No. 875,314. PATENTED DEC. 31, 1907.

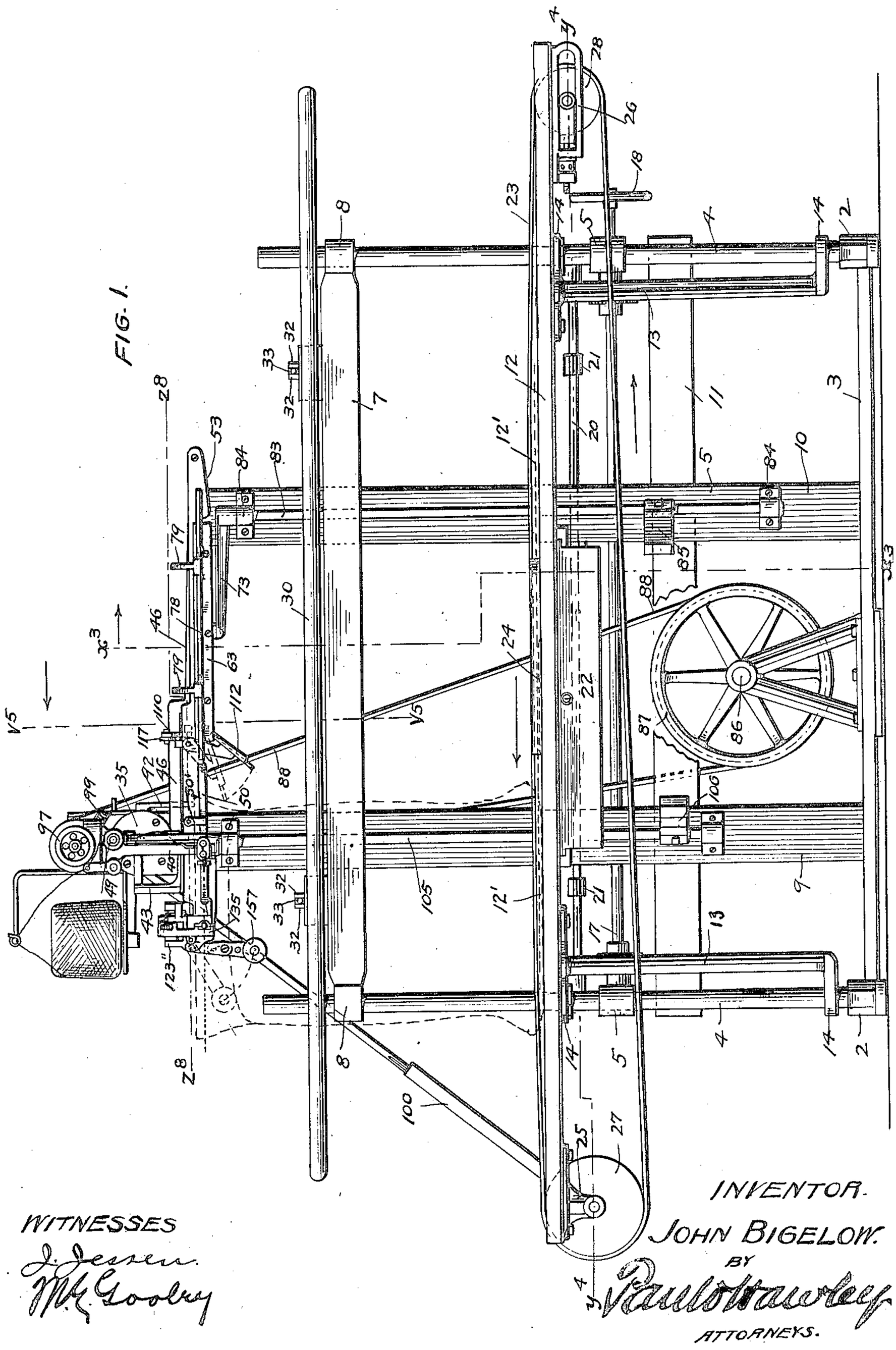
J. BIGELOW.

FILLED BAG SEWING MACHINE.

APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

J. Jessen.

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ATTORNEYS.

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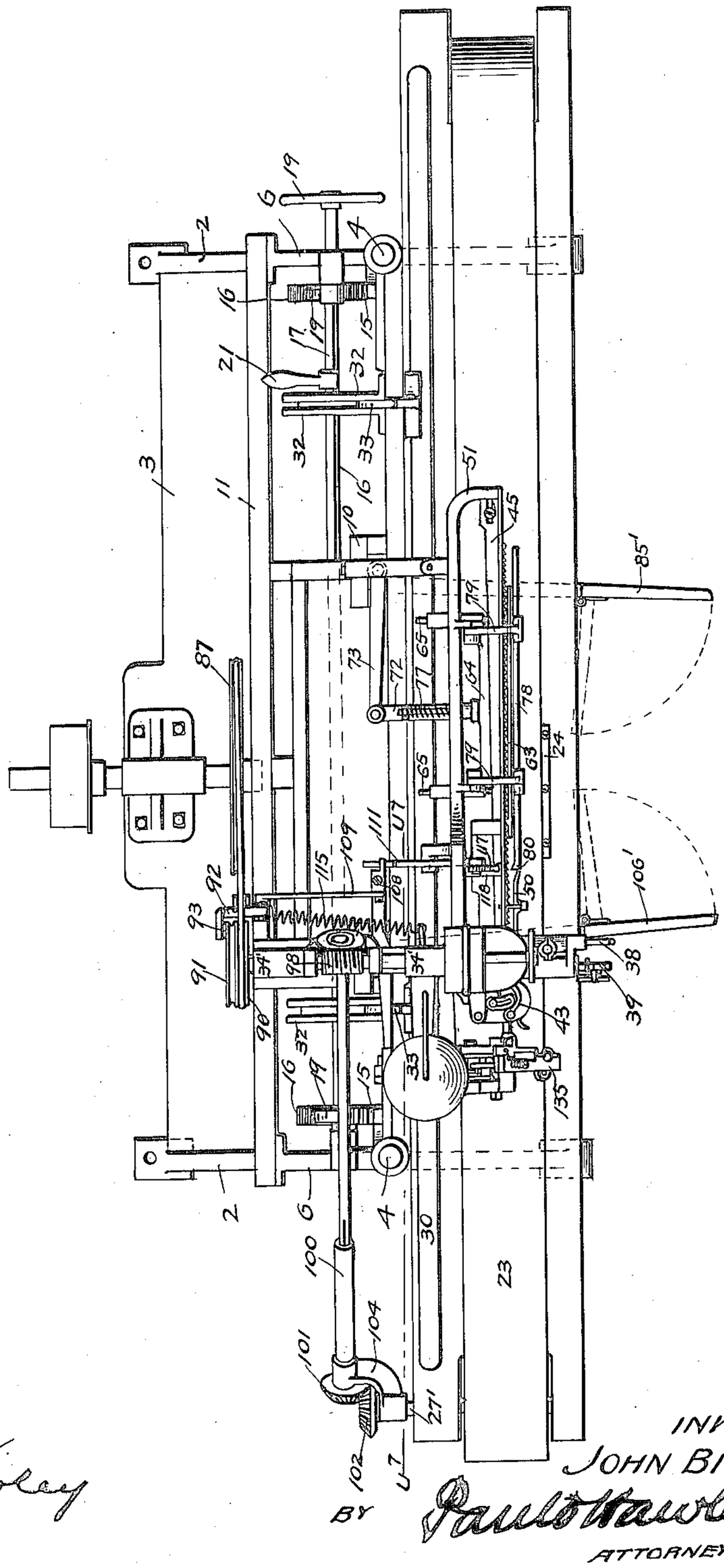
11 SHEETS—SHEET 2.

FIG. 2.



WITNESSES.

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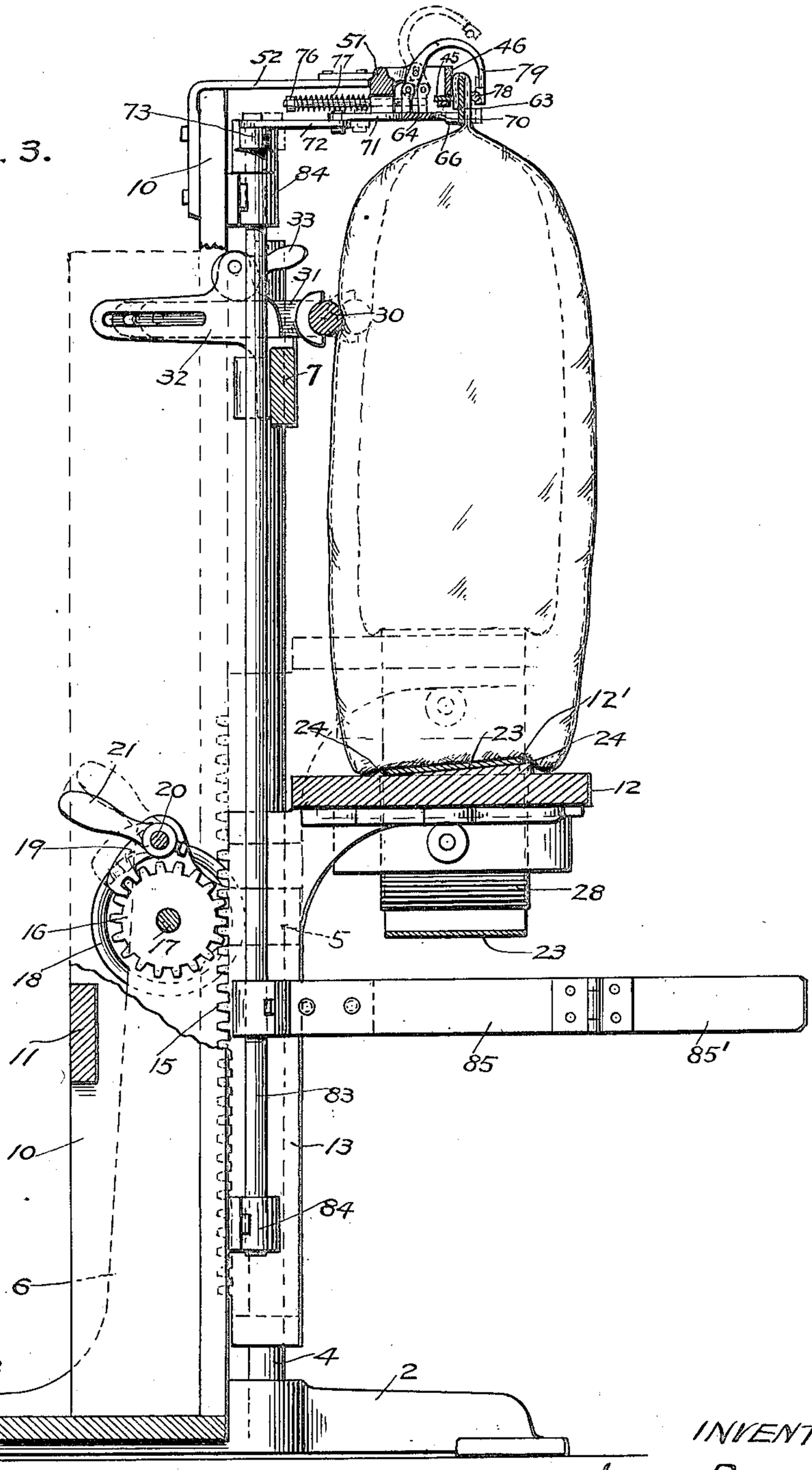
11 SHEETS—SHEET 3.

FIG. 3.



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11 SHEETS—SHEET 4.

FIG. 4.

