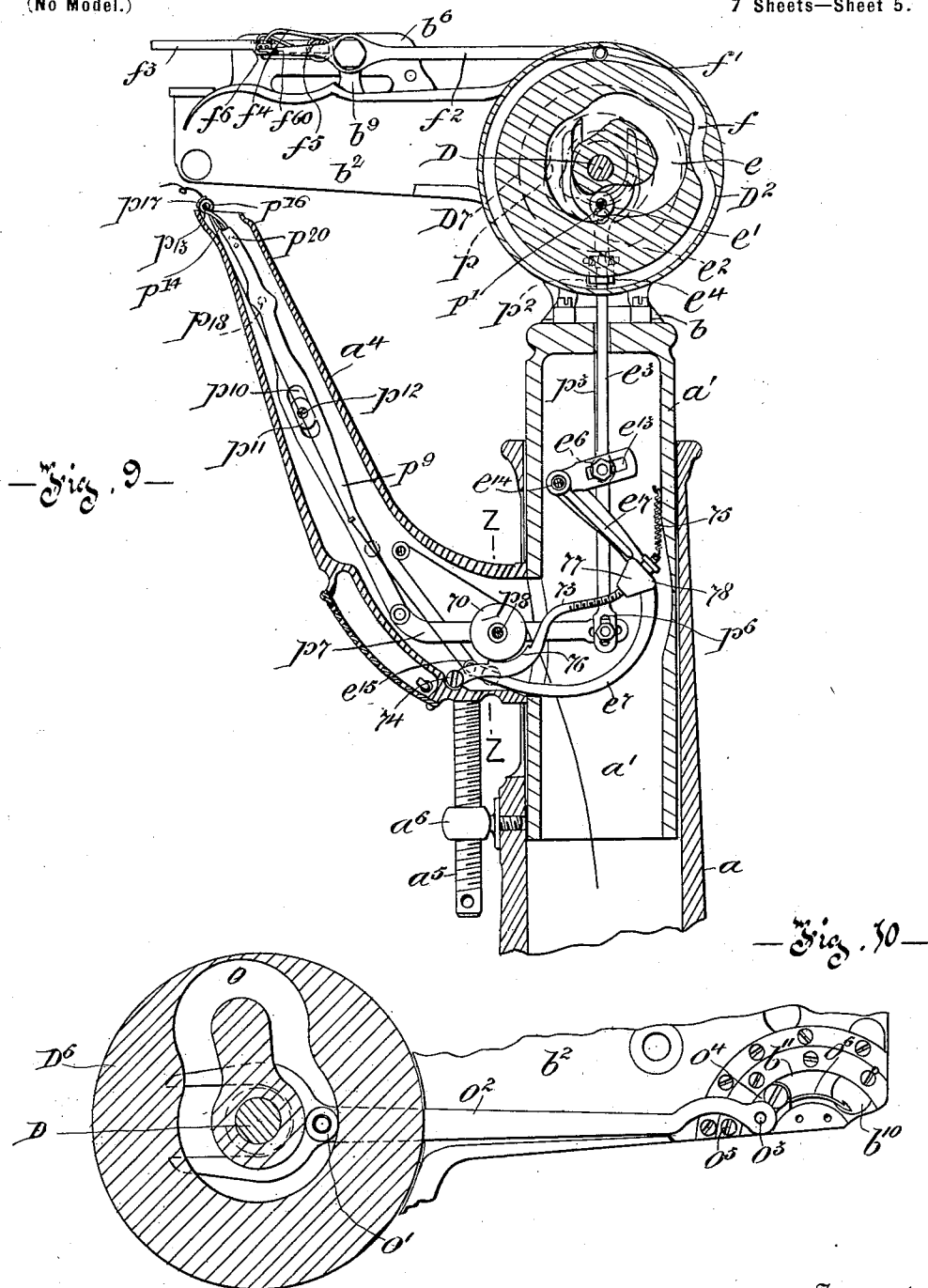
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7 Sheets—Sheet 5.



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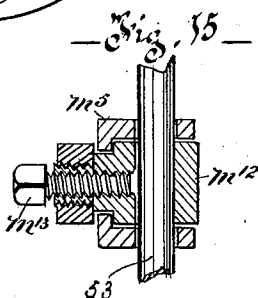
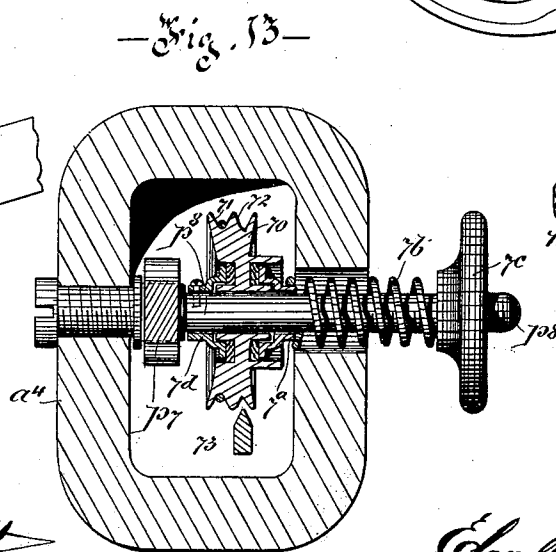
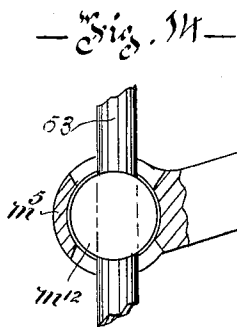
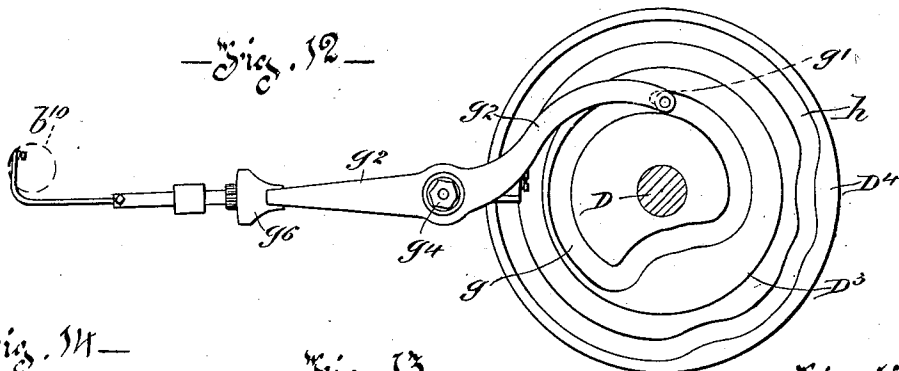
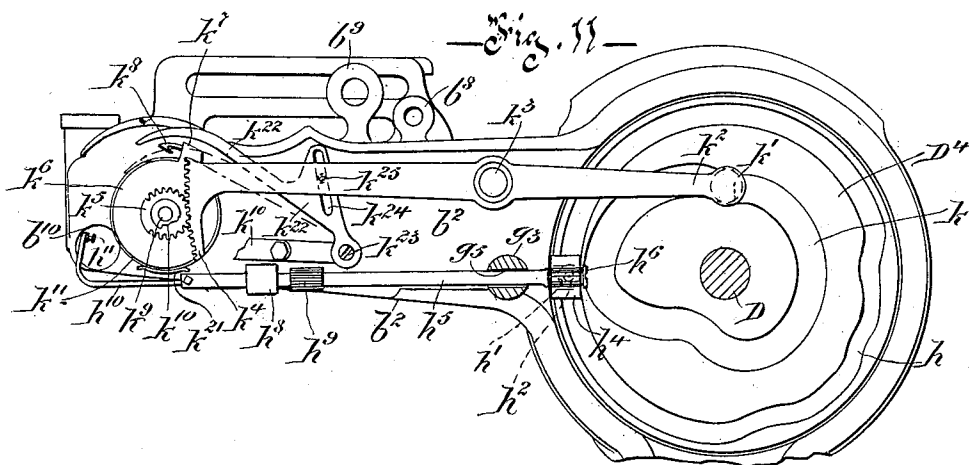
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(No Model.)

