

No. 649,279.

Patented May 8, 1900.

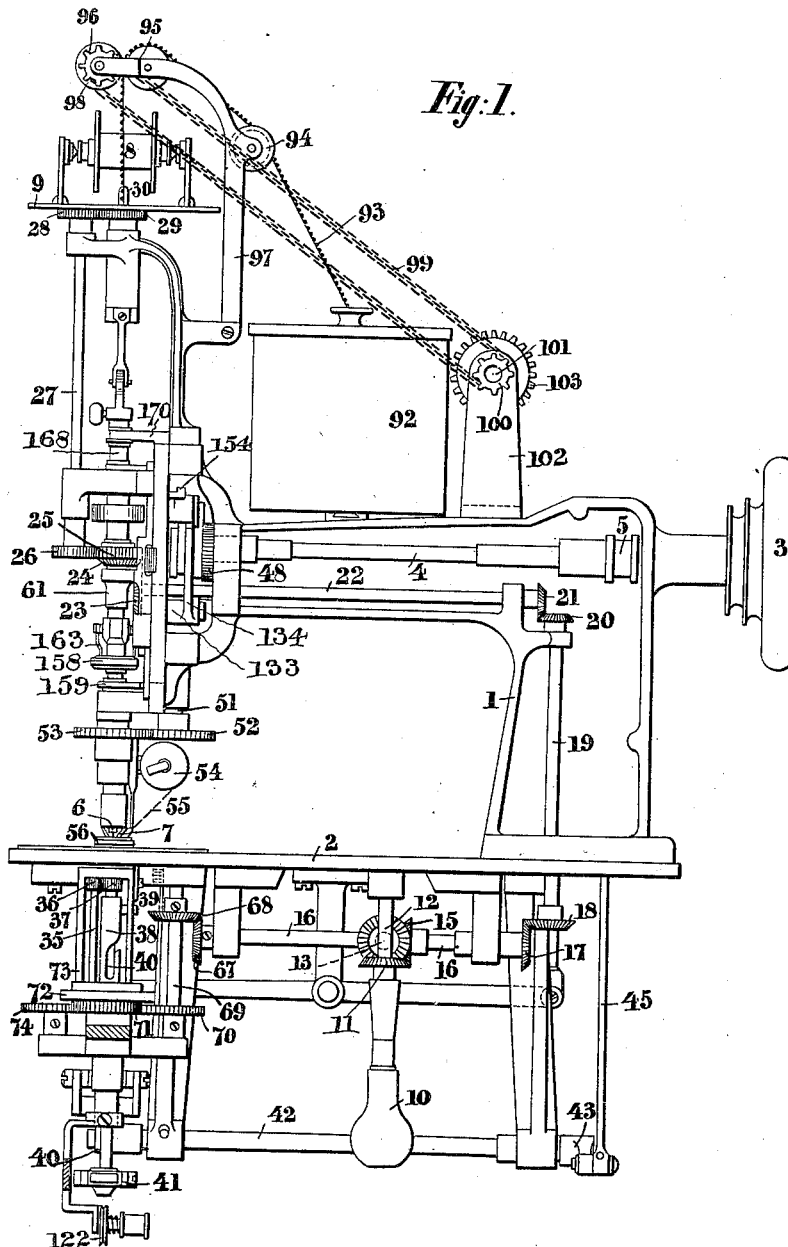
H. A. DOMENGET.

FEEDING MECHANISM FOR SEWING MACHINES.

(Application filed Apr. 10, 1897.)

(No Model.)

