

J. E. CROSBY.

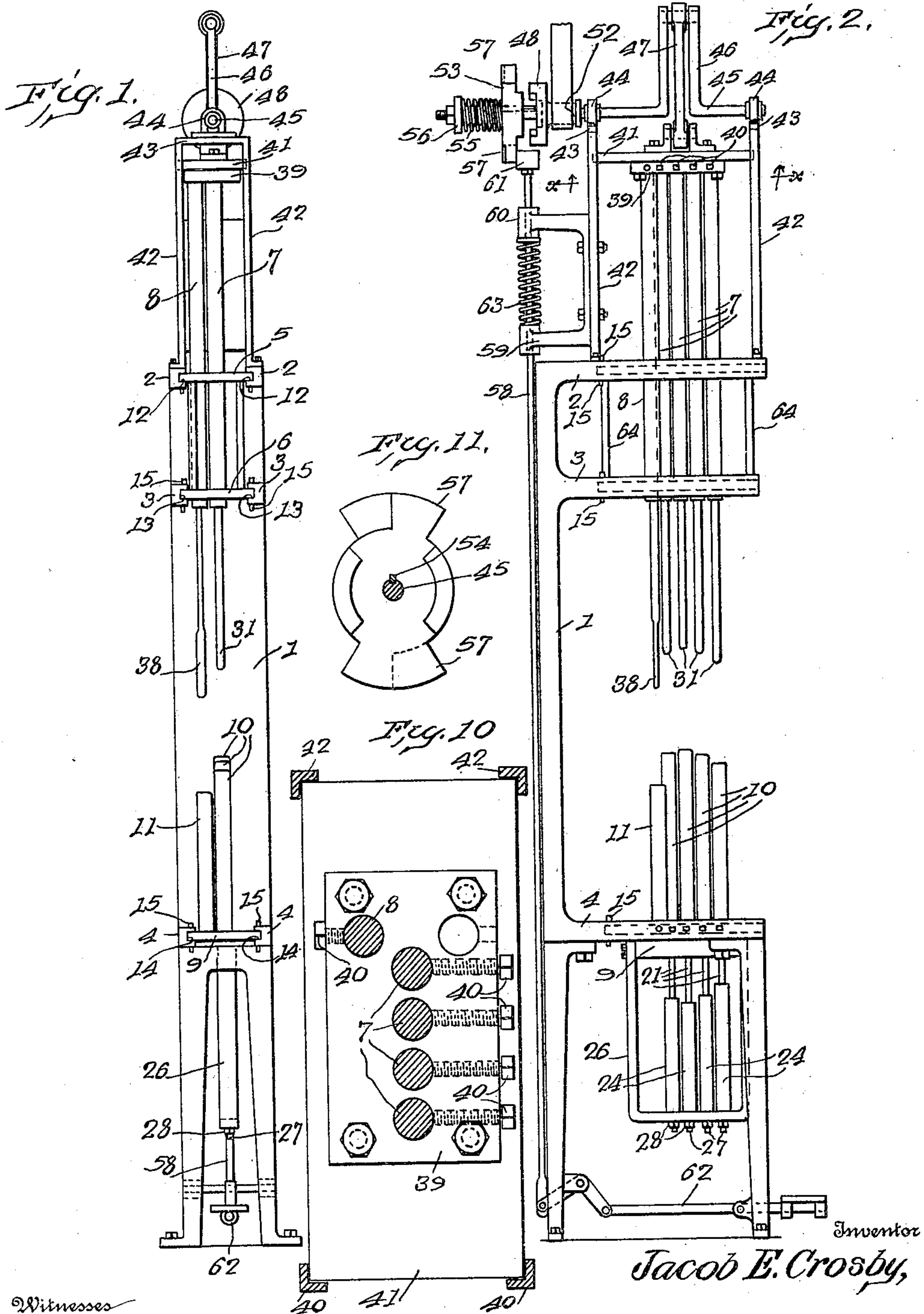
MACHINE FOR TURNING GLOVES, MITTENS, AND THE LIKE.

APPLICATION FILED APR. 26, 1909.

Patented Dec. 13, 1910.

978,434.