7 Sheets—Sheet 6.



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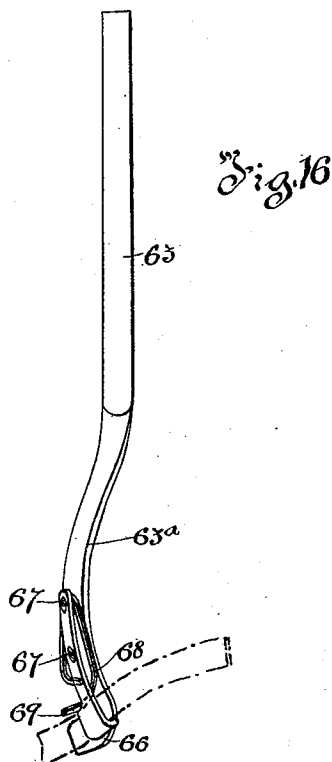
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(No Model.)

7 Sheets—Sheet 7.



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UNITED STATES PATENT OFFICE.

ELOUILD DUPLESSIS, OF ST. HYACINTHE, CANADA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO EMILE ARTHUR MARCHILDON, OF SAME PLACE.

SHOE-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 614,938, dated November 29, 1898.

Application filed August 12, 1895. Renewed April 11, 1898. Serial No. 677,247. (No model.)

To all whom it may concern:

Be it known that I, ELOUILD DUPLESSIS, of the city of St. Hyacinthe, in the county of St. Hyacinthe and Province of Quebec, Canada, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

The objects of my present invention are, first, to provide certain new and useful instrumentalities or tools, consisting of a presser-foot, a work-guide, a welt-guide, a welt-gage, a channel-guide, and feed mechanism, to be combined with the stitch-forming instrumentalities of a wax-thread sewing-machine approximately similar to that described and claimed in a pending application filed by me December 27, 1894, under Serial No. 533,130, whereby the sewing-machine therein described (for doing through-and-through sewing where a horn is required, as in McKay style of work) can be converted into a machine for sewing welted or turned work; secondly, to produce an improved type of machine for sewing welted or turned work, and, thirdly, to improve the thread-case illustrated and described in the before-mentioned pending application.

A further modification of the invention as embodied in a machine adapted to do "edge stitching" and a variety of plain sewing is described and claimed in a third application filed by me on the 13th day of August, 1895, under Serial No. 559,199.

For a full comprehension of the present embodiment of my invention reference must be had to the annexed drawings, forming a part of this specification, in which like symbols indicate corresponding parts, and wherein—

Figure 1 is a front elevation of the machine-head arranged for sewing welted or turned work. Fig. 2 is a right-hand side elevation of same. Fig. 3 is a left-hand side elevation. Fig. 4 is a detail perspective view of a detached portion of the horn. Fig. 5 is a detail sectional view of the web of the machine-head, illustrating the thread-case and its supporting-ledge. Fig. 6 is a side elevation of same; Fig. 7, a detail perspective view of the readily-removable presser-foot; Fig. 8, a

detail plan view of the work-table removed; Fig. 9, a left-hand side elevation of the upper portion of the machine, partly in section and illustrating the threader and take-up. Fig. 10 is a detail side elevation of the needle-operating mechanism with the actuating-cam thereof in section. Fig. 11 is a detail side elevation of the thread-case, thread-hook, retainer, thread-carrier, and the operating-cams and intermediate connections of the thread-hook and retainer and part of the operating means of the carrier. Fig. 12 is a detail side elevation of another part of the means for operating the thread-carrier; Fig. 13, an enlarged transverse vertical sectional view taken on line Z Z, Fig. 9. Fig. 14 is a detail side elevation, partly in section, of the carrying end of the presser-foot lever; Fig. 15, a transverse vertical sectional view thereof, taken on line x x, Fig. 13; and Fig. 16, a perspective view of the work-guide and its carrying parts.

The pedestal *a* of the machine is preferably of the type common to boot and shoe wax-thread sewing-machines, except that it has an upper adjustable portion or neck *a'* of less diameter than the pedestal-body and movable vertically through the openings in the top end of the latter. This movable neck *a'* carries the head portion of the machine, to be presently described, and also has bolted to it near its lower end a work-support, preferably in the form of a hollow horn *a⁴*, the front side of the pedestal-body *a* being slitted from its top end downward sufficiently to accommodate such horn, which projects through it, and as a means for securing the adjustment of these parts relatively to the pedestal a vertical screw *a⁵* is threaded through a bracket-arm *a⁶*, projecting from the face of the pedestal-body *a*, and has its upper end bearing beneath the base of the horn, while its lower end is provided with an aperture to receive the end of any suitable bar whereby it can be rotated.