8 Sheets—Sheet 1.



Witnesses
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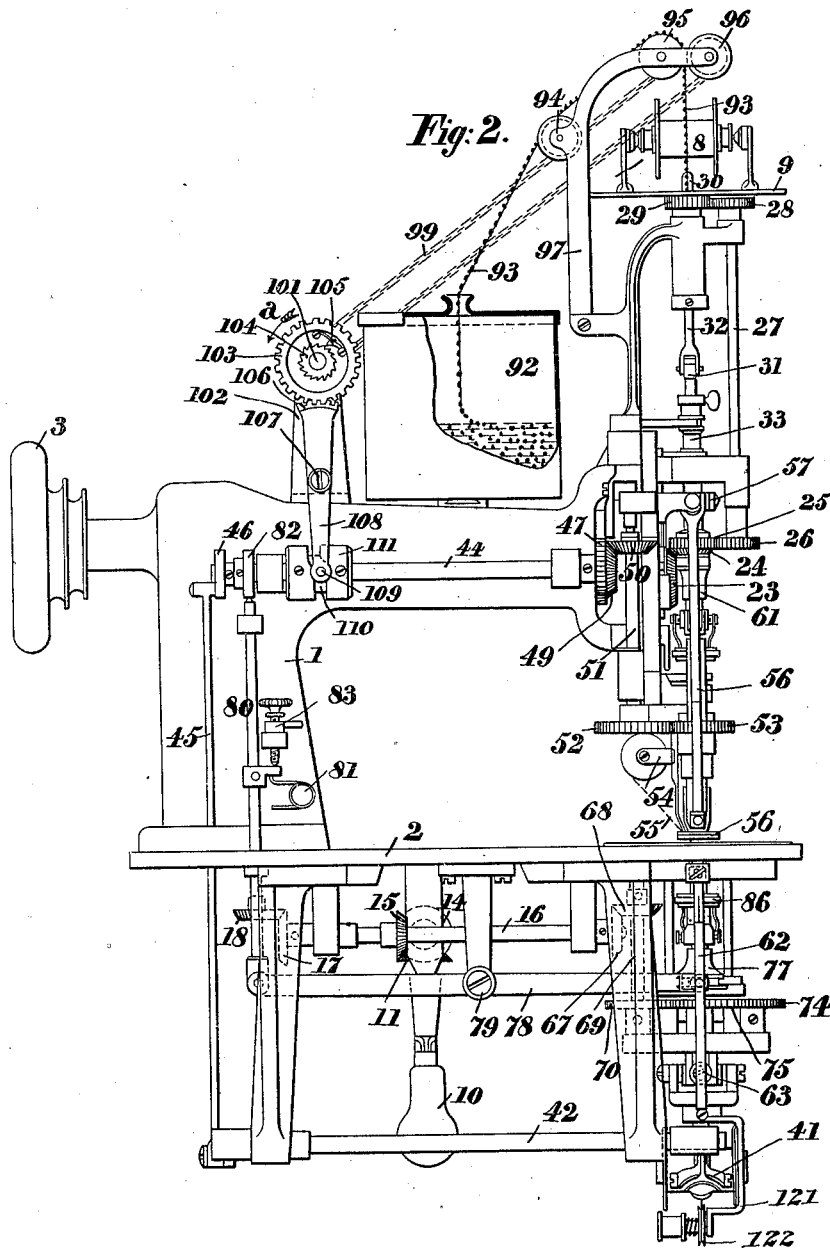
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Witnesses
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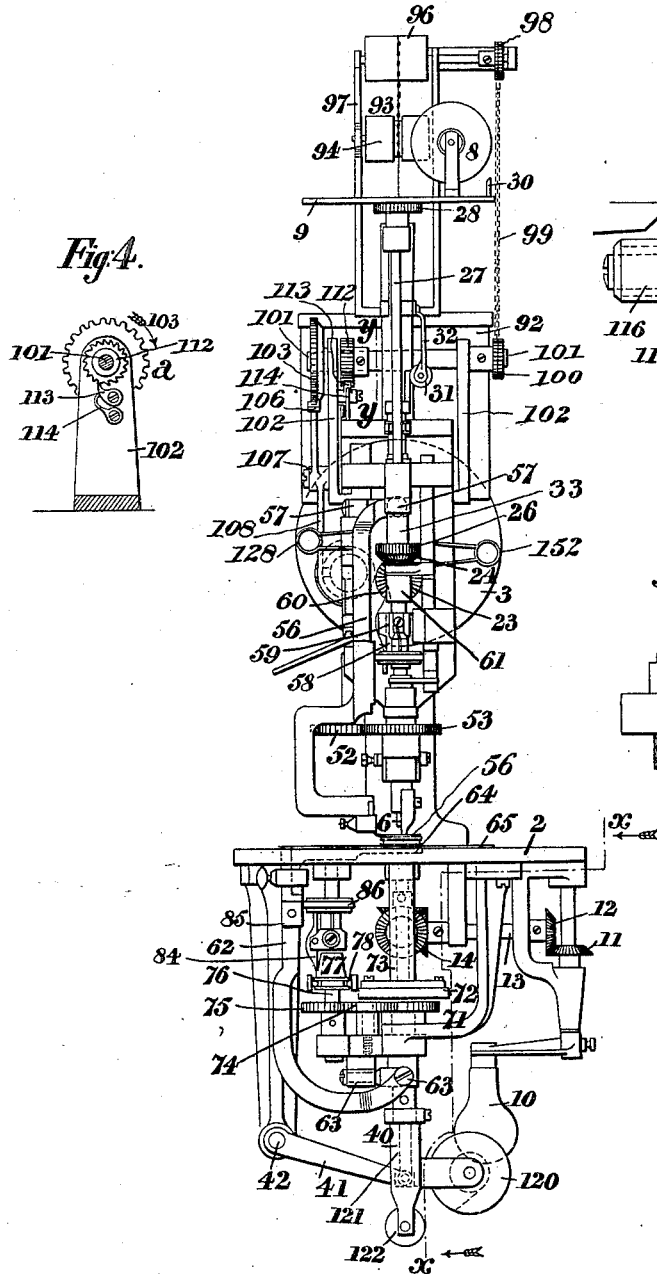
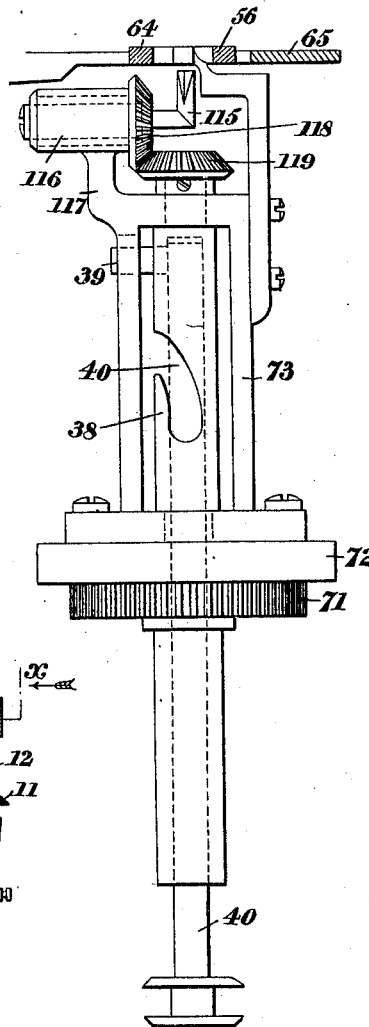
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8 Sheets—Sheet 3.

Fig. 3.*Fig. 8.*

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No. 649,279.

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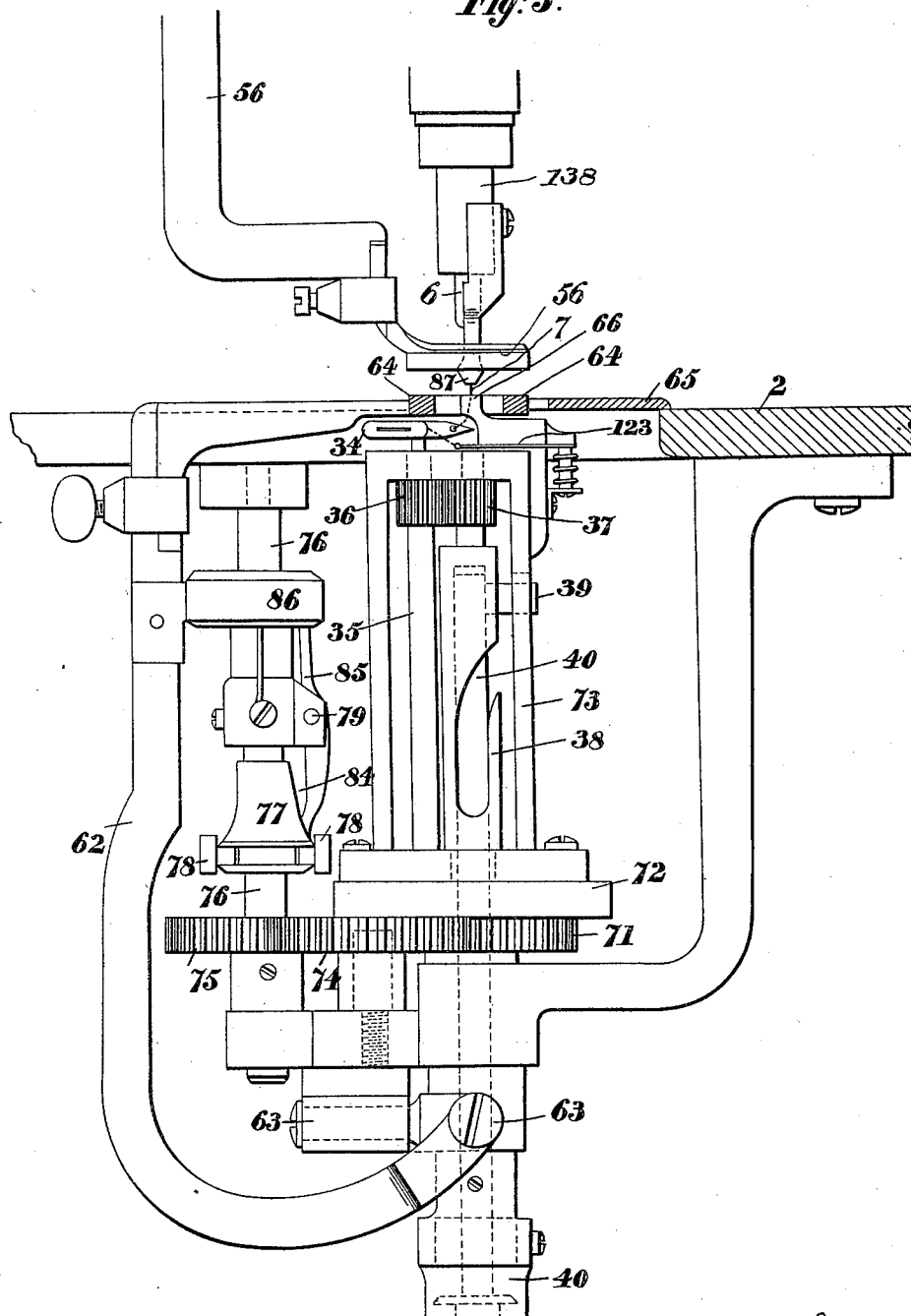
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8 Sheets—Sheet 4.