3 SHEETS-SHEET 1.



Witnesses

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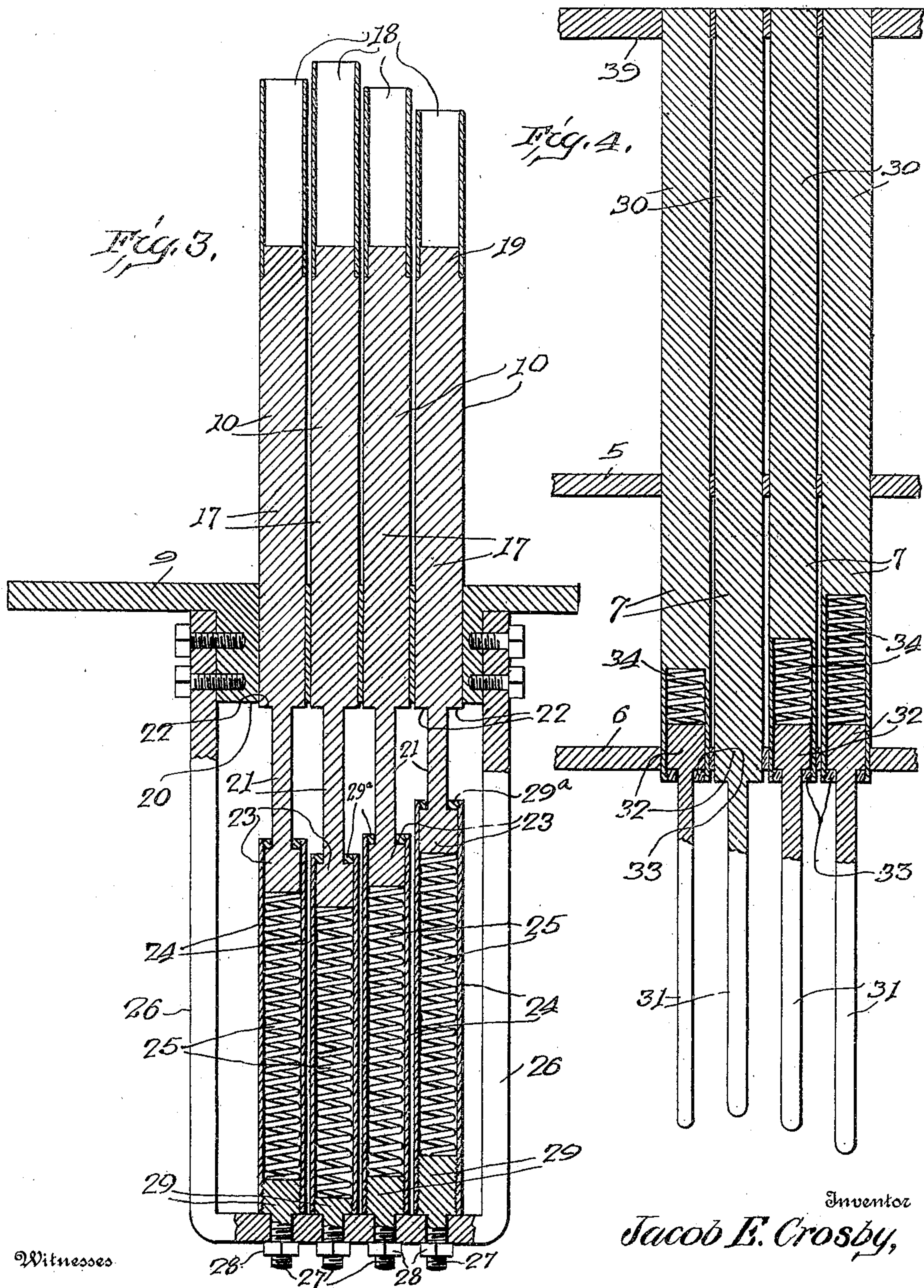
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3 SHEETS—SHEET 2.