The reason for making the machine-head and work-support adjustable is to accommodate operators who in some cases are inconvenienced one way or another by the fixed height of machines of this type.

The usual running-gear and attachments are, as heretofore, situated at the base of the pedestal; but as they form no part of my invention they need neither be shown nor further alluded to.

The framing of the head portion of the machine comprises a base-plate b , having openings down through the center to communicate with the interior of the pedestal, and two lateral extensions, one on either side, one b' only of which can be seen, (see Fig. 2,) this base being screwed to the top of the neck portion a' .

b^2 is a vertical and forwardly-projecting web integral with the base-plate b and having an opening b^3 to accommodate the operating-cams and their shaft and a standard b^4 , bolted to each of the lateral extensions b' from the base-plate b . The web b^2 also has formed in one with it an upwardly-projecting ridge or extension b^6 , extending along its upper edge from its forward end rearward for about half the length of the web and slotted, as at b^7 , to accommodate an adjustable sliding block forming a part of the mechanism to be presently described for regulating the length of stitch. Projections b^8 b^9 are also formed on the upper edge of the web b^2 , the one b^8 forming a bearing for a spindle forming a part of said stitch-regulating mechanism and the latter b^9 serving as a part to which one of the feed-operating levers is pivoted.

Near the lower forward end of the web b^2 a circular transverse opening b^{10} is formed to allow of the operation of the thread-carrier, as will be hereinafter described, and at right angles to such opening b^{10} a second opening b^{11} is formed, extending up from the lower edge of the web, passing but connecting with the opening b^{10} , as shown in Fig. 10, to allow the operation of and accommodate the needle and needle-segment. The upper forward end of the web b^2 is also bored vertically to receive the lower end of a vertical standard c , by which various parts, to be hereinafter described, are carried.

D is the shaft, mounted in the standards b^4 and carrying a driving-pulley D' , a disk D^2 , having cam-grooves e and f cut in its face, a second disk D^3 , having a cam-groove g cut in its face, a third disk D^4 , having cam-grooves h k cut in its face, a fourth disk D^5 , with cam-grooves m n cut in its face, a fifth disk D^6 , with cam-groove o also cut in its face, and a sixth disk D^7 , also having a cam-groove p cut in its face.

Looking at the front of the machine and beginning at the right-hand end disk D^2 , I will proceed throughout the series of disks and describe the several parts operated by the respective cam-grooves cut in the faces of such disks, starting with cam-groove e for operating the take-up. The form of this groove e is shown in Fig. 9, and it receives a roller e' , which is axially mounted on the side of a vertically-reciprocating rod, preferably formed in two parts or lengths e^2 e^3

and adapted to project laterally into said groove. The parts e^2 e^3 of this rod are connected together through a collar-and-pin connection, such as e^4 , and the upper part e^2 , which carries the roller e' , is forked at its opposite end to bear on either side of a ring carried by the shaft D to steady and keep the rod always in a true vertical position. The lower part e^3 of the rod passes down through an opening in the top of the movable neck portion of the pedestal and at its lower end is formed with an eye e^6 to allow of its being pivotally connected with the take-up lever e^7 in any preferable manner that will allow of ready adjustment. The take-up lever is of bell-crank form and fulcrumed within the movable neck portion of the pedestal upon a pivot pin or bolt e^{14} , secured in the neck portion a' . The long arm of the take-up lever is curved to allow of its working within the horn a^4 and carries a sheave e^{15} on its outer end, and near its inner end, in close proximity to its fulcrum-point, is cast a projection in the form of a rod e^{17} which projects downward to engage with and operate the tension-lever.

The cam-groove f in the disk D^2 acts, in conjunction with the cam-groove n in the disk D^5 , to operate the feed mechanism, and I will first describe the parts actuated by the groove f . This groove f is of the form shown in Fig. 9 and receives a roller f' , carried by the inner end of a lever f^2 , fulcrumed on the projection b^9 , and having its outer end bent inward beneath and flexibly connected with a secondary lever f^3 , which is in the form of a straight arm having its inner end pivotally connected with the fulcrum-pin of the lever f^2 and its outer end curved concentric with the spindle c , (see Fig. 1,) carried in the front end of the web or frame b^2 , and the flexible connection between it and the lever f^2 is preferably effected by means of a coiled spring f^4 , taking around a stud f^5 , projecting from the side of the lever f^3 , and having one end connected to such lever and the other to the lever f^2 , preferably by means of a clamping-plate f^6 , holding the end of the spring securely in a groove cut in the face of the lever f^2 . The forward end of the lever f^2 , as before mentioned, is bent in beneath the lever f^3 , and a lug f^7 is preferably formed on the side of the lever f^3 , up against the under side of which the lever f^2 is pressed by the action of the spring f^4 , and such lever f^2 operates to impart a vertically-reciprocating movement to a work-guide, which I will describe subsequently to describing the cam-groove n and parts operated by it, which latter I will now describe.

The cam-groove n is of the form shown in Fig. 3 and acts, in conjunction with cam-groove f , as before mentioned, for operating the feed, and its particular function is to impart the necessary horizontal or lateral reciprocating motion to the work-guide and feed device, which motion in one direction is, through the action of the feed device, the feed movement

proper thereof. The groove n receives a roller n' on the inner end of lever n^2 , which is fulcrumed to a movable block n^3 , adapted to be adjusted along the slot b^7 in the upwardly-projecting ridge b^6 of the web b^2 by means of a rack 112 and pinion 113, the pinion being operated by hand-wheel 114 to impart a sliding movement to the rack, which is rigidly connected to fulcrum-block n^3 , thereby securing a diminished or lengthened movement of the outer end of lever n^2 , according as the fulcrum-block n^3 is moved from or to the cam n . The outer end of the lever n^2 is forked to enter between two annular shoulders n^{10} n^{11} , formed on the lower end of a sleeve n^{12} , which has a laterally-projecting lug n^{13} at its upper end and is fitted loosely on the vertical standard c at the upper forward end of the web b^2 . A link n^{14} has one end loosely pivoted to the lug n^{13} and its opposite end to the upper end of a vertical carrier-frame n^{15} for the work-guide, such frame having sleeves n^{16} n^{17} at its ends to receive the shank of the work-guide and the sleeve n^{17} having at its rear side a socket or sleeve $n^{17'}$ and the frame being pivotally connected at its lower end at n^{18} to a horizontally-swinging frame n^{19} , pivotally connected with the standard c through arms n^{20} n^{21} , formed with openings to encircle such standard. This horizontally-swinging frame is to allow of the adjustment or rotation of the work-guide to different positions about the nose of the horn in order to guide the work in whatever direction it may be fed.