Fig. 5.



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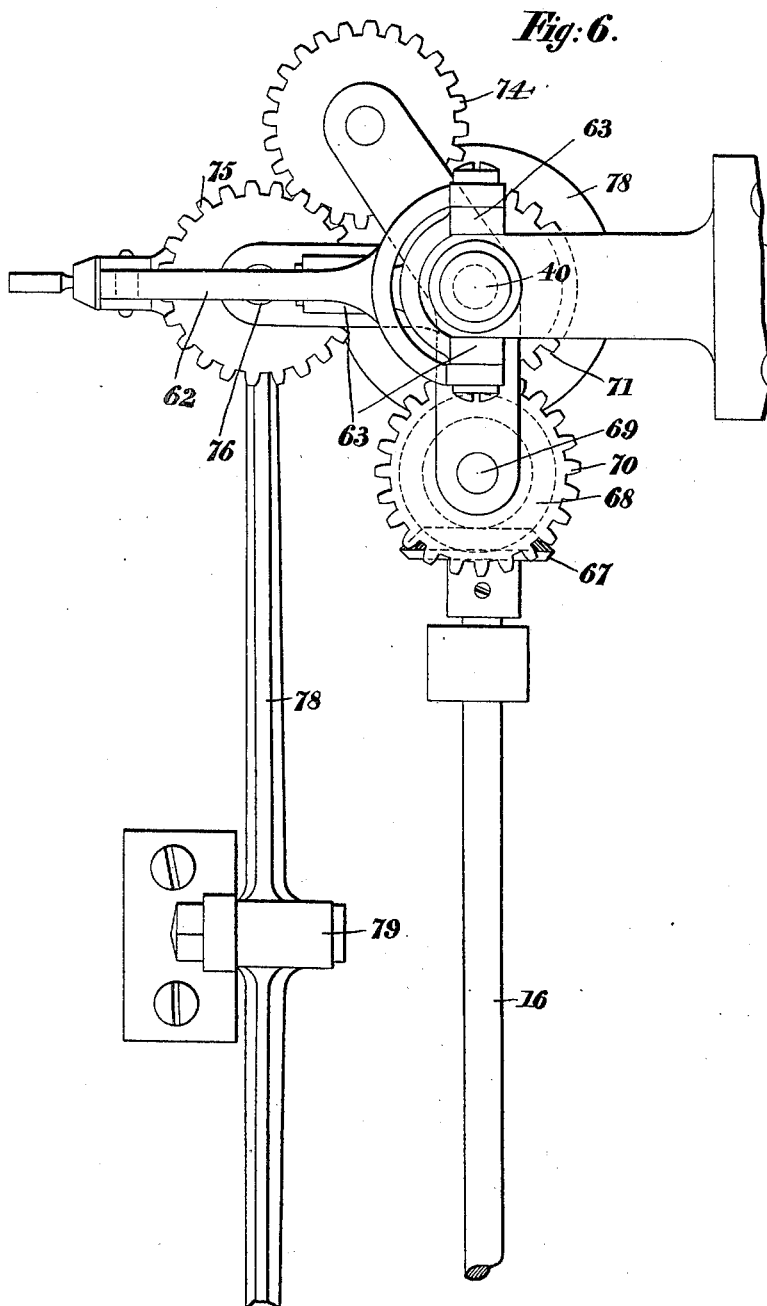
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(Application filed Apr. 10, 1897.)

(No Model.)