WITNESSES

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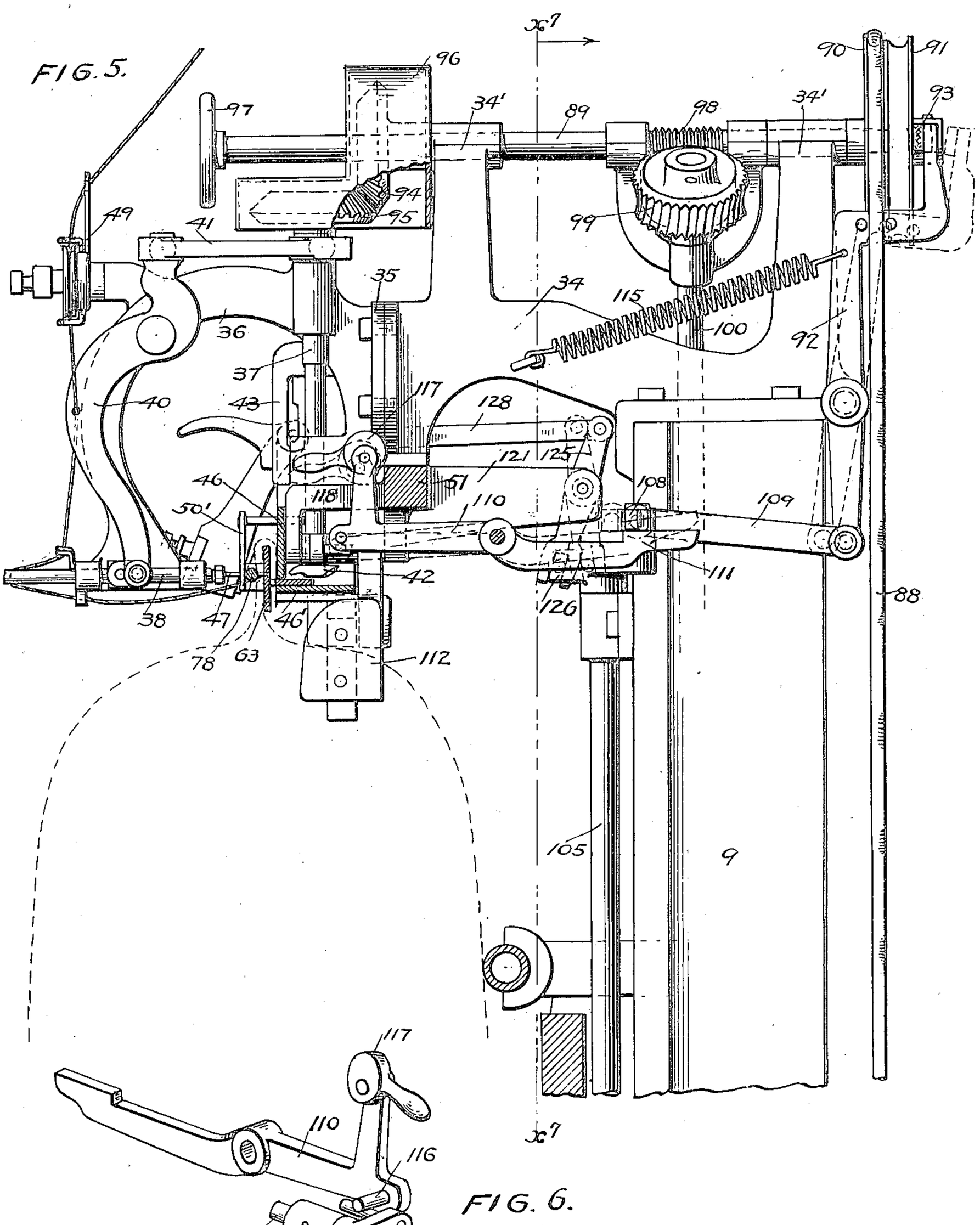
11 SHEETS—SHEET 5.

FIG. 5.



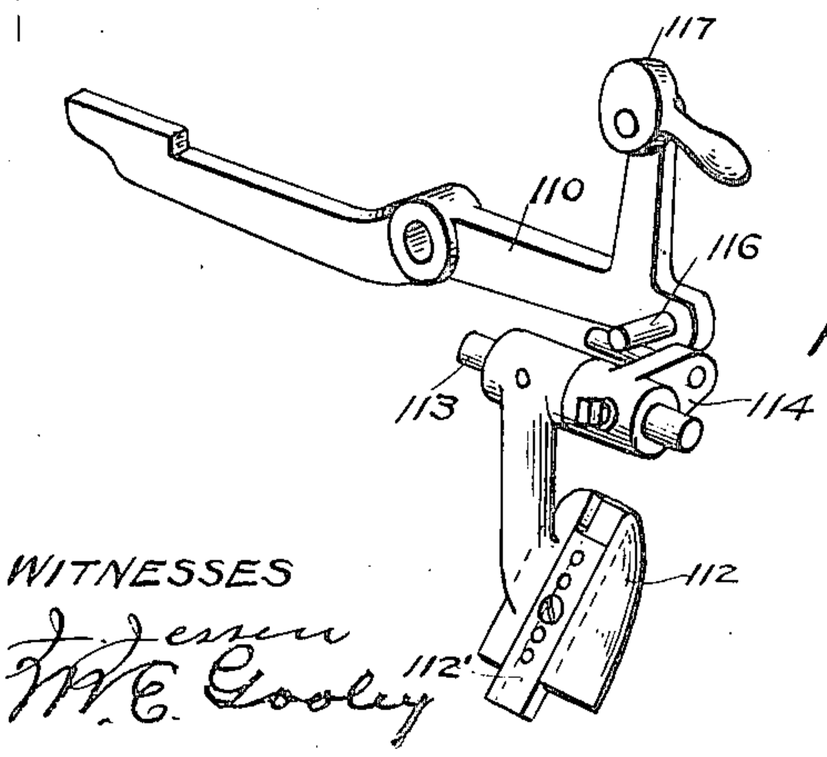


FIG. 6.

WITNESSES

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No. 875,314. PATENTED DEC. 31, 1907.

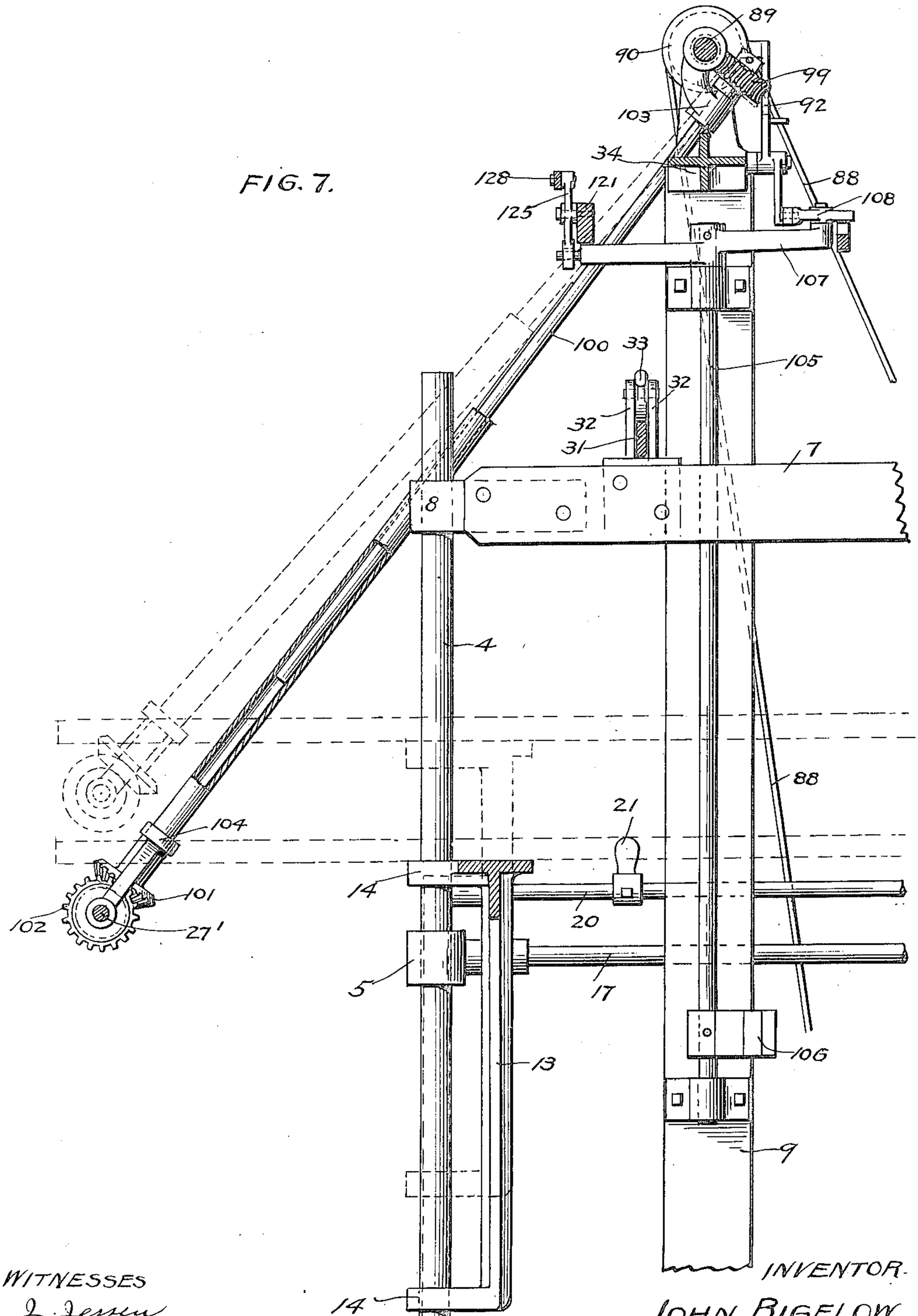
J. BIGELOW.

FILLED BAG SEWING MACHINE.

APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 6.

FIG. 7.



WITNESSES

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No. 875,314. PATENTED DEC. 31, 1907.

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APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 7.

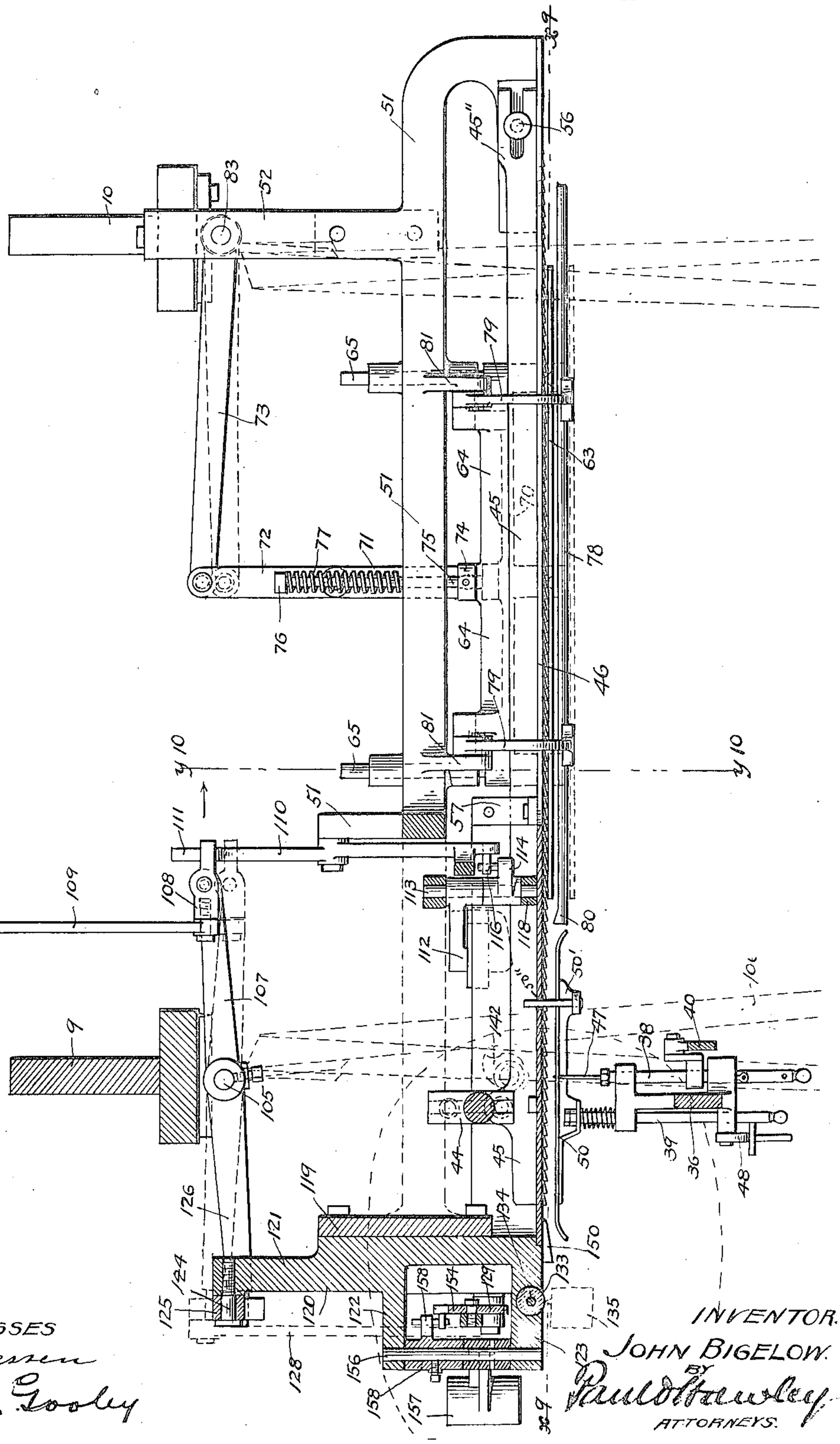

FIG. 8.

WITNESSES

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No. 875,314. PATENTED DEC. 31, 1907.

J. BIGELOW.

FILLED BAG SEWING MACHINE.

APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 8.