To set the frame n^{19} to accommodate a changeable feed, a notched disk n^{22} is located above the arm n^{21} and held rigidly upon the standard c by means of a screw cap or nut n^{23} , forcing it against a shoulder n^{24} on such standard, a spring-operated latch being used to engage the notches in the disk n^{22} and such latch being in the form of a lever n^{25} , fulcrumed at n^{18} and having a vertical arm adapted to engage the notches in the disk n^{22} and a horizontal arm adapted to be engaged by a pin projection n^{26} on a hand-lever n^{27} , also fulcrumed at n^{18} , the spring n^{28} for operating such latch being shown in dotted lines in Fig. 1. The vertical arm of the lever n^{25} is provided with a pin projection n^{29} , adapted to come in contact with the frame n^{19} and so limit the outward movement of the lever. The hand-lever n^{27} is also used for elevating the work-guide and is formed with a beveled projection n^{30} and a notch n^{31} on its upper side to bear upon and engage a pin projection on the side of sleeve 31, secured to the shank of the work-guide.

The cam-groove g in disk D^3 is of the form shown in Fig. 12 and acts, in conjunction with the cam-groove h in disk D^4 , to operate the thread-carrier, the groove g receiving a roller g' , carried by the inner end of a lever g^2 , fulcrumed on the diminished outer end of a block g^3 , carried by the frame, such lever being held in place upon such block by means

of a nut g^4 , the block g^3 being perforated horizontally, as at g^5 , and said lever g^2 carries at its outer end a segmental toothed rack g^6 , while the cam-groove h is of the form shown in Fig. 11 and receives a roller h' , carried on a stud-bearing h^2 on the side of a sleeve h^3 , having wing-plates h^4 cast in one with it and bearing upon the sides of groove h to steady the sleeve and keep roller h' from being displaced by the rotation of a sliding rod h^5 , the diminished or inner end of which carries such sleeve loosely retained thereon by means of screw h^6 . This sliding rod passes through and is carried in the perforation g^5 in the block g^3 on the side of web or frame b^2 , to which the lever g^2 is fulcrumed, and through bearing h^8 , also on the side of the web, and is adapted to receive a reciprocating movement from groove h and a rotary movement from groove g through pinion h^3 , carried rigidly on the rod h^5 , segmental toothed rack g^6 , and lever g^2 , on which such segmental toothed rack is carried. The forward end of the rod h^5 is bored longitudinally and receives the rear end of the thread-carrier proper in the form of a finger h^{10} , bent, as shown particularly in Figs. 1 and 11, so that its free end will project in front of the thread-case and carry the thread in a hook h^{11} at its extreme end from the needle to the thread-case.

The cam-groove k in the disk D^4 is of the form shown in Fig. 11 and operates the oscillating thread-hook and a device for preventing any accidental displacement of the thread-case when the oscillating hook is thrown back to release the thread after it has taken it around the case. The groove k receives a roller k' , carried on the inner end of a lever k^2 , which is fulcrumed at k^3 to the web or frame b^2 and has its outer end terminating in a segmental toothed rack k^4 . This rack k^4 intermeshes with a pinion k^5 , which is formed in one with and centrally of the side of a circular plate k^6 , which has a peripheral projection k^7 , to which is secured the oscillating thread-hook k^8 , the plate and pinion being centrally bored and mounted upon a stud-bearing k^9 in one end of a bracket-arm k^{10} , which is secured at the other end to the web or frame b^2 and bent outward and parallel with such web, so as to leave sufficient space between it and the web for the pinion and plate just mentioned and the thread-case now to be described.

The case inclosing the upper thread is shown in detail in Figs. 5 and 6, and consists of a shallow cylindrical box k^{11} , one side or end of which is open and the other and closed side of which has a central boss or pin k^{12} , which is preferably passed through a central opening in such closed side to project into the case and carries in grooves formed along its periphery and end a spring-clip k^{13} , parts of which project beyond the periphery, but are compressible. The head of this pin k^{12} provides a projection necessary to establish

a space between the periphery of the case and the frame of the machine to enable the thread to pass freely around same.

The thread reel or bobbin is formed with two circular side plates k^{14} , which are connected by a centrally-tubular core k^{15} , adapted to fit over the pin k^{12} in the thread-case and be held in place thereon by frictional contact with the projecting parts of the spring-clip k^{13} , which are compressed by it.

The periphery of the thread-case k^{11} is perforated, as at k^{16} , to allow of the passage of the thread therethrough, and adjacent to such perforation a tension-plate k^{17} is arranged, one end of which is riveted to the case and the other end bent inward to bear upon the periphery of the case and formed with a hook k^{18} , an adjusting-screw k^{20} , passing through an aperture in the tension-plate and screwed into the periphery of the case, being used to regulate the pressure of such plate.

In order to reduce to a minimum any chance of the rotation of the thread-case k^{11} upon its supporting-shelf k^{21} during the operation of the machine, I provide a downward projection k^{111} from the lowermost point of the periphery of the case as it stands in its normal position, and I form an opening k^{211} in the supporting-shelf, with which the projection k^{111} will engage if the case has any tendency to revolve, and I prefer to confine this projection only to the inner side of the periphery, so that it will not materially obstruct the passage of the thread around the base.