Witnesses

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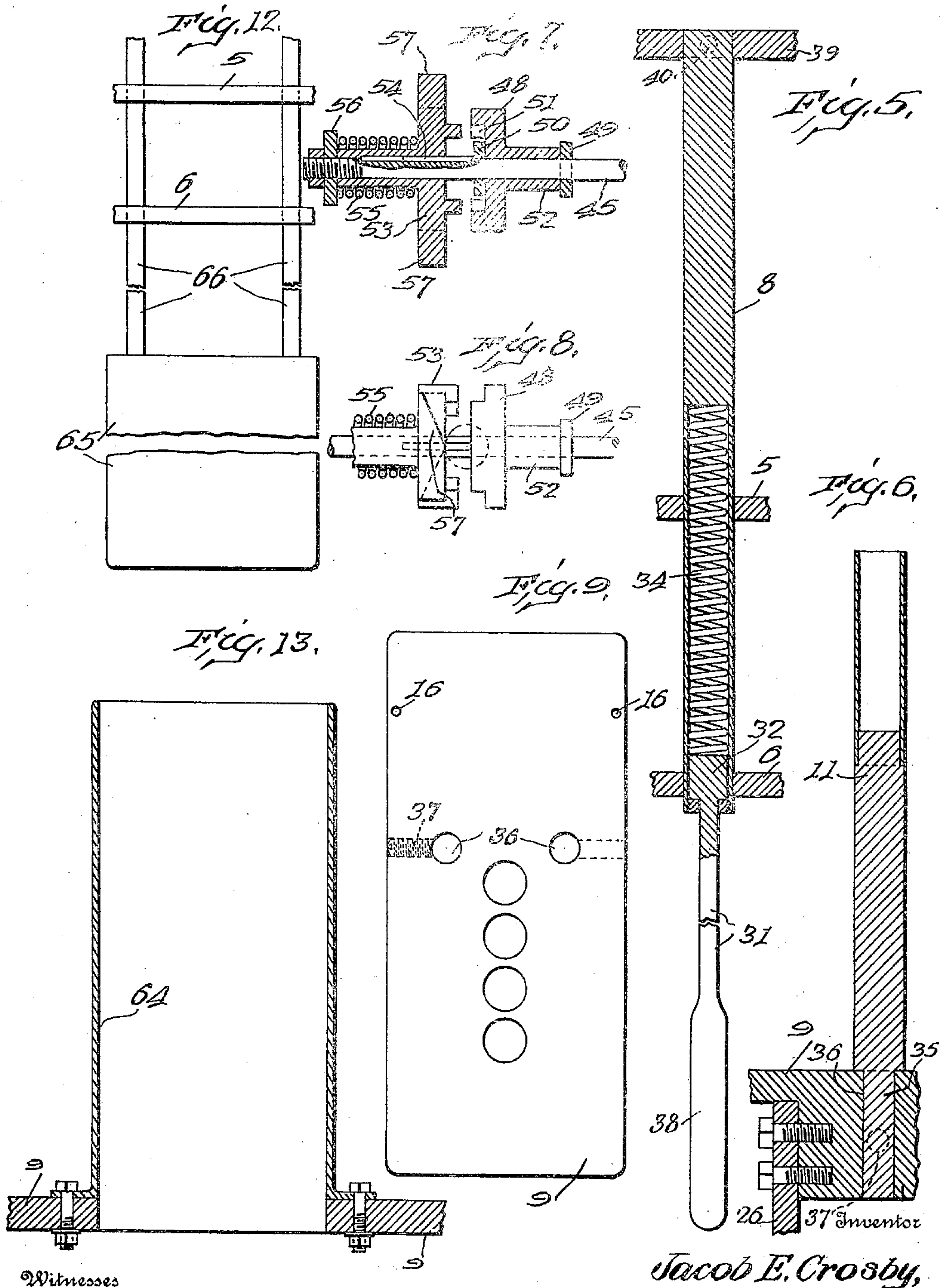
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3 SHEETS—SHEET 3.

978,434.



Witnesses

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# UNITED STATES PATENT OFFICE.

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MACHINE FOR TURNING GLOVES, MITTENS, AND THE LIKE.

978,434.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed April 26, 1909. Serial No. 492,251.

*To all whom it may concern:*

Be it known that I, JACOB E. CROSBY, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Machines for Turning Gloves, Mittens, and the Like, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to machines for turning gloves, mittens and the like. In the manufacture of sewed gloves the seams are necessarily formed on the outside of the glove, and, where it is desired that, in the  
15 finished product, the seam should be on the inside of the glove, it is necessary to assemble and sew together the several parts comprising the glove wrong side out, and, after the glove has been completed, to turn the  
20 same to bring the seams on the inside. The process of turning these gloves by hand is very slow and tedious, and, in the past, attempts have been made to provide mechanical devices for turning the gloves, but, in  
25 each instance, the device was manually actuated and was difficult of operation. Consequently, the labor of turning the glove was materially increased with but a small gain in speed; further these devices did not turn  
30 the thumb, and, after the fingers had been turned, it was necessary to turn the thumb by hand, thereby further reducing the time gained by the use of the device.