8 Sheets—Sheet 5.



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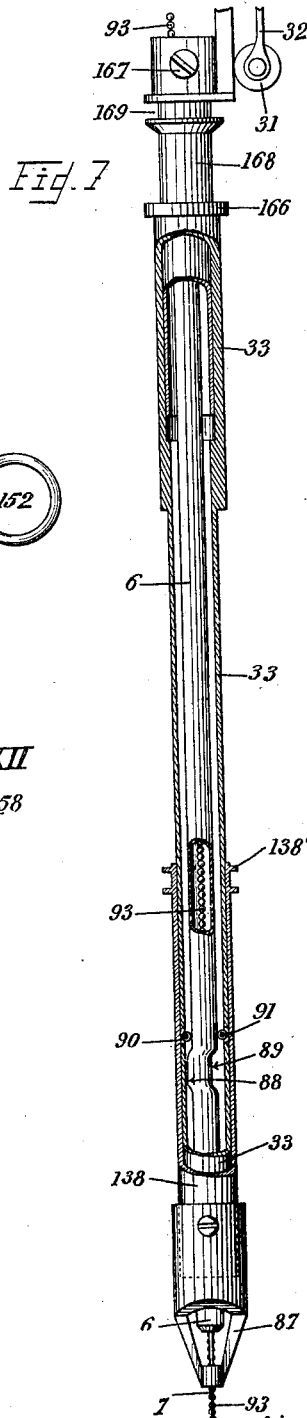
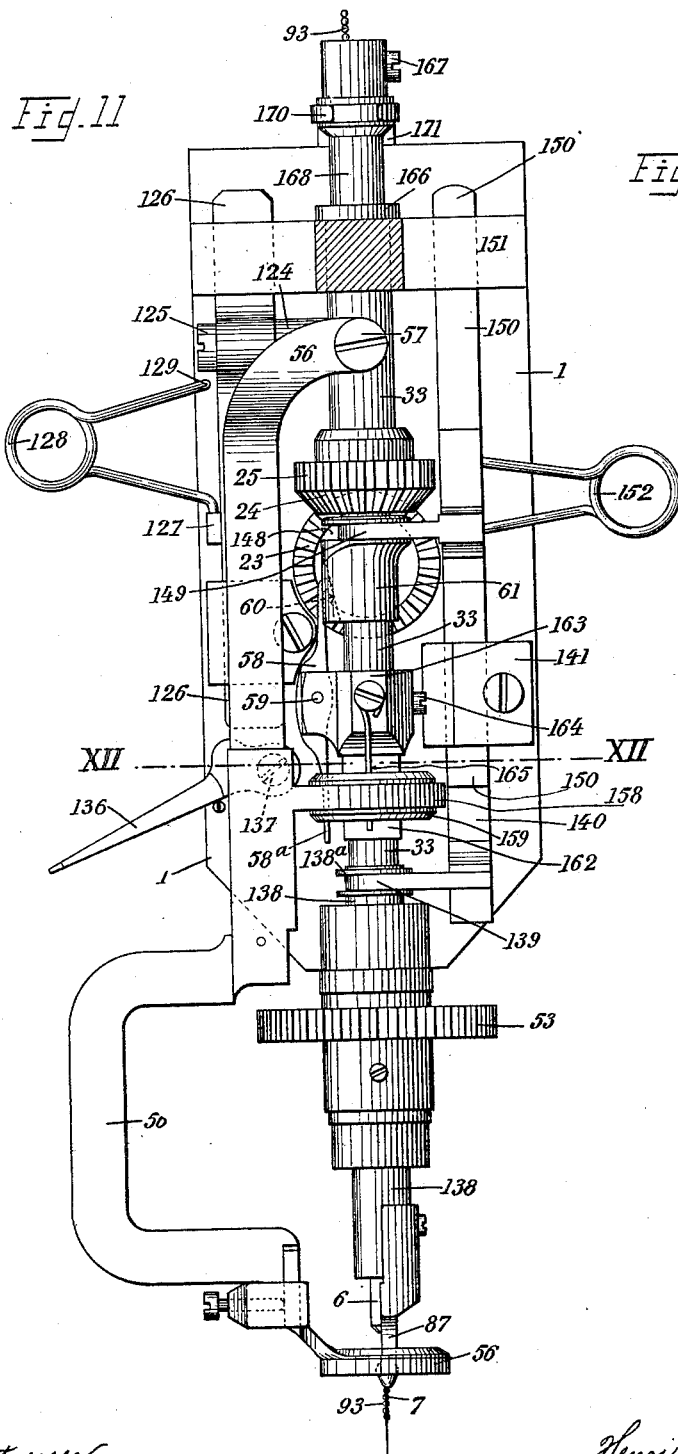
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(Application filed Apr. 10, 1897.)

(No Model.)

8 Sheets—Sheet 6.



Witnesses:
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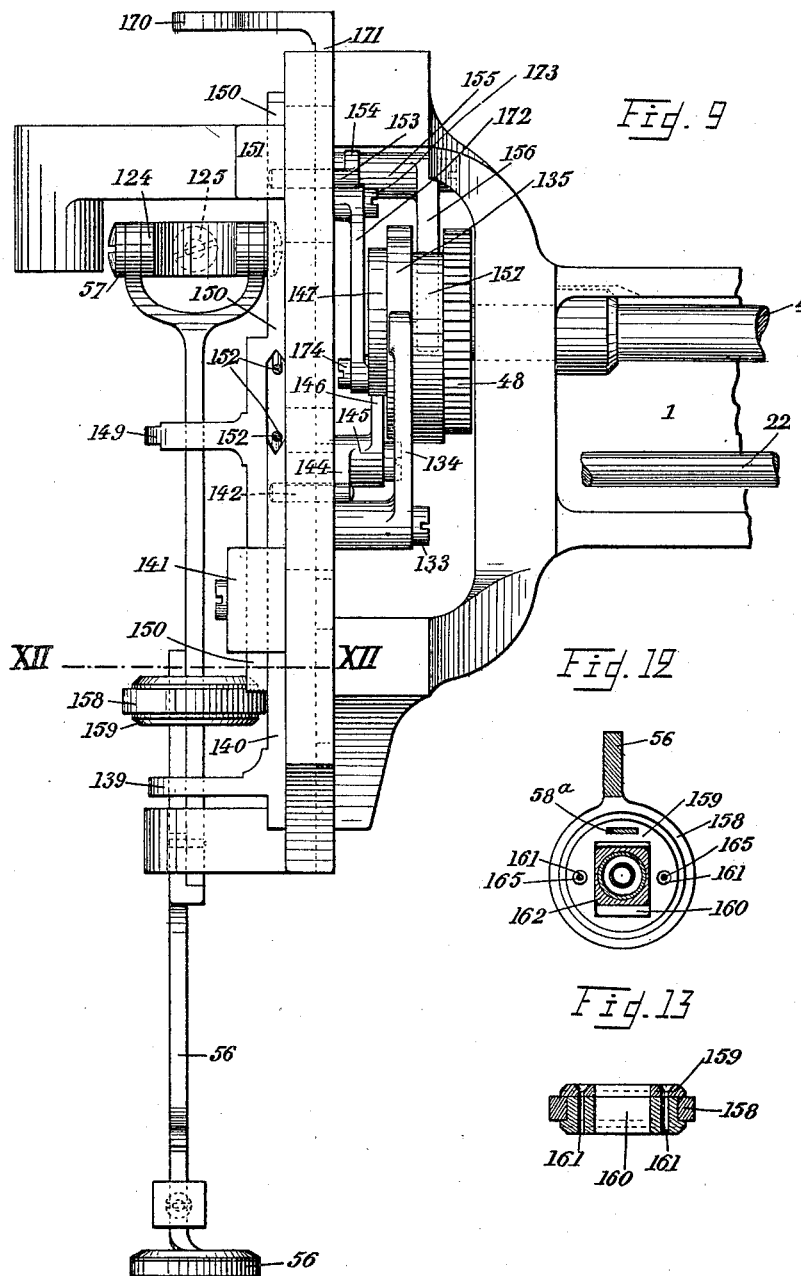
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FEEDING MECHANISM FOR SEWING MACHINES.

(Application filed Apr. 10, 1897.)

(No Model.)

8 Sheets—Sheet 7.



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No. 649,279.

Patented May 8, 1900.