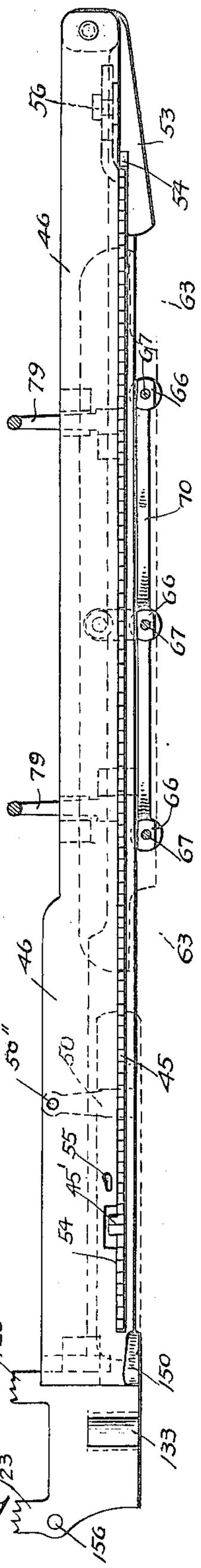

FIG. 9.

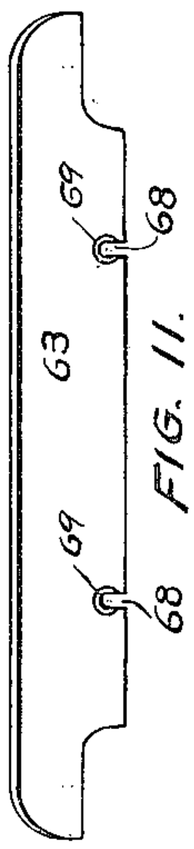

FIG. 11.

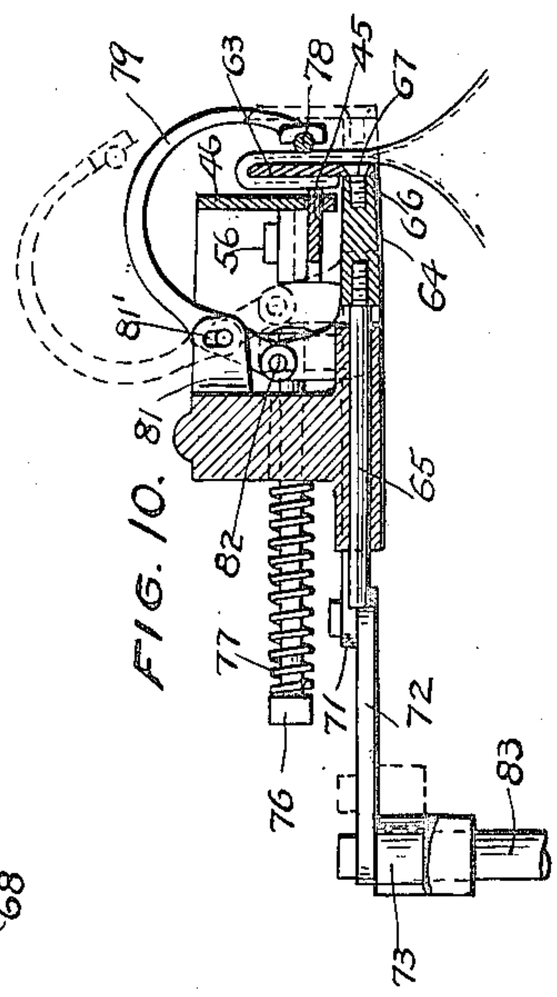

FIG. 10.

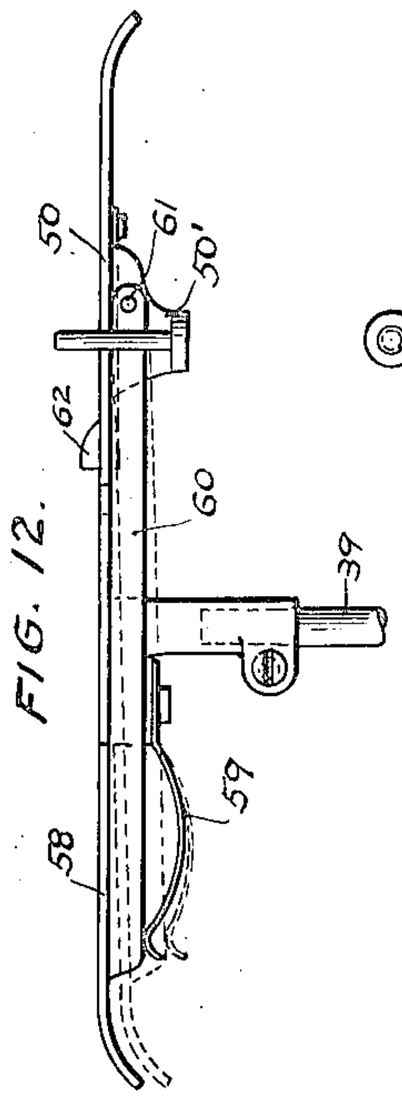

FIG. 12.

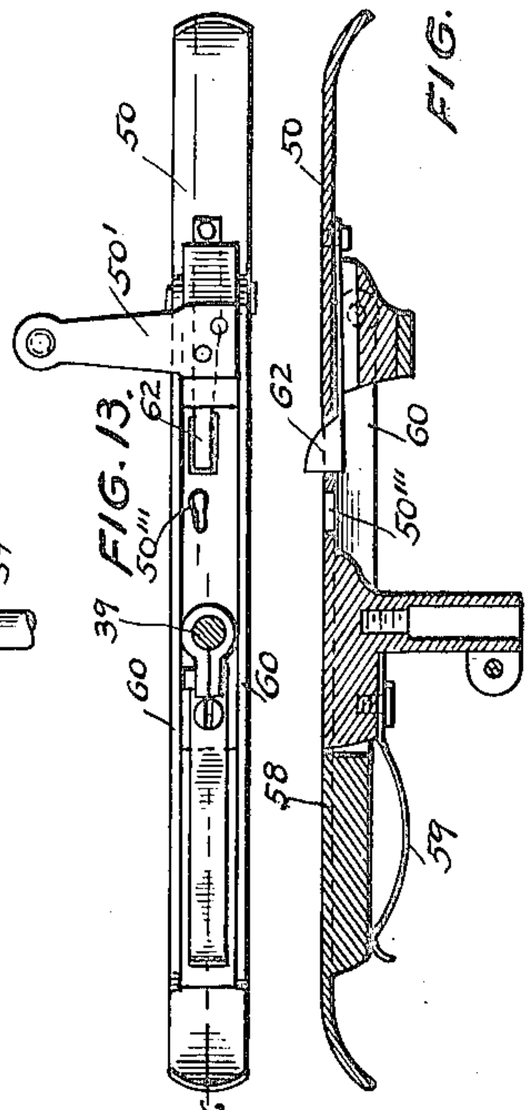

FIG. 13.

FIG. 14.

WITNESSES

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No. 875,314. PATENTED DEC. 31, 1907.

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FILLED BAG SEWING MACHINE.

APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 9.

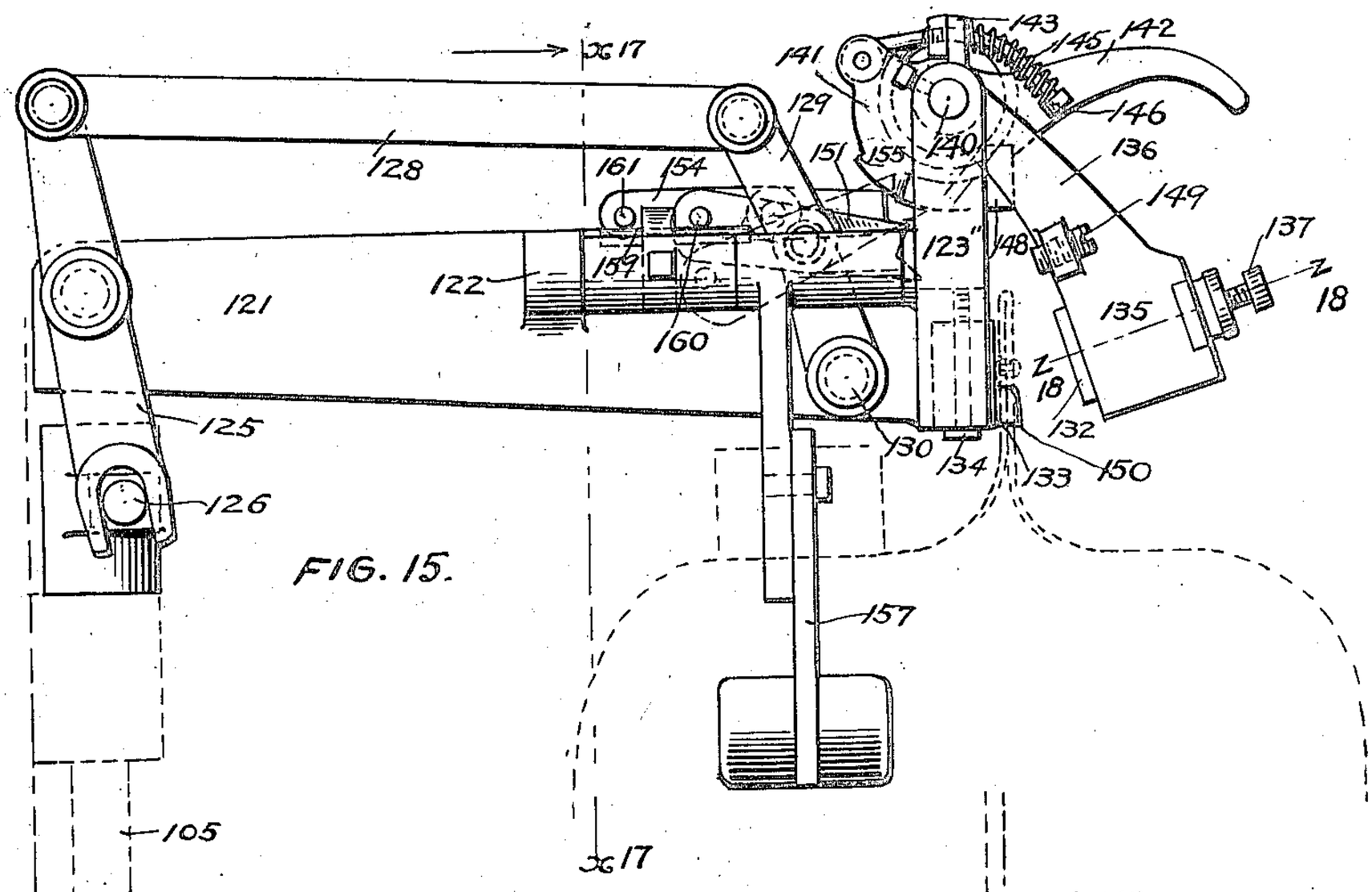

FIG. 15.

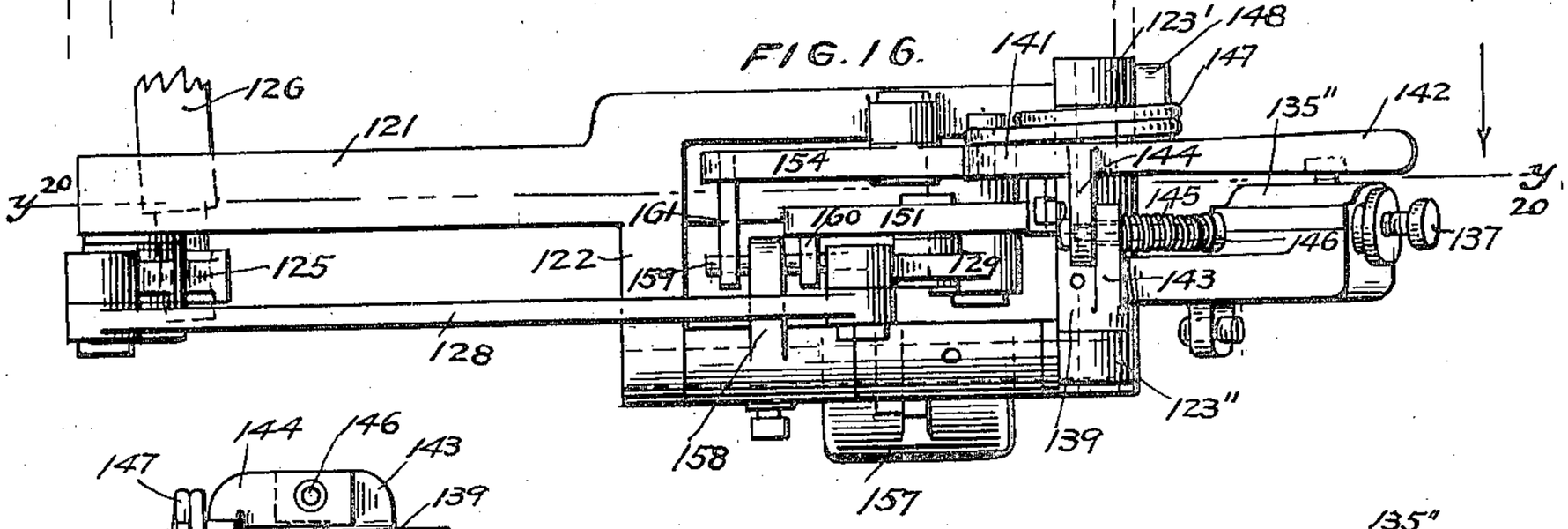

FIG. 16.