The cam-groove m in the disk D^5 is of the form shown in Fig. 3 and is used to operate the parts for raising and lowering the presser-foot. The groove receives a roller m^1 , carried on the end of a lever m^2 , fulcrumed at m^3 to the web b^2 , and having a lateral projection m^4 on one side. This lever has a flexible connection with a secondary lever m^5 , which I will now describe. The secondary lever m^5 is curved somewhat and fulcrumed centrally of its length at the same point m^3 on the web as the lever m^2 , its inner or rear end carrying a screw m^6 , with which one end of a retractile coiled spring m^7 (which is shown partly broken away) is connected, its other end being connected, by means of a screw m^8 , to a device for adjusting the tension of such spring, consisting of a screw-bolt m^9 , taking in a screw-threaded boring in the web b^2 , such bolt carrying loosely thereon a block m^{10} , which carries a guide-rod m^{11} , sliding vertically through a second boring in the web. The purpose of this flexible connection between the two levers m^2 and m^5 is to allow the lever m^5 a certain amount of independent play or adjustment, as is required by the variations in the elevation of the presser-foot caused by the varying thickness of the stock being operated upon. The lateral projection m^4 on lever m^2 serves to maintain levers m^2 m^5 in their proper relative position. The presser-foot 53 is carried adjust-

ably with relation to the work by a swiveling-block m^{12} in the outer end of such lever m^2 and held in place in such block by set-screw m^{13} .

m^{14} is an adjustable guide for the upper end or shank portion of the presser-foot and is in the form of a curved arm slotted and held to the web b^2 by a set-screw m^{15} .

The cam-groove O in the disk D^6 is of the form shown in Fig. 10 and is used to operate the needle. The groove receives a roller o^1 on the inner end of a connecting-rod o^2 , having its outer end pivotally connected at o^3 with the needle-segment o^4 , which is held in place in its guideway by suitable retaining-plates o^5 , as shown in Figs. 3 and 10, and carries the curved needle o^6 .

The cam-groove p in the disk D^7 is of the form shown in dotted lines in Fig. 9 and receives a roller p^1 , which is axially mounted on the side of a vertically-reciprocating rod, preferably formed in two parts or lengths and adapted to project laterally into said groove. The parts of this rod may be connected together in a similar manner to the parts e^2 e^3 of the take-up-lever-connecting rod, and the upper part, which carries the roller p^1 , like the part e^2 , may be forked at its upper end. The lower part p^3 of the rod passes down through the top of the movable neck portion of the pedestal, and at its lower end is formed with an elongated eye p^6 to allow of its being adjustably and pivotally connected with one arm of a lever p^7 , fulcrumed on a rod p^8 , which carries the tension-wheel and its operating-spring, as will be hereinafter described, the other arm of this lever p^7 being pivotally connected to the lower end of a reciprocating bar or section p^9 , slotted, as at p^{10} , to receive a block p^{11} , pivotally carried upon a pin p^{12} within the horn, and with which block said bar or section, through slot p^{10} , has a sliding connection. The upper end of this section p^9 carries the threader portion proper. This threader portion proper consists of a pair of spring-fingers p^{13} p^{14} , carried in the upper end of the bar p^9 and secured therein by set-screws p^{20} , by the loosening of which the fingers can be adjusted higher or lower, as may be desired, with relation to the needle. The upper free ends of the fingers are formed one, 13, with an eye p^{16} and the other with a hook p^{17} , the eye and hook being for the purpose of placing the thread in the barb of the needle, the hook p^{17} allowing of the withdrawal of the thread by the needle. As a means for adjusting or locating the threader relatively to the needle, adjusting-screws p^{18} (shown dotted in Fig. 9) are carried by the sides of the horn and adapted to bear loosely upon either side of the bar p^9 without in any way interfering with its motion.

The thread-tension device which I prefer to use is shown in Fig. 9 and in detail in Fig. 13, and consists of a sheave 70, mounted loosely on the fulcrum-rod p^8 of the threader-lever before mentioned and having two peripheral V-shaped grooves 71 72, the former

of which receives the thread and the latter of which presents two friction-faces for a friction-lever 73 (presently to be described) to bear upon. Acting upon this sheave 70 is a flanged sleeve 7^a, loosely mounted on said rod 7^s and forced against one side of the web of such sheave by means of a coiled spring 7^b, encircling the rod and having one end bearing against the sleeve 7^a and the other end against the hub of an adjusting hand-wheel 7^c, screw-threaded on the outer end of such rod, the pressure of the sleeve 7^a upon the sheave 70 serving to force it in turn against a sleeve 7^d similar to the one 7^a, but rigidly mounted on the rod 7^s. The lever 73 has one end fulcrumed at 74 in the base of the work support or horn at a point below the sheave 70 and its opposite end flexibly connected with the pedestal by a coiled spring 75 76, being a lateral shoe projection from its upper side with its edge shaped to conform to the groove 72 in the sheave 70. The lever 73 requires to be furnished with a rise or projection of some sort to be acted upon by the downwardly-projecting oscillating finger *e*¹⁷, and in order that the action of the lever 73 may be varied and the extent to which the thread from the thread-case is drawn through the work regulated I prefer to make such rise or projection in the form of an adjustable block-nut 77, fitting over and having a screw-threaded connection with the lever and formed with a lateral extension 78, such nut or block being movable along the lever in either direction.

Thus far I have described all the parts of the machine which are common to and which operate the immediate parts, tools, or instrumentalities that act directly upon the work, and being interchangeable, as may be desired for various kinds or characters of work—such as the McKay stitch “turned-shoe” sewing, the stitching or welted work, edge-stitching, and plain straight sewing—and I will proceed to describe the particular instrumentalities necessary to sew welted or turned work.

The needle, the thread-carrier, the thread-case, the thread-hook, the needle-threader, the tension device, the clamping device, and the take-up, which, together with their operating mechanism, constitute the stitch-forming instrumentalities, the pedestal, the machine-head, the work-support or horn, and the mechanism for carrying and operating the presser-foot and feed device are and may be the same as described and illustrated and broadly claimed in my pending application before mentioned, filed under Serial No. 533,130, and are therefore not claimed, broadly, herein. These particular instrumentalities or tools comprised in the present invention and to be combined with the common parts just described are adapted to be readily removable and are preferably constructed as follows:

The presser-foot (shown in detail in Fig. 7) consists of a shank or bar 53, having a narrowed foot provided with a toothed or ser-

rated edge 54 to enable it to hold the work being operated upon more securely against displacement and is carried by having the shank 53 thereof set about midway of its length in the end of lever *m*⁵, the upper end of such shank being located in the guide *m*¹⁴.