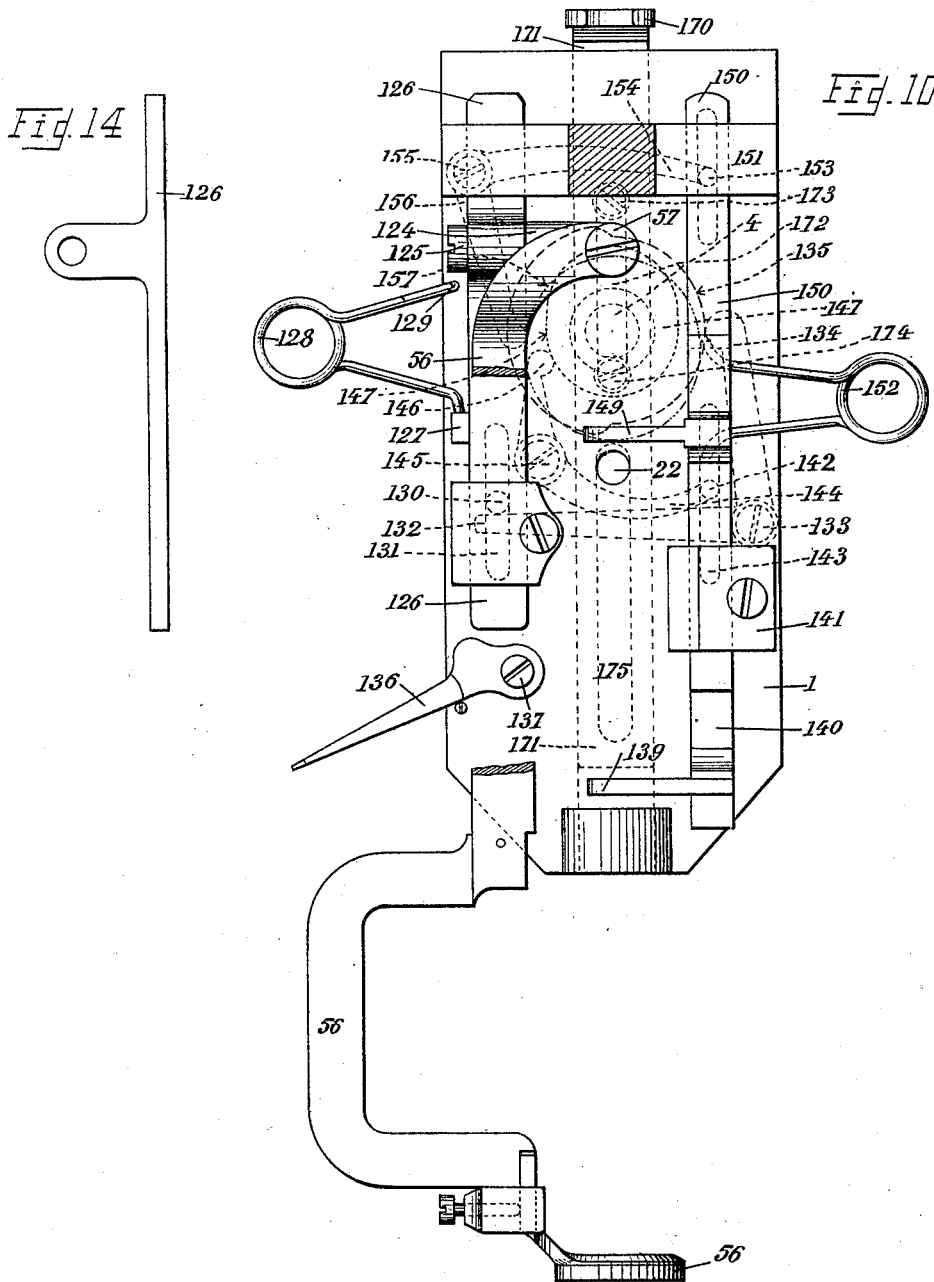
H. A. DOMENGET.

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(Application filed Apr. 10, 1897.)

(No Model.)

8 Sheets—Sheet 8.



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UNITED STATES PATENT OFFICE.

HENRI ANDRÉ DOMENGET, OF ARGENTEUIL, FRANCE.

FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 649,279, dated May 8, 1900.

Application filed April 10, 1897. Serial No. 631,550. (No model.)

To all whom it may concern:

Be it known that I, HENRI ANDRÉ DOMENGET, a citizen of the Republic of France, residing at Argenteuil, France, have invented a certain new and useful improvement in fabric-feeding devices for bead-sewing machines and like machines generally having a universal feed motion; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention (for which Letters Patent have been applied for in Germany under date of May 3, 1897, and have been obtained in France, No. 264,567, dated March 2, 1897; in Great Britain, No. 10,281, dated April 24, 1897, and in Belgium, No. 128,718, dated May 23, 1897) relates to machines for embroidering and for sewing on beads; and it has for its object to construct a machine of this kind having a universal feeding device capable of sewing beads firmly in regular order on a fabric or any article of clothing either with a two-thread chain-stitch or with a one-thread chain-stitch or with a shuttle-stitch, although I actually prefer the two-thread chain-stitch for the sake of the elasticity combined with the strength afforded thereby.

The machine, although more particularly designed for sewing on loose beads, is quite suitable for sewing on beads which have been previously fixed on a core or thread in the braiding-loom, so as to form a kind of chain or string of beads. By "loose" beads I mean beads which are simply placed on a thread and are not individually attached as a preliminary to the thread carrying them, as has been generally the case heretofore. Whether the work is done with a two-thread chain-stitch or with a one-thread chain-stitch or with a shuttle-stitch, the work with a slight modification is done by using a sewing-machine needle having an eye and not a hooked needle, which is usually employed in existing machines, such as in the Cornély machine and other machines for making embroidery-stitch, and which in working in the fabrics or tulle net, &c., become caught therein and tear and make holes in it. With a needle having an eye this serious drawback does not exist. In order to make a two-thread chain-stitch, the sewing device consists of a circular needle known as "Grover & Baker's," which

is enabled (independently of its own alternating circular movement) by means of a mechanism provided for that purpose, as in all embroidering-machines having a universal feed, to have imparted to it by hand a movement in all directions in order to follow the feed of the fabric according to the design to be reproduced.

One of the main difficulties heretofore met with in attaching beads by means of sewing-machines having a universal motion has been to obtain a uniform feed of the fabric to which the beads are to be attached. Of all the arrangements invented for that purpose heretofore none have given really satisfactory results, either because the feeding mechanism has been required to exert a greater effort than it has been able to exert or because, as with the usual feed-dogs, the bead has been broken or crushed when during the feed it has become located between the feed-dog and the needle-plate or, finally, because in portions which have been thickly studded with beads—as, for instance, in making spiral ornaments, so-called "macaroons," &c.—slipping has taken place, whereby the feed has been rendered faulty and irregularities have occurred in the placing of the beads. In a machine according to this invention this difficulty is surmounted by using a feeding device which has a universal movement and which, instead of acting as the ordinary feed-dog, by pulling the fabric so as to cause it to slide along the plate, seizes the fabric, grips it, and feeds it along in a positive manner in all directions, thus obviating all danger of slipping and always presenting for the sewing and attachment of the beads, braiding, cords, &c., an even fabric without any possible crumpling, a result that cannot be effected by means of the usual rubber-covered feed-dog, which in dropping upon the irregular moving surface (which from its nature and its shape constitutes a "moving" attachment) that is presented to it by the material which has already been attached produces a faulty feed.