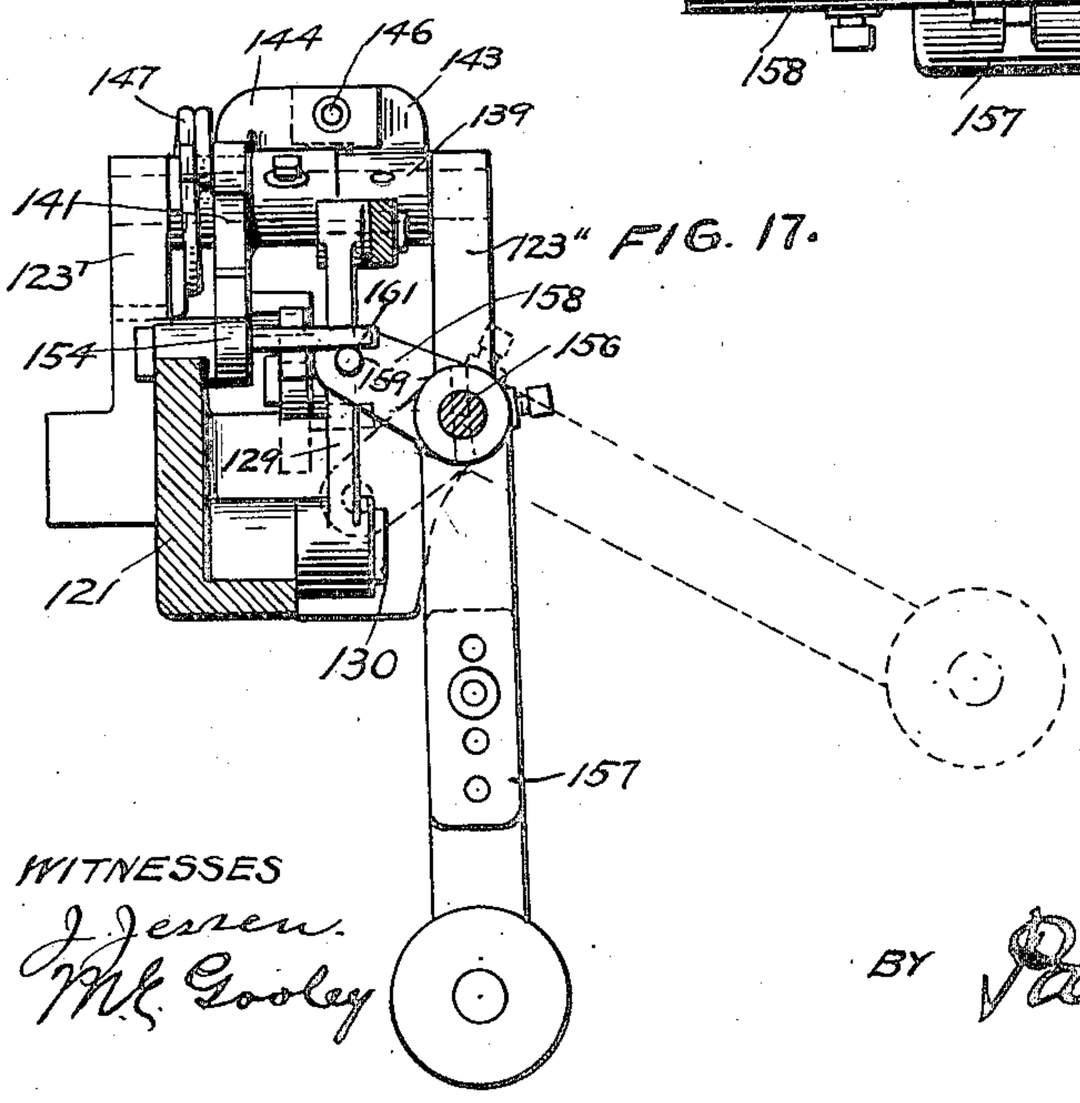

FIG. 17.

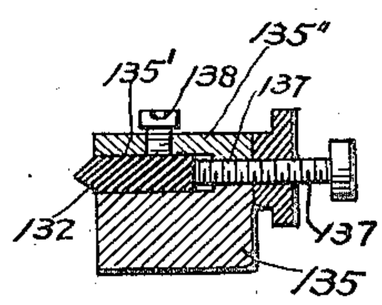

FIG. 18.

WITNESSES

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No. 875,314. PATENTED DEC. 31, 1907.

J. BIGELOW.

FILLED BAG SEWING MACHINE.

APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 10.

FIG. 19.

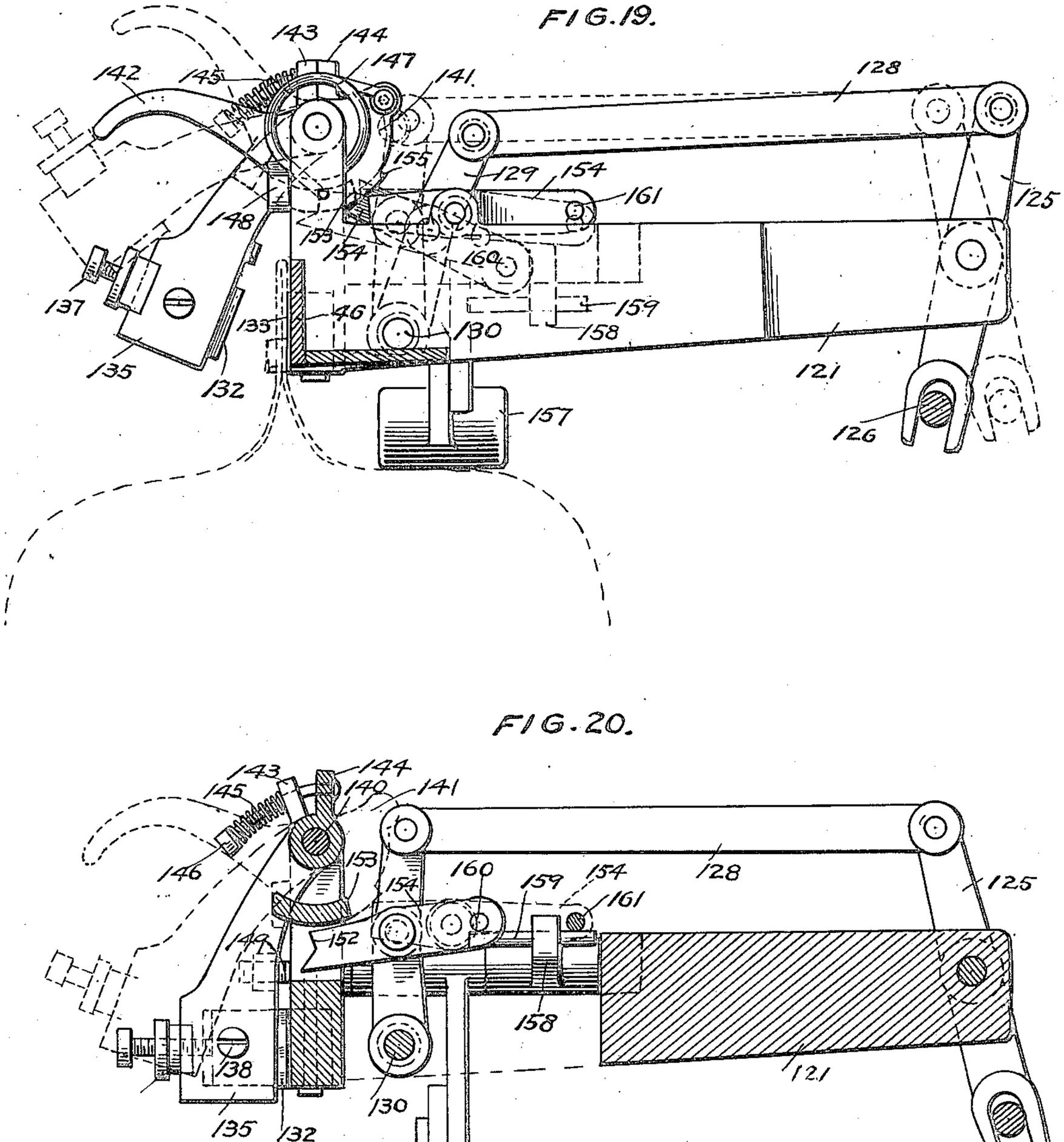

FIG. 20.

WITNESSES

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No. 875,314. PATENTED DEC. 31, 1907.

J. BIGELOW.

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APPLICATION FILED MAY 22, 1900.

11 SHEETS—SHEET 11.

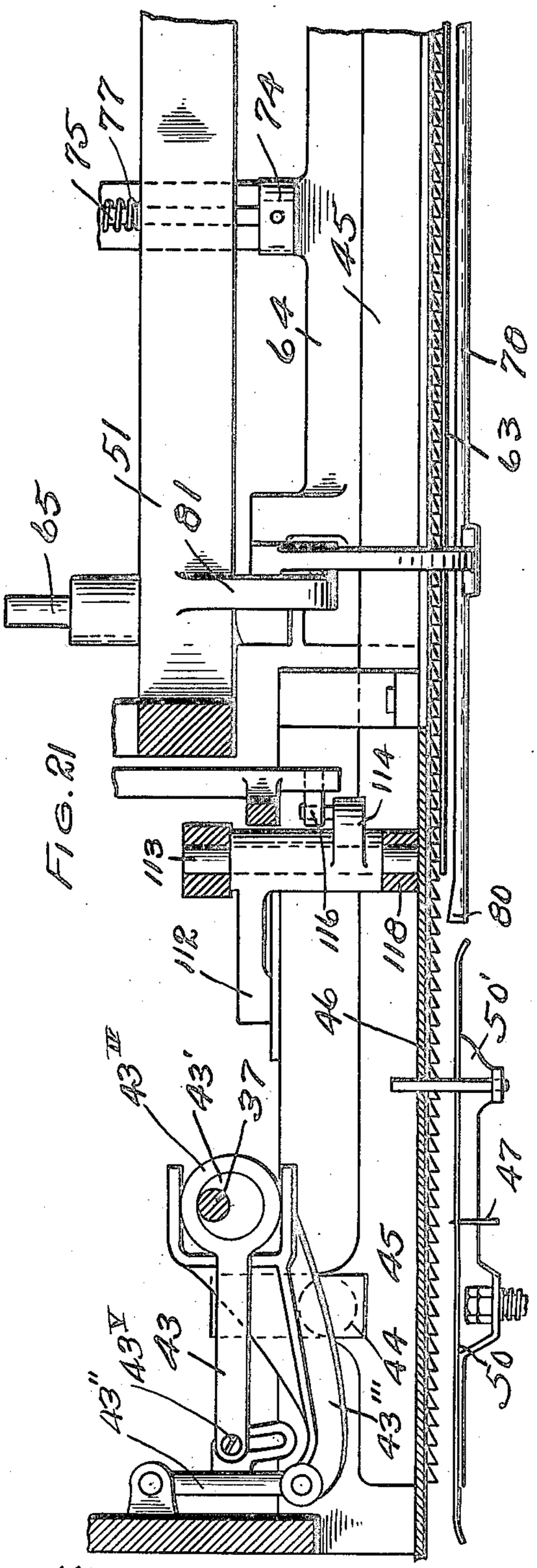

FIG. 21

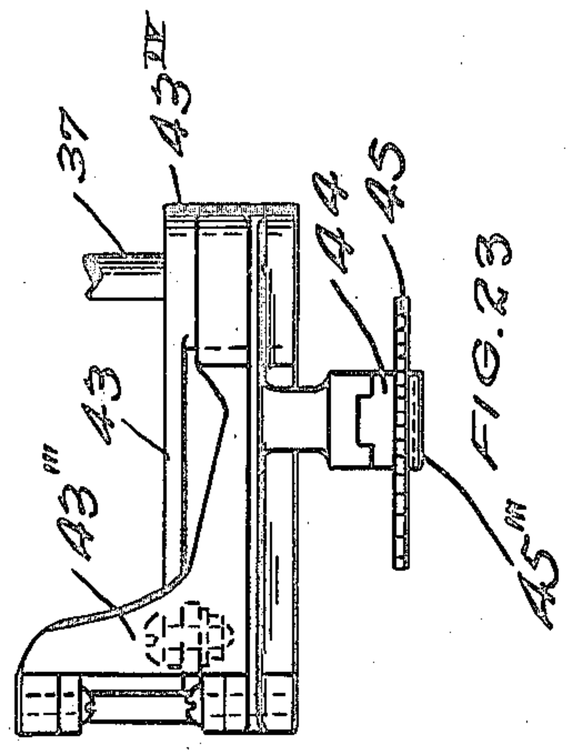

FIG. 23

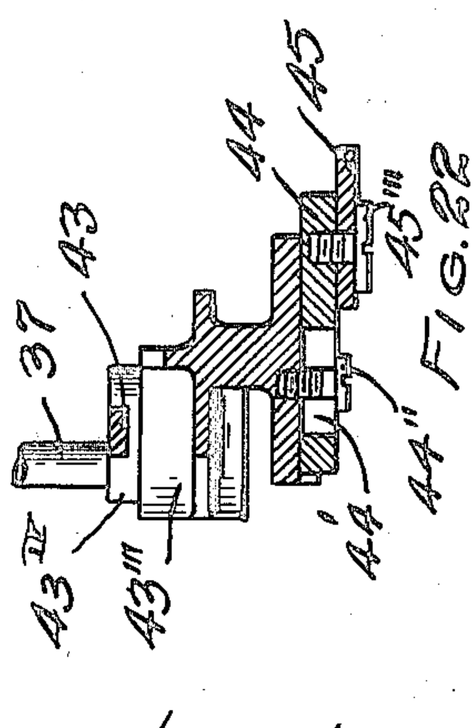

FIG. 22

Witnesses
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O. G. Hanson

Inventor
John Bigelow
By Paul & Paul
his attorneys

UNITED STATES PATENT OFFICE.