The work-guide consists of a shank or bar 63, formed with its lower half flattened to give it a certain amount of resiliency and offset, as at 63^a, to accommodate the working of the thread-carrier and so that its rounded end will be located adjacent to the needle, and such work-guide is carried in sleeve 31, which imparts to it a vertical reciprocal movement, and a horizontal reciprocal movement is imparted by means of sleeves *n*¹⁶ *n*¹⁷, in which the shank or bar 63 is freely located, by rocking carrier-frame *n*¹⁵.

The work-guide has a horizontal and vertical reciprocal movement imparted to it in order that it will not interfere with the feeding of the work, but will accompany and hold the work until the presser-foot relieves it, and it will then return to its normal position, the resiliency of such guide allowing it to hold the work firmly without marking it. To enable this work-guide to serve also as a welt-guide when “welted” work is being stitched, a thin strip 66, with an inwardly-turned free end, is secured to the side of the lower flattened portion 63^a of the work-guide by set-screws 67, and in order that different widths of welt can be guided I provide an adjustable gage consisting of a piece of wire bent to form a triangle 68, with finger extension 69, so that the apex end thereof will fit around and be guided on one of the screws 67, while the opposite or base end will be wide enough to allow of play about the other screw sufficient for adjustment. This gage is preferably located between the flattened end 63^a of work-guide and the welt-guide 66, the latter serving to clamp it in position with the finger extension 69 projecting into the passage or space through which the welt passes between the two guides. When a narrower welt is to be used than that illustrated, the screws 67 67 should be loosened and the lower end of gage 68 moved toward the left, Fig. 1, which will cause the finger 69 to project downwardly farther into the welt-passage and diminish same to the required width to exactly accommodate such narrower welt. To accommodate a wider welt, the gage will of course be moved in the opposite direction, thus widening the passage.

The channel-guide 50 is formed integral with a work table or plate 51, secured over the open nose of the horn 24 by means of a web 52, extending downwardly over the left-hand side of the nose of the horn, to be attached thereto by screws 52^a. An opening 52^b is cut through the plate 51 to accommodate the needle *o*⁶, and a feeding-awl (the latter to be presently described) and two upwardly-projecting bearings 52^c are formed on the top of the plate.

The feed device consists of an awl 55, car-

ried by a segment 56 and retained therein by a plate 56^a, the segment being formed in one with one end of a sleeve 57, mounted loosely upon a spindle 58, carried rigidly in the bearings 52^c on plate 51. This sleeve is shorter than the spindle to allow it to slide upon same in order that an oscillatory and horizontal reciprocal movement may be imparted to awl 55. The oscillatory movement is secured by means of a toothed segment 59, formed rigidly upon the end of sleeve 57 opposite to that upon which the awl-segment is formed, and with this toothed segment intermeshes the widened toothed outer end of a lever 60, fulcrumed upon a removable portion b^{20} , secured to the web b^2 , preferably by screws b^{21} , the inner end of this lever 60 carrying a roller to take into a cam-groove r , cut in the outer face of a disk D^2 , mounted and rotatable with shaft D. The horizontal reciprocal movement is imparted by the rocking carrier-frame n^{15} through a rod n^{17} , having its lower end forked to straddle spindle 58 and bear in a slot 57^a in sleeve 57. This rod is retained rigidly by a set-screw in a rigid sleeve n^{171} upon the rear side of sleeve n^{17} , and a portion a^{40} (shown in detail in Fig. 4) of the right-hand side of the nose of the horn a^4 is removed to allow of the working of awl 55 and its carrying parts.

The operation of the present embodiment of my invention is, briefly, as follows: The lasted and channeled boot or shoe to be stitched is placed in such a position (shown in Fig. 2) that the channel-guide 50 will enter the channel in the work and the upper of the boot or shoe be caused to bear against the exterior of the welt-guide 66, the position of the boot also enabling it to receive the welt, which is retained by its guide 66. Upon the machine being started the awl 55 will be inserted into the work a distance sufficient to afford a firm hold by cam r and intermediate connections, the work being then fed by rocking frame n^{15} through rod n^{17} , while the lower end 63^a of the work-guide, and with it the welt-guide 66, at the same time is caused to accompany the work. The presser-foot is then lowered, so as to hold the work to allow the work-guide to return to its normal position and the awl to be withdrawn while the needle is being inserted, which now happens. The rest of the operation is precisely the same as that described in my pending application, Serial No. 533,130, in that the threader next threads the needle, the needle draws the thread through the work, and the thread-carrier engages the thread and conveys it to a position to be taken by the oscillating hook partially around the thread-case, after which it is acted upon by the take-up and tension devices to tighten and complete the stitch, the presser-foot being then raised and the operation either repeated or, if the boot or shoe is completed, to allow it to be removed after the work-guide has been raised by handle n^{27} .

When turned shoes in which no welts are

used are to be stitched on this machine, the entire operation will be the same, but the welt-guide can remain in position, as it will not interfere in any way with the operation of sewing such turned boots or shoes.

My object in providing a removable portion of the horn is to enable such horn to be completely closed up when being used for doing what is known as "McKay" work, in which case a number of the parts of the machine as herein illustrated will be interchanged for parts illustrated and described in my pending application, Serial No. 533,130.

As will be seen from the foregoing, a machine for sewing welted or turned work constructed according to my present invention, besides having the advantage of a comparatively small number of operating parts to make a two-thread lock-stitch, will enable a two-thread lock-stitch to be employed in sewing welted or turned work and will always allow the upper or exposed portion of the stitch to be in full view of the operator, which is important, and, further, it is only because I illustrate and describe this form of machine as converted from a machine for doing McKay style of work that an unnecessary space is shown between the stitch-forming instrumentalities and the pedestal; but this unnecessary space can be readily diminished by any one skilled in the manufacture of sewing-machines by shortening the levers and rods, thus strengthening such levers and rods and increasing the speed of the machine without departing from the spirit of my invention.