For attaching the bead-thread and the bead to the fabric the machine comprises a rotary bobbin carrying an attaching-thread which is twisted at each stitch around the needle-thread and the bead-thread immediately be-

hind the bead that is to be sewed on by that stitch—that is to say, in a manner analogous to that which obtains in Cornély and other embroidering-machines.

5 In order that the improvement may be clearly understood, I will proceed to give a detailed description thereof, referring to the accompanying drawings.

Figure 1, Sheet 1, is a front elevation of
10 the machine, partly in section, on the line *xx* of Fig. 3. In this figure the plate that closes the front of the framing is not shown, it being assumed to have been removed. Also certain parts which do not relate in any
15 way to the invention and the construction of which is well known have been intentionally omitted. Fig. 2, Sheet 2, is a rear elevation of the machine, in which the receiver that contains the beads is shown broken away in
20 order to show the inside thereof. Fig. 3, Sheet 3, is an end view of the machine, also showing the device for feeding the fabric and the device for supplying the beads. Fig. 4, Sheet 3, shows a detail section on the line
25 *yy* of Fig. 3, as seen toward the left in that figure. Fig. 5, Sheet 4, is an end view, drawn to a much larger scale and corresponding to Fig. 3, of a detail of the device for feeding the fabric, showing also the manner in which
30 motion is transmitted to the looper working under the needle-plate. Fig. 6, Sheet 5, is an under side view, drawn to the same scale and corresponding to Fig. 5. Fig. 7, Sheet 8, shows also, to a larger scale and in vertical
35 section, a detail of the central tube in which the needle-carrier works. Fig. 8, Sheet 3, is a partial end view, drawn to the same scale as Fig. 5, of a modification of the sewing mechanism for making a one-thread chain-
40 stitch. Fig. 9, Sheet 6, is a full-size detail of a portion of Fig. 1, showing partly the mechanism for imparting vertical to-and-fro movement to the upper feed-dog and partly the mechanism for imparting vertical to-and-fro
45 motion to the guide for the bead-thread and also partly the mechanism for imparting vertical to-and-fro motion to the needle-carrier. Fig. 10, Sheet 7, is a side view of Fig. 9 and corresponds to Fig. 3, a portion of the front
50 parts being removed in order to show the cams and coacting parts in dotted lines. Fig. 11, Sheet 8, is a similar view to Fig. 10, containing the parts omitted from the said figure. Fig. 12, Sheet 6, is a plan in section on
55 the line XII XII of Figs. 9 and 11. Fig. 13, Sheet 6, is a cross-section of a part of Fig. 12; and Fig. 14, Sheet 7, is a side view of the slide 126 contained in Figs. 10 and 11.

1 is the framing of the machine, and 2 is
60 the table thereof.

3 is the driving-pulley, mounted on the main shaft 4, to which motion is transmitted from the usual fly-wheel, which is not shown and which is operated by means of a treadle or of
65 a motor. Upon the shaft 4 is arranged the usual clutch, whose position is indicated by 5, Fig. 1, and which enables the machine to

be stopped and restarted at will by means of a treadle or any other known device.

6 is the needle-carrier, which carries the
70 needle 7 and to which an alternating vertical movement is imparted from the shaft 4 by a well-known mechanism hereinafter described. The needle-thread is unwound from a bobbin 8, mounted on the upper part of the
75 front end of the machine on a plate 9, to which rotary motion is transmitted from a crank-handle 10 (actuated by the hand of the operator) through the medium of bevel-pinions 11 and 12, a shaft 13, bevel-pinions 14
80 and 15, a shaft 16, bevel-pinions 17 and 18, a shaft 19, bevel-pinions 20 and 21, a shaft 22, bevel-pinions 23 and 24, spur-wheels 25 and 26, a shaft 27, and toothed wheels 28 and 29 in the ordinary way. On leaving the bob-
85 bin 8 the needle-thread after having passed through an eye or thread-guide 30 passes through the plate 9 and under a tension-roller 31, mounted on the lower end of an arm 32, which acts as a spring, after which the thread
90 enters a central tube 33 and passes down longitudinally through the tubular needle-carrier 6 to the needle 7 in the ordinary way.

The Grover & Baker looper 34, Fig. 5, is mounted on the end of a vertical shaft 35,
95 on which is keyed a pinion 36, gearing into a similar pinion 37, mounted on the upper end of a helix 38, to which there is imparted an alternating circular movement for the purpose of forming a two-thread chain-stitch by
100 means of a roller 39, mounted on a rod 40, having an alternating vertical movement imparted to it by means of an arm 41, keyed to one of the ends of a shaft 42, on the other end of which there is keyed an arm 43, which re-
105 ceives its motion through a connecting-rod 45 and a crank-disk 46 from a shaft 44. The shaft 44 receives the motion of the main shaft 4 through the medium of similar toothed wheels 47 and 48, which gear into each other
110 and are mounted, respectively, on the said shafts. In this manner the shaft 44 is caused to make one revolution for every revolution of the shaft 4—that is to say, one revolution for every stitch made by the machine.
115

Upon the shaft 44 is mounted a bevel-pin-
120 ion 49, which, as shown in Fig. 2, may form one piece with the toothed wheel 47, and which gears into a bevel-pinion 50, mounted on the upper end of a vertical shaft 51, that
125 through the medium of toothed wheels 52 and 53 transmits the rotary motion to the bobbin 54, carrying the attaching-thread 55 in such a manner as to cause the said bobbin to make one revolution around the central tube, so as
130 to twist the attaching-thread 55 around the needle-thread and the bead-thread, as above stated, at each stitch made by the machine. The under thread is unwound from a bobbin 120, mounted in a bobbin-carrier 121 and after having passed over tension devices 122, Figs. 1, 2, and 3, and 123, Fig. 5, it reaches the looper 34, as will be readily understood. All these parts and mechanisms (including

the mechanisms hereinafter described for imparting vertical to-and-fro motion to the upper feed-dog, and vertical to-and-fro motion to the guide for the bead-thread, and vertical to-and-fro motion to the needle-carrier) are and may be of any suitable construction, and it is useless to expatiate more fully on their construction and their mode of operation, which are known.

I shall now proceed to describe the improvements in novel devices applied to the machine.

The device for feeding the fabric consists, essentially, in two feed-dogs, one arranged above the table and the other under the table in position to synchronously coöperate with the former, combined with a mechanism for imparting universal motion to the said feed-dogs.

56 is the upper feed-dog, mounted in the ordinary manner by means of a universal joint at 57 and receiving in addition to its vertical to-and-fro movement (which is imparted to it by a well-known mechanism to be hereinafter described) a well-known universal feed motion, which is imparted to it in the ordinary manner by a lever 58, Figs. 3 and 11, which is pivoted at 59, and one arm of which works on an inclined plane 60, formed on a sleeve 61, as hereinafter more particularly set forth. The said sleeve 61 has imparted to it by the known means hereinafter described a vertical to-and-fro motion on the central tube 33, upon which the double pinion 24 25 is mounted, and which consequently revolves at the same time as the other parts actuated by the hand of the operator by means of the above-described connections between the handle 10 and the double pinion 24 25, which will effect the feed in all directions, as will be readily understood.