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FILLED-BAG SEWING-MACHINE.

No. 875,314. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed May 22, 1900. Serial No. 17,552.

To all whom it may concern:

Be it known that I, JOHN BIGELOW, of the city of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Filled-Bag Sewing-Machines, of which the following is a specification.

The invention relates to means for sewing filled bags; and the object of the invention is to provide means whereby bags of flour or other material may be quickly closed and sewed. A machine for this work must be capable of holding the filled bags, grasping the folded tops thereof, feeding the same to the sewing machine proper, sewing the bag top, and clipping the thread; so that the bag will be delivered from the machine ready for shipment. Such a machine should be constructed and adapted for very rapid operation, and in order to permit the same and the rapid manipulation of the parts by the operator and in accordance with the hand movements that are required, it becomes necessary to add many novel features to the sewing machine as it is commonly known. Portability is another feature which it is desirable to secure, as a single bag sewing machine if capable of being moved about a mill will take care of the product of a number of packers.

The difficulties that arise in this art are due to the weight of the bags to be handled; the lack of uniformity both in shape and size of the bags; the nature of the cloth or the paper from which the bags are made; the adjustments necessary in the sewing and feeding members; the necessity for stopping and starting the machine frequently, and the weight and cost of the mechanisms that must be assembled to perform the various functions of a bag-sewing machine. These difficulties I have avoided in the invention fully described and claimed hereinafter.

My invention will be more readily understood by reference to the accompanying drawings, forming part of this specification and in which,

Figure 1 is a front elevation of a filled-bag sewing machine embodying my invention. Fig. 2 is a plan view thereof. Fig. 3 is an enlarged sectional view substanially on the line x^3—x^3 of Fig. 1. Fig. 4 is a horizontal section on the line y^4—y^4 of Fig. 1. Fig. 5 is a vertical cross section on the line v^5—v^5 of Fig. 1. Fig. 6 is a perspective detail of the trip motion. Fig. 7 is an enlarged vertical and longitudinal section on the line u^7—u^7 of Fig. 2, or x^7—x^7 of Fig. 5. Fig. 8 is an enlarged horizontal section on the line z^8—z^8 of Fig. 1. Fig. 9 is a detail view of the work plate as seen from the line x^9—x^9 of Fig. 8. Fig. 10 is a cross-section on the line y^{10}—y^{10} of Fig. 8. Fig. 11 shows a smaller folder presser-foot. Figs. 12, 13 and 14 are respectively plan, side, and horizontal sections of a modified presser-foot for the sewing machine proper. Fig. 15 is an end view of the cutter or clipper. Fig. 16 is a plan view thereof. Fig. 17 is a section on the line x^{17}—x^{17} of Fig. 15. Fig. 18 is a section on the line z^{18}—z^{18} of Fig. 15. Fig. 19 is a view similar to Fig. 15 but showing the opposite side or end of the clipper. Fig. 20 is a vertical section on the line y^{20}—y^{20} of Fig. 16. Figs. 21, 22 and 23 are details of the means for operating the feed-bar.

My invention may be briefly described as comprising a frame carrying an adjustable automatic feeding table and a sewing head, which latter comprises a stitch-forming mechanism provided with a much longer work plate than usual, and which work plate carries or has associated with it an automatic bag starting and feeding mechanism wherein the operator may arrange the flap of the bag when the machine is stopped, and which mechanism will automatically feed the bag forward to the sewing mechanism when the machine is started.

Further the invention includes special adjusting devices, means for automatically controlling and stopping the machine, and also means for clipping or cutting the thread after a bag is sewed, which latter portion of the mechanism operates independently of the sewing machine save that for convenience it is made dependent upon the machine starting device or shifter.

Other details and combinations included in the invention will be taken up in conjunction with the specific description of its main features.

The frame.—The frame of the machine should be as light as possible, and to this end I preferably use few metal parts therein. 2—2 are the foot pieces. These are connected by a floor plank 3. 4—4 are guide posts that extend upwardly from the parts 2 through sleeves 5 upon the upwardly extending brackets 6 of the foot pieces 2. The

upper ends of the guide posts 4 are connected by the wooden strip 7 having metal clips 8 on its ends. 9 and 10 are wooden posts erected upon the floor plank 3 and secured by one or more horizontal strips 11 and the board 7. These parts constitute a very rigid and yet a very light frame which carries the adjustable feed table, the sewing head and the driving mechanism. The frame may be dragged from place to place in the mill or may be provided with casters.

The adjustable bag feeding table.—The table preferably comprises a long plank or plate 12, fastened upon the brackets 13, which have horizontal extensions or ends 14 adapted to slide up and down upon the guide-posts 4, being arranged upon opposite sides of the sleeve 5. The backs of the brackets 13 are provided with the racks 15, with which the pinions 16 mesh. These pinions 16 are fixed upon the shaft 17, having bearings in the tops of the brackets 6, and, provided with a hand wheel 18 at one end. By turning the hand-wheel the brackets 13 and hence the table 12 may be raised and lowered. For securing the table at the desired elevation I provide the pawls 19 to engage the pinions 16. These pawls, in order that they may be adjusted at the same time, are preferably placed upon a single shaft 20, held in the tops of the brackets 6, and which shaft may be rocked by the handle 21 thereon, which being thrown back will withdraw the pawls from the pinions.

22 is a drawer arranged beneath the middle part of the table 12 to contain the small parts and supplies for the machine. The bags move from end to end of the table and to feed or drag the bags along the top of the table I provide the endless belt 23 thereon. This may be a narrow cloth belt or a simple sprocket chain. It lies flat upon the top of the table and at the middle is preferably guided by low strips 24 on the table top, the same having their corners rounded so as not to interfere with the bag dragging over them. The table is provided with hangers 25 and 26 for the pulleys 27 and 28 of the belt. The pulley 27 is driven from the head of the machine. The hanger for the pulley 28 is preferably adjustable, as shown.

The side-bar.—It is not necessary to hold the bag upright on the table, for the reason that the table is broad and smooth and the bags will stand thereon; but in order to keep the center or middle line of the top of the bag in line with the work plate of the sewing machine, I prefer to provide a side guide-bar 30 near the top of the frame and against which the bags are pressed when they are stood upon the table. (See Fig. 3). This bar is held in the forward ends of the arms 31 which slide in guides 32 provided therefor on the top of the strip or board 7. The bar may be easily pulled out and adjusted at the right parallel with the table, and locked by means of the cams 33, one of which is provided in each of the slides 32. To press the bag tops against the bar 30 I introduce a wedge-block 12′ under the belt on the table top, thereby tilting the bags against said bar and beneath the sewing head.

The sewing machine head.—The sewing machine head overhangs the feed table 12 and is arranged upon an overhanging bracket 34, secured upon the upper end of the standard 9 of the machine frame. The sewing head has its base 35 bolted to the face of the bracket 34, and comprises the usual arm 36, provided with bearings, for the operating shaft 37 and also for the needle and presser-foot bars 38 and 39 at right angles thereto, and, the operating lever 40 with its connecting rod 41. I prefer to employ an ordinary Willcox & Gibbs bag sewing head in my machine, and have so shown the same, but by a very slight detail modification in the frame any other style of sewing head may be used.

The operating shaft 37 carries an eccentric 43′ to operate the adjustable eccentric rod 43 of the feed operating mechanism. This mechanism is represented in detail in Figs. 5, 8, 21, 22 and 23. A frame 43‴ supports an adjustable block 44, said block being preferably secured to the frame by means of a screw 44″ which passes through a slot 44′ in said block (see Fig. 22). The feed-bar 45 is pivotally secured to the block 44 by a screw 45‴. The block 44 and with it the feed-bar may be adjusted on the frame 43‴. The frame 43‴ is provided with a forked end which straddles the eccentric strap 43^{iv} of the eccentric rod 43. This rod is mounted on the eccentric on the driving shaft at one end and at its opposite end is connected by an adjustable connection 43^{v} with a rocking head 42″. This head at its inner end is hinged to and supported by the machine frame and at its outer end is pivotally connected to the frame 43‴. The frame 43‴ receives a reciprocating endwise movement through the eccentric rod connection with the rocking head 43″ and a forward and back motion from an engagement with the circumference of the eccentric strap 43. The length of the stitch is determined by the adjustment of the eccentric rod to and on the rocking head. The sewing machine needle 47 is held in the usual way and there is no change in the arrangement of the lifter 48 of the presser-foot bar or in the tension device 49 for the thread. The departures from the usual structure of this portion of the machine, the sewing head, resides chiefly in the work-plate 46, the feed 45 and the presser-foot 50.

The work-plate, (see Figs. 1, 2, 3, 5, 8, 9 and 10.)—The usual broad work-plate is discarded and its place is taken by the plate 46 secured to the flat face that is provided for it

upon the base of the arm 36. This plate 46 extends but slightly below the looper 42 and is very narrow and very long. In order to give the plate strength I prefer to form the same as an angle iron is made, the bottom 46′ giving the necessary rigidity. The outer end of the work-plate which extends far to the intake side of the machine is supported by a long arm or extension 51 of the base 35. The end of the arm 51 is supported by a bracket 52 projecting from the top of the frame standard 10. On the end of the arm 51 I prefer to provide the downward incline 53, beneath the work-plate; the office of this incline being to press down the end of the bag as it enters beneath the work-plate. The work-plate is provided with the long slot 54 for the feed or feed-bar 45, and the plate is also provided with the needle-hole 55. The work-plate is preferably about twice as long as the top of the largest bag that is to be sewed, though its dimensions may be cut down if desired. One of the principal advantages of this work-plate is that the looper of the sewing machine and all parts near the same are open to view and are freely accessible.

The feed.—The feed-bar 45 is nearly as long as the work-plate. It is preferably in one piece; although it may be made in two or more pieces adapted to be unhooked or disconnected, either for the purpose of repair or to stop one part of the bar while that beneath the needle continues in movement. The bar lies upon the bottom 46′ of the work-plate and slides back and forth thereon. It projects through the slot 54 in the work-plate, and as before explained its forward end is pivotally attached to the four-motion device of the sewing head. The end of the bar projects beyond the point of attachment with the said device and it is provided with the longer teeth 45′ at a point just beyond the needle. The office of this part is to "draw" the chain stitch after the goods have passed beneath it. The other end of the bar is bifurcated or has a bifurcated attachment 45″ and is held in place by sliding engagement with the pin 56 placed in the part 53 of the arm 51 (see Figs. 8 and 9). The middle of the bar may be held down by a clip 57. The whole forward edge of the bar is toothed or serrated. As the operating shaft 37 of the sewing head is rotated the bar will be alternately moved out through the work-plate and toward the needle and drawn back and returned, to intermittently advance the goods or fabric upon the work-plate.

The presser-foot, (see Figs. 1, 2, 5, 8, 12, 13 and 14.)—The presser-foot that is arranged upon the inner end of the bar 39 is much longer than the corresponding part of an ordinary sewing machine, as it must be relied on to hold the mouth of the bag up on both sides of the needle. I prefer to support the foot by a bracket arm 50′ extending up nearly to the top of the work-plate and having a pin on its underside adapted to slide through the hole 50″ in the work-plate in order to assist in keeping the long fold in its proper position over the feed. The seam in the edge of a bag is sometimes so bulky as to raise the presser foot and release the thinner part of the fold at the top of the bag when passing through the machine; and to avoid the difficulty arising from this cause when a long presser-foot is used, I prefer to construct the presser-foot as shown in the detail Figs. 12, 13 and 14. The foot is divided into two or more parts connected to the rigid part upon the end of the bar 39. 58 is the yielding part. This is pressed down by the spring 59 and in order that it may not break at an abrupt angle with respect to the rigid part, the part 58 is pivoted upon the other end of the foot by means of the side bars or extensions 60 and the pin 61. This part 58 yields outwardly when the thick part of the bag arrives beneath it, so that the remainder of the presser-foot will hold the corner of the next bag firmly against the work-plate. As an additional precaution particularly for paper bags, I may also use a light spring shoulder 62 extending through the presser-foot just in front of the needle hole 50‴.