What I claim is as follows:

1. In a wax-thread sewing-machine, the combination with the frame of the head and the driving-shaft, of a presser-foot consisting of a shank or body portion and an offset foot portion formed integral with such shank or body portion, the lower edge of such foot portion being diminished in thickness and toothed or serrated and the shank portion being carried by a lever operatively connected with a cam-disk mounted on such shaft and means for adjusting such shank or body portion to, and setting same at, various angles relatively to the work.

2. In a wax-thread sewing-machine, the combination with the frame of the head and the driving-shaft, of a presser-foot consisting of a shank or body portion and an offset foot portion formed integral with such shank or body portion, the lower edge of such foot portion being diminished in thickness and toothed or serrated and the shank portion being carried about midway of its length in the end of a lever operatively connected with a cam-disk mounted on such shaft, the upper end of such shank being located in an adjustable sleeve carried by the machine-head frame and means for setting such sleeve in any position to which it may be adjusted for the purpose set forth.

3. In a wax-thread sewing-machine, the

combination with the frame, a standard thereon, a rod and carrier mechanism therefor comprising an extension or frame projecting laterally from said standard and a carrier-frame 5 pivotally connected with such laterally-projecting frame, the rod being located in said carrier-frame, of an awl-carrier having an awl-carrying segment, an awl carried by such awl-carrying segment, such awl-carrier being 10 operatively connected to such rod and suitably mounted with means for imparting an oscillatory movement to such awl-carrier and a rocking movement to such pivoted carrier-frame, for the purpose set forth.

15 4. In a wax-thread sewing-machine, the combination with the frame, the work-support, a standard on such frame, a laterally-projecting frame carried by such standard, a rocking frame pivotally connected to such 20 laterally-projecting frame, a sleeve movable upon said standard, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion through the link connection to such rocking frame, of an oscillating 25 awl-carrier consisting of a sleeve having an awl-carrying segment made in one therewith, an awl carried by such awl-carrying segment, such sleeve being carried loosely 30 upon a spindle of greater length than such sleeve and mounted in bearings carried by such work-support, an operative connection between such awl-carrier and such rocking frame, and means for imparting an oscillatory 35 movement to such awl-carrier, for the purpose set forth.

5. In a wax-thread sewing-machine having needle-threading mechanism, a removable stationary work-table secured over such needle-threading mechanism and having a rigid 40 and immovable channel-guide formed in one with the forward edge thereof and having its forward face convex and its rear face concave; and an oblong opening extending in length toward and in close proximity to such 45 channel-guide, substantially as and for the purpose set forth.

6. In a wax-thread sewing-machine having needle-threading mechanism, a stationary 50 work-table secured over such needle-threading mechanism and having a rigid channel-guide formed in one with the forward edge thereof, an oblong opening extending in length toward and in close proximity to such channel-guide, a rearward extension and a rearward and lateral extension from the rear side 55 of the table and two upwardly-projecting bearings in line with each other and located one at the end of such rearward extension and the other at the end of such rearward and lateral extension, for the purpose set forth.

7. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame 65 projecting laterally from such guiding-spindle, a rocking frame pivotally connected to

such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking 70 frame, a cam-operated lever for actuating said sleeve to impart a rocking motion through the link connection, to such rocking frame, of a work-guide carried by such rocking frame and means for imparting a vertical 75 reciprocal movement to such work-guide, for the purpose set forth.

8. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame 80 projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking 85 frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened 90 and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

9. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame 95 projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking 100 frame, a cam-operated lever for actuating said sleeve to impart a rocking motion through the link connection, to such rocking frame, of a work-guide carried by such rocking frame 105 and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, for the purpose set forth.

10. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame 110 projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking 115 frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and carried by such rocking frame and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively 125 connected with such work-guide, for the purpose set forth.

11. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame 130 projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link con-

nection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and carried by such rocking frame and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

12. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide for the purpose set forth.

13. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and its lower end rounded, such work-guide being carried by such rocking frame and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

14. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and its lower end rounded, such work-guide being carried by such rocking frame and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, for the purpose set forth.

15. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a

swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide carried by such rocking frame and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

16. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and carried by such rocking frame, and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

17. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide carried by such rocking frame and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, for the purpose set forth.

18. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle, on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and carried by such rocking frame, and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, for the purpose set forth.

19. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally con-

connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and carried by such rocking frame and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

20. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset carried by such rocking frame, and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, for the purpose set forth.

21. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and its lower end rounded, such work-guide being carried by such rocking frame and means for imparting a vertical reciprocal movement to such work-guide, for the purpose set forth.

22. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a swinging frame pivotally connected to such guiding-spindle, a rocking frame pivotally connected to such swinging frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, of a work-guide consisting of a shank or bar formed with its lower half flattened and offset and its lower end rounded, such work-guide being carried by such rocking frame and a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, for the purpose set forth.

23. In a wax-thread sewing-machine, a vertically and horizontally reciprocating work-

guide consisting of a shank or bar having its lower half flattened and offset and with its lower end rounded and means for carrying and operating same, for the purpose set forth.

24. In a wax-thread sewing-machine, a vertically and horizontally reciprocating work-guide consisting of a shank or bar having its lower half flattened and offset and having a strip secured at one end to such flattened portion and having its other end turned or bent inward and an adjustable gage located between such strip and such flattened portion, and means for carrying and operating such work-guide, for the purpose set forth.

25. In a wax-thread sewing-machine, a vertically and horizontally reciprocating work-guide consisting of a shank or bar having its lower half flattened and offset and having a strip secured at one end to such flattened portion and having its other end turned or bent inward and an adjustable gage consisting of a piece of wire bent to form a triangle with finger extension located between such strip and such flattened portion with the apex of such triangle fitting around the point of connection of such strip and flattened portion and means for carrying and operating such work-guide, for the purpose set forth.

26. In a wax-thread sewing-machine, the combination with the frame, the work-support, a guiding-spindle on such frame, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a work-guide carried by such rocking frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, and a cam-operated lever for actuating said sleeve to impart a rocking motion through the link connection, to such rocking frame, of an oscillating and reciprocating awl-carrier suitably mounted and operatively connected to such rocking frame to receive a reciprocal movement therefrom and means for imparting an oscillatory movement to such awl-carrier, for the purpose set forth.