The lower feed-dog 62 is mounted at 63 by means of a universal joint in the same manner as the upper feed-dog 56 is pivoted at 57; but it has not, like the latter, a vertical to-and-fro movement. It has a bearing-surface 64, Fig. 3, flush with the cover-plate 65 or projecting slightly above the same. It is between the claw of the feed-dog 56 and the claw 64 (which is annular and has the needle-plate 66, Fig. 5, working at its center) that the fabric is gripped on the descent of the upper feed-dog, and is consequently drawn or (to speak more correctly) carried along in a positive and reliable manner without any possible slipping by the combined universal feed motions, which are effected in strict conjunction at the same time by the two feed-dogs when once the descent of the upper feed-dog has been produced.

The universal feed motion in all directions is transmitted to the lower feed-dog 62, as will be now stated.

Upon the shaft 16 there is mounted a bevel pinion 67, gearing into another pinion 68, mounted on a vertical shaft 69, which is carried in a suitable manner, and carries a spur-

wheel 70. This wheel 70 gears into a wheel 71 of the same diameter, mounted centrally under a plate 72, which carries a casing 73, in which are mounted the helix 38 and the looper 34. The universal movement imparted by the hand is thus imparted to this plate and to the parts carried by it as well as to the needle-plate 66, which is mounted on the casing 73, Fig. 5. Into the wheel 71 there gears another wheel 74 of the same diameter as the former, which gears also into a similar wheel 75, mounted on a vertical shaft 76, suitably supported under the table 2 of the machine. Upon this shaft there slides a sleeve 77, which is similar to the sleeve 61 and has imparted to it a vertical to-and-fro movement from a lever 78, which is pivoted at 79 and the opposite end of which is jointed to the lower end of a sliding vertical rod 80, which a spring 81, Fig. 2, has a constant tendency to raise and whose upper end works against the periphery of a cam 82, mounted on the shaft 44. An adjustable stop 83 enables the raising movement, and consequently the travel of the said rod and of the lever actuated thereby, to be regulated. It will be readily understood that at each revolution of the shaft 44, which makes one revolution for each stitch made by the machine, the sleeve 77 makes a vertical to-and-fro movement. Upon an inclined plane 84, Fig. 5, of this sleeve there works one end of one of the arms of a lever 85, which is similar to the lever 58 and which, through the medium of an eccentric-strap 86 and of an eccentric working therein, operates the lower feed-dog 62 in the well-known manner. From this it will be seen that as the shaft 76 receives the universal movement imparted by hand at the same time as the central tube 33 through the medium of the described connections the feeding movements of the two feed-dogs in all directions are strictly synchronous and agree absolutely as regards extent and direction, the result being that when once the upper feed-dog is moved down upon the work the latter is gripped firmly between the two dogs, and is thereby fed or carried along without slipping by the combined movement of the feeding devices thus constituted.

The machine also comprises a device for so controlling the needle 7 that in descending to enter the fabric and make a stitch to sew a bead thereto it shall immediately before penetrating the fabric act upon the beaded thread and push the same out of the vertical plane of the needle-plate, and thus allow the needle to execute its downward stroke unhindered by any bead which might be in a vertical plane with the hole of the needle-plate and be a cause of breakage of the needle. The said device, which forms the subject-matter of a subdivision of the present application, on which Letters Patent have been granted to me July 18, 1899, No. 629,005, is, briefly speaking, constructed as follows: On the needle-carrier 6, Fig. 7, are formed two

cam-like surfaces 88 and 89, against which act during the descent of the said carrier two bowls 90 91, mounted in the central tube 33, in the downward extension of which is provided the guide 87 for the bead-thread. This has the result of moving the needle-carrier 6 laterally.

Finally in order to insure the regular feeding of the beads the machine is provided with an automatic bead-feeding device which forms the subject-matter of a subdivision of the present application, on which Letters Patent have been granted to me August 1, 1899, No. 630,196. Such device, briefly speaking, comprises a receptacle 92, mounted in the framing 1 and containing the thread 93, upon which the beads are threaded. This thread, which is free in the receptacle 92, passes out at the upper part of the latter and after having passed over a small grooved pulley 94 passes between two rollers 95 96, mounted, as is the roller 94, in a small frame 97, fixed to the main frame 1 of the machine. (See Figs. 1, 2, and 3.) The roller 96 is rigidly mounted in the frame 97, while the roller 95 is mounted in the latter in any suitable or known manner, so as to exert an elastic pressure upon the roller 96, and thereby grip gently between them and carry along the beads and the thread on which they are placed. This thread then descends perpendicularly to the center of the plate 9 and passes in the central tube 33 and through the needle-carrier 6, Fig. 7, in order to reach the guide 87. Upon the axis of the roller 96 there is keyed a small chain-wheel 98, over which passes an endless chain 99, which passes also over a chain-wheel 100, keyed on one of the ends of a horizontal shaft 101, which is suitably carried in a frame 102, formed on the arm of the frame 1 of the machine. On the other end of the shaft 101 there is fixed a toothed wheel 103, in the recessed central part of which turns a ratchet-wheel 104, keyed on the shaft 101 and coöperating with a spring-pawl 105, pivoted at the bottom of the recess of the toothed wheel 103. The toothed wheel 103 gears into a toothed sector 106, formed on the end of a lever which is pivoted at 107 on the frame 102, and the tail 108 of which carries a small roller 109, which works in the groove 110 of a cam 111, keyed on the shaft 44, the arrangement being such that at each revolution of the shaft 44—that is to say, at each stitch made by the machine—the sector 106 makes an oscillatory movement about its axis 107 and by the intermediary of the pawl 105 and of the ratchet-wheel 104 causes the shaft 101 to rotate in the direction of the arrows *a*, Figs. 2 and 4, to an extent such that the motion transmitted by the said shaft through the chain-wheel 100 and the chain 99 to the chain-wheel 98 and the roller 96 pulls the bead-thread 93 to the length of the stitch made by the machine—that is to say, to the amount of feed of the two feed-dogs. A ratchet-wheel 112, which is keyed on the shaft 101 and with

which coöperates a detent 113, kept in gear with the ratchet by a spring 114, Fig. 4, prevents the shaft 101 from moving in the opposite direction to that indicated by the arrow *a*.