Automatic bag starting and feeding mechanism, (see Figs. 1, 2, 3, 5, 8, and 10 and 11.)—Where the work-plate of a sewing machine is horizontal it is not difficult to feed the goods properly beneath the presser-foot, but when, as in a bag sewing machine, the work-plate occupies a vertical plane, and the tendency of the goods is always to drop away therefrom, it becomes harder to start the goods (the bag mouth) and hold it while it feeds to the needle. Hitherto the usual practice in sewing bags has been to take the corners of the bags in hand, start one corner or edge under the presser-foot, and hold the other properly elevated while the bag is being drawn through past the needle. This process is both slow and unsatisfactory because of the irregularity of the stitching and the unevenness of the line of stitching across the top of the bag, which detracts from the appearance of the package.

A very particular object of this invention is to arrange the machine so that the top of the bags may be folded and will thereafter be held by the machine and by it fed towards and under the sewing head presser-foot 50. For this purpose I arrange a folder 63 upon the long work-plate and between which and the work-plate the bag top is smoothly held to be fed towards the needle by the long feed bar 45. As will hereinafter be explained, this folder, which is also the fold supporter, may possess many different forms, but I prefer the construction shown in the drawings. This folder 63 is a thin plate or bar, prefer-

ably of about the same length as the bag top which is to be operated upon. Several of these parts are provided with each machine, one for each size of bag, as I find it very convenient to be able to pass the finger around the ends of the folder to draw down the corners of the bag. The foot or bar 63 is detachably secured to the slide 64, working beneath the work-plate and carried by slide rods 65 extending through guide-holes or sleeves provided in the arm 51. The slide 64 is provided with one or more lugs 66 containing screws 67 to enter the notches or slots 68 in the lower edge of the folder 63, which is provided with countersinks 69 to receive the heads of the screws (see Fig. 10) which really secure the folder. When a long folder 63 is used it is fastened by all three screws and extends beyond the slide plate 64 on both ends. When a short folder is used it is secured by two of the screws only, and in order to make room for the operator's finger back of the folder between the same and the slide 64, said slide is provided with recesses 70, the rear edges of which come out flush with the work-plate when said slide is pushed forward to move the folder 63 away from the work-plate 46. On the rear part of the slide 64 is an arm 71 extending beneath the frame-arm 51, and connected by a link 72 to the operating lever 73.

74 is a lug on the slide 64 and wherein a rod 75 is secured, the latter extending through the frame-arm 51 and provided with a head 76, between which and the arm 51 is a strong spring 77, which is the spring of the folder 63, the same holding said folder firmly against the work-plate. The bag top may be placed in the machine with a double or a single fold, but I prefer to simply carry the top of the bag down over the top of the folder, as shown in Figs. 3 and 10. The fold of the bag slides along and off of the folder as the feed bar reciprocates, and the bag enters evenly beneath the machine head presser-foot, being held at the proper level throughout the feed movement.

The fold holder.—Another element of the bag starting mechanism is the fold holder, comprising the rod 78 parallel with the folder and preferably longer and held by the arching arms 79. This bar when in the position shown in Figs. 3 and 10 holds the bag up close to the outer side of the folder so that there will be no difficulty in passing the outer fold of the bag top beneath the other presser foot. To insure the holding of the outer fold towards the work plate as the fold passes off from the end of the folder, I prefer to provide the end of the fold holder 78 with a nub or enlargement 80, extending towards the work-plate and just opposite the end of the presser-foot 50. It is obvious that the fold-holder rod 78 must be gotten out of the way when the folder is moved out to receive the fold of the bag, and to this end I pivot the arched arms 79 in slotted lugs 81 on the frame arm 51 and connect the lower inner ends of the arms by pivots 82 to the slide 64, so that when said slide is pushed out with the folder the rod 78 is automatically lifted into the dotted position (see Figs. 3 and 10). The slots 81′ in the lugs 81 permit the straightening of the toggles formed by the lower ends of the arms and the lugs or brackets that extend up from the slide 64. Means may be provided for throwing out the folder and locking it in such position until the fold is arranged thereon, but as such an arrangement would require several distinct hand movements on the part of the operator, I prefer to place the operating arm or lever 73 on a vertical shaft 83 placed in bearings 84 on the front of the frame standard 10 and at the lower end of which is the shifting lever 85. This lever is adjustable up and down on the lower end of the shaft 83 and extends out from beneath the feed table 12. The lever works sidewise and is in convenient position to be operated by the knee when the attendant or operator is standing in front of the machine, which is his position when running the machine. By pressing against the lever the operator easily opens the folder and, throws up the rod 78 without having to touch either thereof with his hands, the hands being employed in arranging the mouth of the bag and folding the same over the folder. As the operator folds the cloth upon the folder he may pull down the corners which always extend out beyond the sides of the bag, and when the bag is sewed and flattened out its top will take an arched form. If the edges of the top of the bag are kept parallel with the bottom of the folder, the bag, when sewed and flattened will be straight across the top. When the machine is being used to sew paper bags either the folder or the fold holder may be removed from the machine, because the paper being stiff will not sag down from the feed and needs only to be held against the work-plate. I find it of advantage to notch the inner end of the folder 63 so that the operator may hold the folds together when the machine is started, so that the outer fold may not drag back. In place of the folder supported from beneath, I may arrange a support at the top; and, a very good form of folder is one that is supported from its end at the outer end of the frame arm 51. Such a folder may be adapted to sidewise movement forward and back.

The driving connections.—The power for the machine may be derived from an electric or other motor arranged upon the floor plank 3 of the frame, or said frame may carry a counter shaft 86 to be driven by a belt and carrying a belt pulley 87 from which a round cord or belt 88 extends to pulleys upon the head shaft 89. The pulleys 90 and 91 on the

shaft are respectively loose and fast upon said shaft, and 92 is a shifter lever pivoted on the standard 9, or the foot of the bracket 34, and by which the belt may be shifted from one pulley to the other to start or stop the machine. The shifter lever 92 carries a brake shoe or pad 93 that presses against the side of the fixed pulley 91 when the belt is thrown onto the loose pulley. The head shaft is carried in bearings 34′ on the bracket 34 and on its forward end is provided with a bevel gear 94 meshing with a like gear 95 on the upper end of the operating shaft 37 of the sewing head.

96 is a cover for the gear. On the extreme forward end of the shaft 89 is a hand-wheel 97 which may be used to turn the shafts, as when adjusting a looper or needle. The feed or drag belt on the table moves very slowly compared to the shaft 37 of the sewing head, but should be driven from the same shaft in order that it may be started and stopped in exact time with said shaft 37 and the parts dependent thereon. Therefore I provide the shaft 89 with a worm 98 to drive the worm gear 99 on the upper end of the telescoping shaft 100. The lower end of this telescoping shaft (see Fig. 7) is connected with the shaft 27′ of the belt pulley 27 by bevel gears 101 and 102. The ends of the shaft 100 are held in yokes 103 and 104 journaled respectively upon the shafts 89 and 27′. A slow movement is thus communicated to the feed belt of the table and this movement remains constant and positive regardless of the height to which the table is adjusted. The shifter lever 92 is operated from a shaft 105 similar to the shaft 83 (Figs. 3 and 8). At the lower end this shaft has a knee lever 106 similar to the lever 85, and at the upper end of the shaft is an arm 107 that is connected with the lever 92 through an evener block 108 and link 109. I may here call attention to the hinged ends 85′ and 106′ upon the levers 85 and 106 (see Fig. 2). These parts extend from beneath the table and are adapted to be folded back under the same out of the way of persons passing when the machine is not in use and adapted to yield if struck by accident.

The controlling devices.—An operator may become so skilful in handling the machine as to be able to start and stop the same exactly as should be as the bags pass through the machine, but as it is desirable to relieve the operator as much as possible I provide means for automatically stopping the machine when a bag has progressed so far as to be entirely removed from the folder and before it has wholly passed the needle. This device is dependent upon the bag for its operation. It comprises the trigger-lever 110 pivoted on the frame part 51. The forward end of this lever extends nearly to the work-plate and is so weighted that when the evener block 108 is drawn forward in throwing the belt onto the fixed pulley 91, the trigger end 111 of the lever 110 will rise behind the block 108 and lock the same and the shifter 92 in the running position with the belt on the fixed pulley. This locking of the shifter however depends on the lifting of the gravity trip 112 either by hand, or, as in practice, by the bag that begins to move off of the folder 63 as soon as the machine is started by the throwing of the belt upon the fixed pulley. The trip 112 hangs beneath the work-plate at a point between the bag starting mechanism and the sewing-head. The trip is fixed on the little rocking shaft 113 in the frame and which shaft carries an adjustable arm 114 that is adapted to raise the forward end of the lever 110 when the trip 112 falls or hangs down. The raising of the lever 110 disengages the evener block 108 and a spring 115 draws the shifter 92 back and throws the belt 88 upon the loose pulley, thus stopping the machine, the brake setting against the fixed pulley. The arm 114 and the lever 110 engage through the medium of pins 116 by which the leverage is carried close to the rock shaft 113. The trip 112 hangs down below the top of a bag resting on the table and hence as the bag moves along the trip will be lifted, thereby depressing the arm 114 and permitting the forward end of the lever 110 to drop, so that the trigger will lock the shifter 92 and the machine will continue to run when pressure is removed from the knee operated lever 106. Now as the bag passes along the table and is drawn from the folder so that the rear end of the fold is beneath the presser foot 50, the bag will pass from under the trip 112 and said trip will fall, instantly throwing the lever 110 and disengaging the shifter 92 to stop the machine. As the trip 112 has a fixed position in the frame the body of the trip is made so that the trip will work with the narrowest bags that are to be sewed, and to adapt the trip for operation with wider bags, the corners of which extend further beyond the rounded tops of the bags, I provide the trip with an extensible piece or bar 112′ so that the trip will not drop until the last or outer point of the large bag fold is beneath the presser foot 50.

117 is a hand cam mounted on the bar 110, to ride on the cross-portion 118 of the frame or arm 51, and which cam may be thrown back at any time to disengage the trigger and stop the machine regardless of the position of the trip 112. This device and the ability to open the presser foot and folder of the machine at any time enables me to stop the machine and take out the bag at any stage of the sewing, which is sometimes made necessary by the improper action of the sewing members or imperfections in the thread or twine that is used.

The clipper or thread cutting mechanism,

(see Figs. 1, 2, 5, 8, 9, and 15 to 20.)—The remaining element of my machine is the mechanism employed for automatically cutting the thread or chain of stitches between the bags; that is the bag that has been sewed and the one still in the machine. This mechanism is preferably arranged at the delivery end of the work-plate. Either the bracket 34 or the arm 51 which extends back of the sewing head is provided with a plate or foot 119, and to this is attached a block 120 having three arms 121, 122 and 123, the latter being provided with the upwardly extending arms 123′, 123″. The arm 121 carries the pivot pin 124 for the yoke lever 125, the lower end of which engages with the end of the arm 126 arranged on the shaft 105 and opposite to the arm 107. The upper end of the lever 125 is connected by a link 128 to the upper end of a short lever 129, the lower end of which is pivoted on the pin 130 in the side of the block 121. These parts between the shaft 105 and the pin 130 constitute the means for setting the clipper when the machine is started by the throwing of the knee lever 106. The clipper comprises the knife or crushing edge 132 and the cylinder 133 upon which the knife closes. The cylinder 133 is fastened in a pocket that is drilled therefor in the bottom of the arm 123, which pocket cuts through the face of the arm or block so that the surface of the hardened steel cylinder projects slightly beyond the face of the arm 123. The cylinder is held in place by a screw 134 upon loosening which the cylinder may be taken out or turned slightly to present a fresh surface to the cutting edge of the knife. The knife 132 is mortised into the weighted end 135 of the clipper arm 136. The mortise or pocket 135′ for the knife 132 is preferably made partly in the solid part of the arm 136 and partly in the cap or block 135″ upon the inner side thereof. The knife is secured by the adjusting screw 137 and the set screw 138. The clipper arm 136 is provided with bosses or a sleeve 139 journaled upon the short shaft 140 extending between the upper ends of the arms 123′ and 123″. On the same shaft 140 is the escapement cam 141 provided with a hand setting lever 142. The sleeve 139 and the cam 141 carry the arms 143 and 144 respectively. These arms are held together by the buffer-spring 145 arranged between the arm 143 and the head of a curved bolt or pin 146 that is fastened in the part 144.

147 is a strong spring coiled around the boss or hub of the escapement cam 141 and fastened to said cam and to the arm 123′ so as to throw the cam forward and thereby throw down the clipper arm 136. The cam 141 is provided with a laterally extending lug 148, which, when the cam is raised or set with the arm 136 in its raised position, is removed from the arm 123′, but when the cam 141 is released said lug 148 will strike said arm 123 before the knife of the clipper strikes the cylinder or cutting surface 133, after which the clipper arm continues its movement because of its momentum. At this time the spring 145 is compressed and the knife strikes the cylinder 133 and is then instantly withdrawn to the position shown in Fig. 15 by the reflex action of the spring 145.