27. In a wax-thread sewing-machine, the combination with the frame, a standard thereon, a work-guide, a rod and carrier mechanism therefor comprising an extension or frame projecting laterally from said standard and a carrier-frame pivotally connected with such laterally-projecting frame, the rod being located in said carrier-frame, of an awl-carrier having an awl-carrying segment, an awl carried by such awl-carrying segment, such awl-carrier being operatively connected to such rod and suitably mounted, means for imparting an oscillatory movement to such awl-carrier and a rocking movement to such pivoted carrier-frame, for the purpose set forth.

28. In a wax-thread sewing-machine, the combination with the frame, a standard thereon, a reciprocating work-guide, a rod forked at its lower end and carrier mechanism for such work-guide and forked rod comprising an extension or frame projecting laterally

from said standard and a carrier-frame pivotally connected with such laterally-projecting frame, the forked rod being located in said carrier-frame, the driving-shaft, a cam-disk mounted thereon, a lever fulcrumed to the frame of the machine and having its rear end operatively connected with such cam-disk and its forward end widened and gear-toothed on its forward face, of an oscillating awl-carrier consisting of a sleeve having a toothed segment and an awl-carrying segment, such segments being located one at each of the opposite ends of and made in one with such sleeve and an awl carried by such awl-carrying segment and such sleeve being slotted and mounted loosely upon a spindle of greater length than such sleeve and carried in suitable bearings in a position to allow the slot in such sleeve to receive the lower forked end of the rod carried by the pivoted frame, and to allow the toothed segment to intermesh with the toothed end of the said lever, and means for imparting a rocking motion to such pivoted frame, for the purpose set forth.

29. In a wax-thread sewing-machine, a combined reciprocating work-guide and feed mechanism, consisting of a guiding-spindle on the frame of such machine, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, the work-guide being carried by such rocking frame, means for imparting a vertical reciprocal movement to such work-guide, an oscillating awl-carrier consisting of a sleeve having a toothed segment and an awl-carrying segment, such segments being located one at each of the opposite ends of and made in one with such sleeve, an awl carried by such awl-carrying segment, such sleeve being carried loosely upon a spindle of greater length than such sleeve and mounted in bearings carried by the work-support, an operative connection between such awl-carrier and such rocking frame, a cam-operated lever fulcrumed to the frame of the machine and having its forward end widened and gear-toothed on its forward face and adapted to intermesh with the toothed segment of the awl-carrier, for the purpose set forth.

30. In a wax-thread sewing-machine, a combined reciprocating work-guide and feed mechanism, consisting of a guiding-spindle on the frame of such machine, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link

connection, to such rocking frame, the work-guide being carried by such rocking frame, means for imparting a vertical reciprocal movement to such work-guide, an oscillating awl-carrier consisting of a sleeve having a toothed segment and an awl-carrying segment, such segments being located one at each of the opposite ends of and made in one with such sleeve, an awl carried by such awl-carrying segment, such sleeve being carried loosely upon a spindle of greater length than such sleeve and mounted in bearings carried by such work-support in a position to allow of an operative engagement between such sleeve and the lower end of the rod carried by such rocking frame, and a cam-operated lever fulcrumed to the frame of the machine and having its forward end widened and gear-toothed on its forward face and adapted to intermesh with the toothed segment of the awl-carrier, for the purpose set forth.

31. In a wax-thread sewing-machine, a combined reciprocating work-guide and feed mechanism, consisting of a guiding-spindle on the frame of such machine, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, the work-guide consisting of a shank or bar formed with its lower half flattened and offset and its lower end rounded and such work-guide being carried by such rocking frame, means for imparting a vertical reciprocal movement to such work-guide, an oscillating awl-carrier consisting of a sleeve having a toothed segment and an awl-carrying segment, such segments being located one at each of the opposite ends of and made in one with such sleeve, an awl carried by such awl-carrying segment, such sleeve being carried loosely upon a spindle of greater length than such sleeve and mounted in bearings carried by the work-support, an operative connection between such awl-carrier and such rocking frame, a cam-operated lever fulcrumed to the frame of the machine and having its forward end widened and gear-toothed on its forward face and adapted to intermesh with the toothed segment of the awl-carrier, for the purpose set forth.

32. In a wax-thread sewing-machine, a combined reciprocating work-guide and feed mechanism, consisting of a guiding-spindle on the frame of such machine, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link connection, to such rocking frame, the work-guide being carried by such rocking frame, a

cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, an oscillating awl-carrier consisting of a sleeve having a toothed segment and an awl-carrying segment, such segments being located one at each of the opposite ends of and made in one with such sleeve, an awl carried by such awl-carrying segment, such sleeve being carried loosely upon a spindle of greater length than such sleeve and mounted in bearings carried by the work-support, an operative connection between such awl-carrier and such rocking frame, a cam-operated lever fulcrumed to the frame of the machine and having its forward end widened and gear-toothed on its forward face and adapted to intermesh with the toothed segment of the awl-carrier, for the purpose set forth.

33. In a wax-thread sewing-machine, a combined reciprocating work-guide and feed mechanism, consisting of a guiding-spindle on the frame of such machine, a frame projecting laterally from such guiding-spindle, a rocking frame pivotally connected to such laterally-projecting frame, a sleeve movable upon said guiding-spindle, a link connection between said sleeve and the rocking frame, a cam-operated lever for actuating said sleeve to impart a rocking motion, through the link

connection, to such rocking frame, the work-guide consisting of a shank or bar formed with its lower half flattened and offset and its lower end rounded and such work-guide being carried by such rocking frame, a cam-operated lever fulcrumed to the frame of the machine and with its forward end operatively connected with such work-guide, an oscillating awl-carrier consisting of a sleeve having a toothed segment and an awl-carrying segment, such segments being located one at each of the opposite ends of and made in one with such sleeve, an awl carried by such awl-carrying segment, such sleeve being carried loosely upon a spindle of greater length than such sleeve and mounted in bearings carried by such work-support in a position to allow of an operative engagement between such sleeve and the lower end of the rod carried by such rocking frame, and a cam-operated lever fulcrumed to the frame of the machine and having its forward end widened and gear-toothed on its forward face and adapted to intermesh with the toothed segment of the awl-carrier, for the purpose set forth.

ELOULD DUPLESSIS.

Witnesses:

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