The object of the present invention is to  
35 provide a glove turning machine which will be actuated and controlled with but slight effort on the part of the operator and which will completely turn the fingers and the thumb of the glove.

40 A further object of the invention is to provide a machine of this character with turning devices so constructed and arranged as to compensate for the differences between the lengths of the several fingers and of the  
45 thumb of the glove and to obviate the liability of injuring the glove during the process of turning; to provide power operated driving mechanism, for moving one set of turning members toward and away from the  
50 other, having means under the control of the operator for interrupting the movement of the movable turning members at predetermined intervals; to make the thumb turning members adjustable relatively to the finger  
55 turning members to adapt the device to turn-

ing either right or left hand gloves; and to so construct and arrange the several parts of the machine that it will not only be operated and controlled with small effort on the part of the operator, but will be exceedingly simple in its construction and operation and of a strong, durable character, not easily broken or disarranged.

With these objects in view my invention consists in certain novel features and in certain combinations and arrangements of parts hereinafter to be described, and then more particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a glove turning machine embodying my invention; Fig. 2 is a side elevation thereof; Fig. 3 is a detail sectional view of the finger receivers; Fig. 4 is a detail sectional view of the finger plungers; Fig. 5 is a sectional detail view of the thumb plunger; Fig. 6 is a sectional detail view of the thumb receiver; Fig. 7 is a sectional detail view of the controlling clutch; Fig. 8 is a side elevation of said clutch; Fig. 9 is a plan view of the supporting  
75 plate for the finger receivers; Fig. 10 is a sectional view, taken on the line *x x* of Fig. 2 and looking in the direction of the arrows; Fig. 11 is a detail view of one of the clutch members; Fig. 12 is a detail view of a mitten turning plunger; and Fig. 13 is a sectional detail view of a mitten turning receiver.

In these drawings I have illustrated one embodiment of my invention and have  
80 shown the same as comprising a main frame supported by a base or legs and consisting of a vertical member 1 arranged at the back of the machine and having three pairs of forwardly extending arms, 2, 3 and 4, which  
85 are rigidly secured to and preferably formed integral with the vertical member 1. Two pairs of the arms, 2 and 3, are arranged near the upper end of the vertical member 1 and spaced a short distance apart.  
90 These arms form supports for the plates 5 and 6, in which the finger turning plungers 7 and thumb turning plunger 8 are reciprocally mounted and which are preferably connected at their ends by connecting mem-  
95 bers or bars 64. The lower pair of arms, 4, which are arranged close to the bottom of the vertical member 1 form a support for the plate 9 in which the finger receivers 10 and thumb receiver 11 are mounted. The  
100  
105  
110



plates 5, 6 and 9 may be supported by the respective pairs of arms, 2, 3 and 4, in any suitable manner. It is desirable, however, that these plates should be removable, and, to this end, I have formed grooves or guideways 12, 13 and 14, respectively, in the inner faces of the arms of the several pairs. The plates 5, 6 and 9 are of such a size as to slide freely in the guideways in their respective pairs of arms and may be secured within these guideways in any suitable manner. In the present instance, I have shown each arm as provided with a tapered pin 15 which extends through the guideways and through openings or recesses 16 formed near the edges of the respective plates. In this manner the plates may be readily inserted and removed, thereby rendering the turning members interchangeable and enabling the machine to be adapted for use with gloves of different sizes.

The two groups of turning members, which, in the present instance, are arranged one above the other, may be of any suitable construction, and, as above indicated, I have here shown the same as receivers and plungers. The finger receivers 10 are clearly shown in Fig. 3 and each comprises a body portion 17 which is preferably solid and is provided at its upper end with a tubular portion 18 which forms the receiver proper and into which the finger of the glove is forced in the process of turning. The construction of the receivers as a whole may be, of course, varied, but, in the present instance, I have shown the same as comprising four cylindrical body portions 17, preferably of steel. These body portions are provided at their upper ends with reduced portions 19 upon which the tubular portions 18, which may be formed of brass, are secured, preferably by driving the same onto the reduced portion of the body 17. The body portions 17 terminate in substantially the same horizontal plane and the tubular portions 18 are of a length corresponding to the length of the respective fingers of the glove, thus causing the arrangement of the ends of the receivers to correspond to the relative arrangement or length of the several glove fingers.