149 is a stop screw provided on the clipper arm 36 to strike the face of the block when the knife is thrown down, see Fig. 20. By means of the screw 149 the device is so adjusted that the sharp edge of the knife just meets the surface of the hardened cylinder 133 and then rebounds, so that the knife is not dulled except by the actual wear of the thread thereon. As the thread or chain of stitches comes from beneath the presser-foot 50 it is held up by the bag which has passed the clipper and by a small ledge 150 that is provided upon the work-plate so that the thread will always lie or stretch across the cutting surface 133 ready for the descent of the knife, (see Figs. 8, 15 and 19). The lever 129 before referred to carries the short trigger lever 151, the rear end of which is weighted and the forward end of which is notched, (see 152) to engage the shoulder 153 on the side of the escapement cam 141. This takes place when the knee shifter 106 is thrown to move forward the link 128 and the lever 129. The trigger 151 then engages with the escapement cam 141 to rotate the same until it is caught and held by the latch lever 154, the forward end of which engages a shoulder 155 on the cam 141, leaving the cam under the tension of the spring 147 with the clipper arm in a raised position. When the parts are in these positions it is only necessary to free the latch 154 to allow the knife to descend and cut or clip the thread and immediately open so as not to interfere with the next bag. The release of the latch is accomplished automatically and depends upon the passage of the bag.

156 is a rock shaft arranged in the arms 122 and 123 adapted to be operated by the gravity arm or trip 157. Said shaft 156 also carries the adjustable rocker arm 158 provided with the cross-pin 159 that is adapted to successively engage the pins 160 and 161 in the rear ends of the levers 151 and 154, thus when the arm 157 drops the setting trigger 151 will first be moved out of the path of the shoulder 153 of the escapement cam and then the latch 154 will be thrown to release said cam and the knife. The arm 157 is extensible, as shown in Figs. 1, and 15 to 20, and swings below the level of the work-plate of the sewing head so that the arm will be struck and raised by a bag as it emerges from the sewing

head (see Figs. 1 and 19.) The clipper having previously been set up by the starting of the sewing machine the moment that the sewed bag moves out from beneath the arm 157 said arm will drop or swing back of its own weight and instantly release the knife to cut the thread between the two bags. This clipper is in no wise a burden or drag upon the sewing mechanism. It is not a driven device, and the only power necessary for its operation is derived from the shifter lever which the operator throws with his leg or knee against the resistance of the shifter spring 115 and the small spring 147 of the clipper.

The foregoing description so fully defines not only the structure but also the sequence of operations, that for a thorough understanding of the machine and its functions a brief summary alone is necessary.

The driving shaft 86 having been set in motion with the belt 88 upon the loose pulley of the head shaft, the machine is ready for use. The operator places a bag upon the table and adjusts the height of the table to the height of the bag, arranging it so that sufficient cloth is left at the top to fold over the folder 63. The operator then throws out the lever 85 with his right knee, thereby projecting the folder 63 and raising the holder 78, whereupon he folds the top of the bag over the folder 63, drawing the corners out back of said folder by inserting his fingers at the ends of said folder. He then releases the shifter lever 85, whereupon the folder 63 returns to the work-plate 46 and presses the inner fold of the bag against the feed in the work-plate. The operator then moves his left knee over against the shifter lever 106, thereby throwing the belt 88 upon the fixed pulley of the head shaft of the machine, starting the sewing mechanism and the feed, whereupon the table belt, and the feed mechanism in the work-plate will carry the bag towards the sewing mechanism and beneath the presser foot 50, which latter guides the corner of the bag fold to the needle. After a small movement of the bag upon the table the same will engage with and lift the trip 112, thereby releasing the trigger 110 so that it may catch the evener block of the shifter mechanism and lock the belt on the fixed pulley. The operator may then release the lever 106 by moving away therefrom and the machine will continue to sew until the trip 112 drops off of the bag and disengages the trigger from the shifter to permit the throwing of said shifter by the shifter spring 115 to stop the machine. The operator then takes the next bag and repeats the folding and starting operations, whereupon the second bag starts towards the sewing mechanism and the sewing of the first bag is completed. As the sewed bag leaves the sewing mechanism a chain of stitches will be formed between the two bags and this chain will draw across the ledge upon the work-plate and across the clipper block in readiness to be cut by the knife when the ram 157 falls, after having been previously raised by the passing of the bag. The clipper may be set by hand and released by hand if desired, and the machine may be stopped at any time by throwing the hand trip 117 to disengage the trigger 110, whereupon the bag may be removed from the machine after lifting the presser foot.

Various modifications of my invention will readily suggest themselves to one skilled in the art, and I therefore do not confine my invention to the specific construction herein shown and described.

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

1. The combination, in a filled bag sewing machine, with a sewing head, of a table open at one side to receive the filled bags, means for simultaneously raising or lowering both ends of the table and thereby maintaining its horizontal position and a driven carrier belt arranged upon said table and adjustable therewith, and adapted to continuously move the filled bags along said table and past said sewing head.

2. In a filled bag sewing machine, the combination, with the bag feeding table, of the sewing head overhanging said table, a suitable frame or support for said table and head, and the adjustable side guide-bar by which the tops of the bags are kept in line with said sewing head, substantially as described.

3. In a filled bag sewing machine, the combination, with the bag feeding table or carrier, of the sewing head overhanging the same, a suitable frame, means for driving said head and feeding the bags upon said table, and the side guide-bar parallel with said table between the same and said head and adjustable back and forth in its parallel relation to said table and head, substantially as described.

4. In a filled bag sewing machine, the combination, with the bag feeding table or carrier, of the sewing head overhanging the same, a suitable frame, means for driving said head and feeding the bags upon said table, the side guide-bar parallel with said table between the same and said head and adjustable back and forth in its parallel relation to said table and head, and means for locking said bar, substantially as described.

5. In a filled bag sewing machine, the combination, with a suitable frame, of the sewing head overhanging the top of said frame, the bag table beneath said head, the endless belt upon said table, common driving means for said head and said belt, a starting shifter projecting from beneath said table for movement laterally by the leg of the operator, and

other shifter or controlling devices provided upon said head for operation by the hands of the operator, substantially as described.

6. In a filled bag sewing machine, the combination, with the frame, of the sewing head occupying an overhanging position, the bag table with a driven carrier belt thereon, brackets depending therefrom, the guide posts in said frame whereon said brackets are slidable, the racks upon said brackets, the manually operable pinions meshing therewith and arranged in said frame, and locking pawls for said pinions, substantially as described.

7. In a filled bag sewing machine, the combination, with the frame carrying the sewing head and provided with guide-posts 4, of the bag feeding table the endless driven belt operating thereon, the brackets 13, having sleeves slidable on said posts, the racks upon the vertical parts of said brackets, the shaft 17 in said frame, the pinions fixed thereon and engaging said racks, and the pawl shaft and pawls, substantially as described.

8. In a filled bag sewing machine, the combination, with the frame comprising a base having standards in substantially the same plane, of the sewing head, a bag-mouth folder, the bag feeding table with a driven carrier thereon arranged upon the front of said frame, controlling means projecting from the front of said frame, and driving and adjusting means for said head and table on the back of said frame, substantially as described.

9. In a filled bag sewing machine, the combination with a suitable frame open at one side, of a sewing head arranged thereon, an open sided table arranged beneath said head, means for simultaneously raising or lowering both ends of said table and thereby maintaining the table in a horizontal position, a belt carrier arranged upon said table and adjustable therewith, and means for driving said carrier.

10. In a filled bag sewing machine, the combination, with the frame, of the sewing head thereon, the bag table upon said frame beneath said head, the belt operating upon said table, means for adjusting the height of said table, the driving shaft for said head, and an extensible shaft through the medium of which said belt is driven from said driving shaft, substantially as described.

11. In a filled bag sewing machine, the combination, with the frame, of the vertically adjustable bag carrier, the sewing head arranged upon said frame and overhanging said table, the driving shaft for said head, a worm thereon, a worm gear in engagement with said worm, and the shaft extending from said gear to drive said carrier and having a sliding connection therewith permitting the vertical adjustment of said carrier, substantially as described.

12. In a filled bag sewing machine, the combination, with the frame, of the bag table, the belt upon said table, the pulleys therefor on said table, means for adjusting said table vertically, the sewing head arranged above said table, the driving shaft for said head, and the telescoping shaft 100 having its ends held in yokes journaled upon said driving shaft and the shaft of one of said pulleys, and gears upon said shafts, substantially as described.

13. The combination, with a suitable support or frame, of a sewing-head provided with a stitch-forming mechanism, a bag-top folding device, a long work-plate, an extended serrated feed-bar, means for operating said bar and means for holding a folded bag-top against said work-plate.

14. The combination with a suitable support or frame, and a sewing head provided with stitch-forming mechanism, of means for folding the mouth of a bag, means for maintaining the fold, and means for automatically feeding the folded bag-mouth to the stitch-forming mechanism.

15. The combination with a suitable sewing-head provided with stitch-forming mechanism and with a work-plate and presser-foot, of a bag top folding and fold-holding device, and means for automatically feeding a folded bag-top from the folding and holding device to the stitch-forming mechanism.

16. The combination with a table adapted to support filled bags and means for moving the bags thereon, of a stitch-forming mechanism, a bag-mouth folder, means for maintaining the fold in the bag-mouth, and means for feeding the folded mouth of the bag to the stitch-forming mechanism.

17. In a filled-bag sewing machine, the combination with the stitch-forming mechanism, of a bag-mouth folding and holding mechanism, and means for feeding the folded bag-mouth therefrom to the stitch-forming mechanism.

18. In a filled bag sewing machine, the combination with bag feeding means, of a stitch-forming mechanism, a bag-folding and holding mechanism, means for feeding a folded bag-mouth therefrom to the stitch-forming mechanism, and a clipper, substantially as described.

19. In a filled-bag sewing machine, the combination with a stitch-forming mechanism, of a bag top folder, means for maintaining the fold in the top of the bag, and a feed-mechanism arranged to automatically feed the folded bag-top to the stitch-forming mechanism.

20. In a filled bag sewing machine, the combination with a stitch-forming mechanism, of a folder, means for pressing the bag-mouth upon said folder, and means for feeding the folded bag mouth from said folder to said stitch-forming mechanism.

21. In a filled-bag sewing machine, the combination with a bag-feed, of a stitch-forming mechanism, a work-plate, a presser-foot, a bag-mouth folder, and an extended feed acting on the presser-foot and folder.

22. In a filled bag sewing machine, the combination, with the bag feed, of the sewing machine proper, having an extended work-plate and feed, the bag holder upon the extension of said work-plate, and means for moving said holder out of the way to permit the placing of the bag top, substantially as described.

23. In a filled bag sewing machine, the combination, with the sewing machine provided with an extended work-plate and feed, of a spring controlled folder upon the extension of said work-plate, substantially as described.

24. In a filled bag sewing machine, the combination, with the sewing mechanism, of the extended work-plate, the extended four-motion feed, and a fold supporting device upon the extension of said work-plate in advance of the sewing mechanism and acted upon by said feed, substantially as described.

25. The combination, with the sewing mechanism, of the work-plate, the intermittent feed device provided therein, the folder in advance of the sewing mechanism, and arranged to be acted upon by the feed-device, and means for moving the folder away from the work-plate.

26. The combination, with the sewing mechanism, of the long work-plate, the long intermittent feed device provided therein, a folder upon the extension of said work-plate, means for moving said folder away from said work-plate, and the fold-holder, substantially as described.

27. The combination, with the sewing mechanism, of the extended work-plate and the extended feed mechanism, the folder, the fold holder, means pressing said folder and holder towards said work-plate, and means for projecting the same away therefrom to receive the fold of a bag, substantially as described.

28. In a bag-sewing machine, the combination with stitch-forming mechanism, of automatic bag folding and feeding means for the top of the bag, comprising stationary fold-holding parts, means for separating said parts to receive the fold, and driven means for feeding the fold therefrom to the stitch-forming mechanism.

29. In a filled bag sewing machine, the combination, with a bag table and carrier, of a sewing mechanism, a folder having separable parts for receiving and holding the fold when made, and means for removing said fold to the stitch-forming mechanism, substantially as set forth.

30. In a filled bag sewing machine, the combination, with the bag feed of the stitch forming mechanism, provided with an extended work-plate and feed mechanism, and a bag folder acted upon by said feed on the extended part of said work-plate, substantially as described.

31. In a filled-bag sewing machine, the combination, with the bag feeding device, of a stitch-forming mechanism having an extended work-plate and feed mechanism, a folder, means for driving said stitch-forming mechanism and said feed mechanism, means for stopping the same to permit the placing of a bag-top upon said folder, and means for insuring the engagement of said feed mechanism with the folded bag top to feed the same to the stitch forming mechanism.