I will now proceed to describe the mechanism for imparting vertical to-and-fro movement to the upper feed-dog 56, with particular reference to Figs. 9, 10, 11, and 14. The feed-dog 56, as hereinbefore stated, is pivoted at 57 on a pivoted semicircular support 124, which is held by a screw 125 to a vertical to-and-fro-moving slide 126, Fig. 14, guided in bearings fitted to the frame 1 of the machine. The slide 126 has a projection 127, into which engages one end of a spring 128, whose other end is fixed into an aperture at 129 of the frame 1. It is also provided with a pin 130, projecting through a slot 131, (shown in dotted lines in Fig. 10,) formed in the frame 1, the said pin resting upon the end of one arm 132 of an elbow-lever pivoted at 133, whose other arm 134 is held in contact with a cam 135, fastened on the shaft 4. Up-and-down motion is thus imparted from the cam 135, through the arms 134 132 and pin 130, to slide 126, upon which the upper feed-dog 56 is supported, as upon a gimbal-frame. The spring 128 tends to constantly press the slide 126 and connected parts in a downward direction. In Fig. 10 the upper feed-dog 56 is shown broken away in the middle in order to illustrate the connection of the arm 132, pin 130, and slide 126. The upper feed-dog 56 may be raised by hand in the customary manner by means of the usual hand-lever 136, pivoted at 137.

I will now proceed to describe the mechanism for imparting vertical to-and-fro motion to the guide 87 for the bead-thread, with particular reference to Figs. 7, 9, 10, and 11. The guide 87, as hereinbefore stated, is fastened to the lower end of a lower tube 138, Figs. 7 and 11, external to and concentric with the central tube 33. On the tube 138 is formed a groove-collar 138^a, into which engages a fork 139, projecting from a vertical to-and-fro-moving slide 140, guided in a bearing 141, fitted to the frame 1 of the machine. The slide is provided near the top (see Fig. 9) with a pin 142, projecting through a slot 143, (shown in dotted lines in Fig. 10,) formed in the frame 1, the said pin resting upon the end of one arm 144 of an elbow-lever pivoted at 145, whose other arm 146 is held in contact with a cam 147, fastened on the shaft 4. It will thus be understood that through the agency of the cam 147, arms 146 144, pin 142, slide 140, and fork 139 the lower tube 138, together with the guide 87 for the bead-thread, will have imparted to them an up-and-down motion.

I will now describe the mechanism for imparting universal feed motion to the upper feed-dog 56 around its pivot 57. It has been hereinbefore stated that such motion is given by the lever 58, Fig. 11, pivoted at 59, and one arm of which—the upper one—works on the inclined plane 60, formed on the sleeve

61, having a vertical to-and-fro motion on the central tube 33. Now the sleeve 61 has a groove 148, into which engages a fork 149, projecting horizontally from a slide 150, which is guided at the bottom in the bearing 141 and at the top in a similar bearing 151, a spring 152 tending to push the two slides 140 and 150 apart. The slide 150 is provided with an aperture into which engages a pin 153 on the arm 154 of an elbow-lever pivoted at 155 and whose other arm 156 is in contact with a cam 157 on the shaft 4. It will thus be understood that through the agency of the cam 157, arms 156 154, pin 153, slide 150, and fork 149 an up-and-down motion is imparted to the sleeve 61, and consequently a corresponding motion to the lever 58. From the upper feed-dog 56 projects a horizontal ring 158, Figs. 9, 11, 12, and 13, into which is loosely fitted a bearing 159, composed of two parts (see Fig. 13) and having a rectangular opening 160 and two holes 161 161, as well as a further rectangular opening, into which is inserted the tail 58^a of the lever 58. In the rectangular opening 160 loosely fits the square extension 162 of a bearing fastened to the central tube 53 by a screw 164 and carrying the pivot 59 for the lever 58. To the bearing 163 are fastened two springs 165-165, the ends of which engage the holes 161 161, Figs. 11, 12, and 13, and act to constantly press the bearing 159 from right to left in Fig. 11, so as to cause the lever 58 to always be in engagement with the inclined plane 60 of the sleeve 61, loose on the central tube 33. Rotary motion is imparted from the universal-feed mechanism (operated from the handle 10) to the central tube 33, as hereinbefore explained, through the bevel-gear 24, Fig. 11, integral with the spur-wheel 25, which is fast upon the central tube, the latter being suspended by a collar 166, Figs. 7 and 11, resting upon the bearing 151. It will thus be understood that the universal feed operated by hand will actuate the central tube 33 and that in turn the latter through the agency of the bearing 163, and square extension 162, will cause the upper feed-dog 56 to move in a direction corresponding to the position of the square extension 162.

I will now describe the mechanism for imparting vertical to-and-fro motion to the needle-carrier. The needle-carrier 6 is pivoted at 167, Figs. 7, 9, and 11, at the top of a tubular bearing 168, capable of telescoping in the central tube 33 and provided with a grooved collar 169, into which engages a fork 170, formed at the top of a vertically-moving

slide 171, suitably guided in the frame 1. Reciprocating motion is imparted to the slide 171, and consequently to the needle-carrier 6, from a link 172, pivoted at 173 to the slide and at 174 to the cam 147, acting in this case as a crank-disk. The slide 171, which extends down sufficiently to have a proper bearing in the frame 1, is slotted at 175, Fig. 10, for the free passage of the shaft 22, carrying the bevel-wheel 23, Fig. 11.

I claim—

1. In a sewing-machine, the combination with the main driving-shaft, the stitch-forming appliances, mechanism operated from said shaft and operating said appliances, an upper feed-dog, mechanism operated from the driving-shaft and imparting to said dog vertical reciprocating and horizontal to-and-fro feed movements; of lower feed-dog and mechanism operated from the main driving-shaft and imparting to said lower dog feed movements in harmony with the like movements of the upper dog, said mechanism comprising a cam-shaft geared to the main driving-shaft, a spring-controlled slide-rod acted upon by a cam on said cam-shaft to move said rod against the stress of its spring, a rock-lever connected with the slide-rod, and appliances operated by said lever imparting to the lower feed-dog, the aforementioned feed movements, for the purpose set forth.

2. In a sewing-machine the combination of cooperating upper and lower feed-dogs, the main driving-shaft, mechanism operated from said shaft and imparting to the upper feed-dog vertical reciprocating and horizontal to-and-fro movements, a revoluble shaft, and mechanism operated therefrom and imparting to both feed-dogs synchronous rotary feed movements; of mechanism operated from the main driving-shaft comprising a cam-shaft geared to said main driving-shaft, a spring-controlled slide-rod moved by a cam on said cam-shaft against the stress of its spring, a rock-lever connected with the slide-rod, and mechanism operated by said lever and imparting to the lower feed-dog horizontal to-and-fro movements in synchronism with the like movements of the upper feed-dog, for the purpose set forth.

In witness whereof I have hereunto set my hand, this 23d day of March, 1897, in presence of two subscribing witnesses.

HENRI ANDRÉ DOMENGET.

Witnesses:

R. H. BRANDON,

D. H. BRANDON.