32. In a filled-bag sewing machine, the combination with the bag feed, of a stitch-forming mechanism provided with an extended work-plate, a folder, and means co-operating therewith to take the folded bag top from said folder and feed the same while in a folded condition to the stitch-forming mechanism.

33. In a filled-bag sewing machine, the combination, with bag carrying means, of a sewing head comprising a stitch-forming mechanism, an extended work-plate and feed mechanism, a folder, and a fold holder acted upon by said feed mechanism, for the purpose set forth.

34. In a filled bag sewing machine, the combination, with bag carrying or feeding means, of a sewing head comprising a sewing mechanism, an extended work-plate and an extended feed mechanism, and the fold pressing means provided upon the extended portion of said work-plate and supported upon the rear thereof, substantially as described.

35. In a filled bag sewing machine, the combination, with a sewing machine proper, of an extended work-plate therefor containing a feed mechanism, a folder, and a fold holder, and means operative upon the back of said plate to close and open said folder and holder, substantially as described.

36. In a filled bag sewing machine, the combination, with a bag feed, of the sewing head comprising a sewing mechanism, a work-plate, a driven feed mechanism and stationary presser means supporting the full width of a bag top preparatory to the feeding thereof to the sewing mechanism and wherefrom the bag top is automatically fed to said sewing mechanism, substantially as described.

37. In a filled bag sewing machine, the combination with the transversely separable members to hold the bag top, of a feed mechanism to move the bag top therefrom, substantially as described.

38. In a filled bag sewing machine, the combination with the transversely separable members to hold the bag top, of a feed mechanism operating upon the fold between said

members, and a parallel holder for the outside fold of the bag, substantially as described.

39. In a bag-mouth folder, having the parallel members on either side, with means pressing the same together, of means for feeding a bag top from between said members, and from such folder, substantially as described.

40. In a filled bag sewing machine, the combination, with the sewing mechanism of the extended work-plate, the extended frame therefor, the intermittent feed in said work-plate, the machine presser device, the folder, guides therefor in said frame, the spring for said folder, and the opening lever or shifter, substantially as described.

41. In a sewing machine of the class described, the combination, with the sewing mechanism, of the frame, the work-plate, the needle presser foot, the long intermittent feed-bar 45, means for giving the feed bar four motions, attached to one end thereof and the pivotal attachment at the other end thereof, and a folder, substantially as described.

42. The combination, with the frame, of the work-plate 46, the slide 64, the folder thereon, the holder 78, the arching arms 79 thereof pivoted upon said frame and attached to said slide, and means for operating said slide to project said folder and raise said holder, substantially as described.

43. The combination, with the sewing machine frame, of the work-plate, the long feed bar 45 therein, the operating shaft for actuating said bar, the sewing mechanism, the presser foot 50, the holder 78 provided with the inturned end 80, and means for lifting said holder, substantially as described.

44. In a filled bag sewing machine, the combination, with the sewing machine proper provided with an extended work-plate and feed, of an interchangeable folder, the support therefor provided with fastening screws, and said folder having notches 68 and countersinks for said screws, substantially as described.

45. In a filled bag sewing machine, the combination, with the sewing machine proper having an extended work-plate and feed, of the slide beneath said work-plate having a recess 70 for the purpose specified, and a folder attached to said slide, substantially as described.

46. In a filled bag sewing machine, the combination, with the driven bag feed, of the bag-mouth folder, means for keeping said fold and feeding it therefrom, the sewing head, driving means, a shifter, a shifter locking mechanism, and a trip therefor operated with the passage of the bag, substantially as described.

47. In a filled bag sewing machine, the combination, with a bag feeding device, of a stitch forming mechanism, driving means, means for stopping and starting said feed and stitch forming mechanism, a trigger or latch, and a trip therefor held by the bag and adapted to trip said trigger before the complete passage of the bag beneath the stitch forming mechanism, substantially as described.

48. In a filled bag sewing machine, the combination, with a bag feeding device, of the stitch forming mechanism, driving means, means for stopping and starting said feed and stitch forming mechanism, a trigger in connection therewith, and a trip for said trigger, held out of engagement therewith by the bag and operating the trigger when the trip is disengaged from the bag, substantially as described.

49. In a filled bag sewing machine, the combination, with the sewing mechanism, feed work-plate, and driving means, of a shifter, a trigger for said shifter, and a gravity trip for said trigger that is dependent upon the bag for its operation, substantially as described.

50. In a filled bag sewing machine, the combination, with the sewing mechanism, the feed, the work-plate, and driving means, of a shifter, a trigger or latch therefor, means for moving said shifter into engagement with said latch, and automatic means preventing the engagement of said latch and shifter except during the passage of the bag, and tripping said trigger to stop the sewing mechanism when the machine is ready to receive another bag, substantially as described.

51. In a filled bag sewing machine, the combination, with the bag feed, the sewing head, and driving means, of a shifter, a trigger or latch for said shifter, a trip for said trigger, withheld from operation thereon during the passage of the bag and automatically operable thereafter, and a hand trip in connection therewith, substantially as described.

52. In a filled bag sewing machine, the combination, with a sewing head provided with a vertical work-plate, and driving means for said head, of a shifter device, a trigger for locking said shifter, and the trip 112 swinging beneath said work-plate to release said trigger, substantially as described.

53. The combination, in a filled bag sewing machine, with the machine frame, of a bag feeding device thereon, the sewing head overhanging said bag feeding device, the driving shaft of said sewing head, the fixed and loose pulleys thereon, the operating belt, the belt shifter, the shifter spring, a shifter operating device for moving the belt onto the fixed pulley, a trigger or latch to secure the same in such position, and an automatic trip depending from said sewing head and operating after the passage of a bag to release said trigger, whereby said belt is thrown

upon the loose pulley, substantially as described.

54. In a machine for closing the mouths of filled bags, the combination with suitable sewing mechanism, of a bag conveyer, a device for folding the open mouth of a filled bag, means to convey said folded mouth to sewing mechanism, and an automatic clipper operating after the operation of said sewing mechanism, substantially as described.

55. In a filled-bag sewing machine, the combination, with a sewing head and operating mechanism, of a shifter, a trip arranged to be engaged by the top of the bag, and an automatic clipper having a movable cutter adapted to be opened by the movement of the shifter and to be released by the trip, substantially as described.

56. The combination, with the sewing-head mechanism, of a shifter device having a trip depending from the sewing-head, and adapted to rest upon a bag-top when beneath said head, and adapted to fall when the bag top passes from beneath said trip and stop the driving shaft of the sewing mechanism, substantially as described.

57. In a filled bag sewing machine, the combination, with the bag conveyer and sewing mechanism, of a folder for the mouth of the bag, means for automatically starting and feeding said folded mouth therefrom and preserving said fold until it shall have passed beneath the stitch forming mechanism, substantially as set forth.

58. In a filled bag sewing mechanism, the combination, with the bag feeding mechanism and the stitch-forming mechanism, of a bag-mouth folder, and means for holding the folded bag mouth and feeding the same to the stitch-forming mechanism, substantially as described.

59. In a machine for sewing filled sacks, sewing mechanism, means for conveying the sacks past the sewing mechanism, a clipper for severing the thread between the sewed sacks, means for operating the clipper, a manually operated shifting device to control the operation of the machine and to restore the clipper to operative position for its succeeding cutting action; substantially as described.

60. In a machine for sewing filled sacks, a suitable sewing mechanism, means for conveying said sacks past the sewing mechanism, a clipper for severing the thread between said sewed sacks, means for operating the clipper a shifting mechanism to stop and start the machine, and means brought into operation by the movement of the shifting mechanism to reëstablish the clipper in position for operation; substantially as described.

61. In a machine for sewing filled sacks, a suitable sewing mechanism, means for conveying said sacks past the sewing mechanism, a clipper for severing the thread between said sewed sacks, a shifting mechanism to stop and start the machine, and means brought into operation by the movement of the shifting mechanism to restore the clipper to operative position, and a tripping lever extending into the path of the sacks to cause the passage of a sack to trip the clipper; substantially as described.

62. In a machine for sewing filled sacks on a suitable sewing mechanism, means for conveying said sacks past the sewing mechanism, a clipper for severing the thread between said sewed sacks, means for operating the clipper a single lever to stop and start the machine and to effect the restoration of the clipper to operative position; substantially as described.

63. In a machine for sewing filled sacks on a suitable sewing mechanism, means for conveying said sacks past the sewing mechanism, a clipper for severing the thread between said sewed sacks, a single lever to stop and start the machine and to effect the restoration of the clipper to operative position, and a tripping lever extending into the path of the sacks to cause the passage of the sack to trip the clipper; substantially as described.

64. In a filled bag sewing machine, the combination, with a bag conveyer, and sewing mechanism, of a clipper to be set in position for work by the operation of starting the operating power of the machine and arranged to divide the loops connecting two sewed bags without stopping the machine, substantially as described.

65. In a filled bag sewing machine, the combination, with an adjustable bag conveyer, and a sewing mechanism, of an adjustable stationary guide rod for the side of the bag, substantially as described.

66. In a filled bag sewing machine, the combination with a sewing mechanism, of a bag-mouth folder, means for preserving the fold in said bag mouth, and means for automatically feeding the folded bag-mouth from said folder to said sewing mechanism.

67. An apparatus for feeding and sewing filled sacks, including a supporting frame work and a driving shaft, a sewing mechanism, connections between the two for operating the latter, said sewing mechanism embodying a head overhanging the edge of the frame work, a conveying mechanism outside the frame work and in proper relation to the sewing mechanism, with connections between the conveying mechanism and driving shaft, for operating the former, and means for adjusting the conveying mechanism bodily with respect to the sewing mechanism, and simultaneously automatically adjusting its operative connections with the driving shaft; substantially as described.

68. An apparatus for feeding and sewing filled sacks, including a supporting frame

work, and a driving shaft, a sewing mechanism, said sewing mechanism being arranged to overhang the edge of the frame work, connections between the driving shaft and the sewing mechanism for operating the latter, a conveying mechanism arranged outside the frame work and in proper relation to the sewing mechanism, and including a horizontal endless carrying belt, connections between the same and the driving shaft for operating said conveying mechanism, and means for adjusting the conveying mechanism bodily with respect to the sewing mechanism, and simultaneously automatically adjusting its operative connections with the driving shaft, substantially as described.

69. In an organized apparatus for feeding and sewing filled sacks, a suitable supporting framework, a sewing mechanism thereon, a driving shaft, a horizontal conveying mechanism outside the supporting framework, connections between the driving shaft and the sewing mechanism and between the driving shaft and the conveying mechanism, and means for raising and lowering the conveying mechanism bodily and simultaneously raising and lowering the operative connections between the conveying mechanism and the driving shaft; substantially as described.

70. The combination in a filled bag sewing machine, with a sewing head of a table, open at one side to receive the filled bags, a driven carrier belt arranged upon said table and adapted to continuously move the filled bags along said table and past said sewing head, driving connections for the carrier belt and the sewing mechanism and means for relatively adjusting the sewing head and table and means for maintaining the driving connections in various adjusted positions.

71. An organized machine for feeding and sewing filled sacks, a suitable supporting framework, a sewing mechanism thereon, a driving shaft, a conveying mechanism outside the supporting framework, operative connections between the driving shaft and the sewing mechanism and between the driving shaft and the conveying mechanism, and means for relatively adjusting the sewing mechanism and the conveying mechanism and simultaneously adjusting said operative connections between the driving shaft and the conveying mechanism; substantially as described.

72. The combination in a filled bag sewing machine, of a sewing head, a table open at one side to receive the filled bags, and a driven carrier belt supported upon said table and adapted to continuously move along the upper face of said table to carry the filled bags along the same and past the sewing head; substantially as described.

73. An organized apparatus for feeding and sewing filled sacks comprising a table, open at one side, to receive the filled sacks, a sewing head carrying stitch forming mechanism overhanging the table, a driven carrier, arranged upon said table, and adapted to move the filled sacks along the table and past the sewing head, and means for relatively adjusting the sewing head and table whereby varying sizes of sacks may be sewed, substantially as described.

74. An organized apparatus for feeding and sewing filled sacks comprising a supporting frame work, a sewing head supported thereby and projecting beyond the edge of said frame work and carrying a needle reciprocating substantially horizontally, a table beneath the sewing head and a carrier on said table upon which the filled sacks are supported, means for operating the carrier, and means for relatively adjusting the sewing head and carrier, substantially as described.

75. An organized apparatus for feeding and sewing filled sacks, comprising a supporting frame work, a sewing head supported thereby and projecting beyond the edge of said framework and carrying a needle reciprocating substantially horizontally, a driven carrier arranged beneath the sewing head upon which the filled sacks are supported and fed past the sewing mechanism, and means for operating the carrier, and means for relatively adjusting the sewing head and carrier; substantially as described.

In testimony whereof, I have hereunto set my hand this 19th day of May, 1900, at Minneapolis, Minnesota.

JOHN BIGELOW.

In presence of—
C. G. HAWLEY,
M. G. GOOLEY.