It is desirable for purposes to be hereinafter explained that the finger receivers should be cushioned, and, to accomplish this, I have slidably mounted the body portions 17 of the several receivers in the supporting plate 9, and, in order to form a longer bearing and a firmer support for the receivers, I have provided the plate 9 with a thickened portion 20 which depends beneath the same and in which are formed guideways for the receivers. Each receiver has secured to its lower end, and preferably formed integral therewith, a stem 21 of considerably less diameter than the diameter of the body por-

tion of the receivers, thus forming at the point of union of the stem 21 and the body portion 17 of each receiver an annular shoulder 22. The length of these stems vary in the same manner as do the length of the tubular receivers 18 and each stem is provided at its lower end with a head or piston 23 fitting within a cylinder or vertically arranged guide member 24, in each of which is arranged a spring 25. These cylinders or guides vary in length in such a manner that their upper ends are arranged inversely to the arrangement of the upper ends of the tubular receivers 18. The shoulders 22 at the lower ends of the body portions 17 of the receivers are arranged in substantially the same horizontal plane. Consequently, when the shoulder 22 of each receiver rests upon the upper end of its corresponding cylinder or guide 24, the relative positions of the bottoms of the tubular receivers 18 will correspond to the arrangement of the upper ends of the cylinders or guides 24 and will be so arranged that the tip of each finger of the glove will rest upon the bottom of its respective receiver and the upper ends of the receivers will be arranged in such a manner as to accommodate the same to the varying depths of the spaces between the fingers of the glove. These cylinders or guides may be supported in alinement with their respective receivers in any suitable manner, but it is desirable that they should be connected to the plate 9 and removable therewith, and, for the purpose of so supporting these cylinders or guides, I have rigidly secured the upper ends of the side members of a yoke 26 to the opposite sides of the thickened portion 20 of the plate 9. The lower or horizontal portion of the yoke is provided with a series of apertures, through which extend bolts 27, the upper ends of which are secured to the respective cylinders or guides 24. Nuts 28 on the lower end of the bolts 27 serve to clamp the cylinders securely against the yoke member and to support the same rigidly in position. The bolts 27 may be secured to the cylinders or guides 24 in any suitable manner. However, the bolts are preferably provided with enlarged heads 29 which are screw-threaded or otherwise rigidly secured to the lower ends of the respective cylinders or guides 24. In the present instance I have shown these enlarged heads of varying length and arranged to make the internal depth of each cylinder 24 substantially the same, thereby enabling the springs 25 to be of the same size and length, and, consequently, to exert a uniform tension upon the pistons 23. This, however, is obviously unnecessary, as a slight variation in the tension of the springs 25 would be immaterial, or, if found desirable, this tension could be readily adjusted in other manners. The upper ends of the cylinders or guides 24



may be provided with any suitable means to limit the upward movement of the pistons 23, and, consequently, of the finger receivers which are secured thereto. This means is here shown as consisting of collars 29<sup>a</sup> which are screw-threaded into the upper ends of the several cylinders and serve to limit the upward movement of the pistons.

As heretofore indicated, the upper turning members or plungers 7 are movably mounted above the receivers 10 and are adapted to be moved toward and away from those receivers to cause the several plungers to enter the respective receivers and to be withdrawn therefrom. These plungers may be of any suitable construction, but, in the present instance, I have shown the same as comprising body portions 30 which are slidably mounted in the supporting plates 5 and 6 and are provided at their lower ends with reduced portions 31 which form the plungers proper and enter the respective receivers 10. The body portions 30 of the plungers are secured at their upper ends to a block 39 provided with apertures adapted to receive the upper ends of the plungers and support the same in their proper relative positions. Set screws 40 detachably connect the plungers to this block, and enable the same to be separated therefrom when it is desired to substitute another set of plungers therefor. The lengths of the reduced portions of the plungers vary inversely to the lengths of the fingers which they are adapted to turn, and, consequently, inversely to the length of the corresponding receivers. Thus, as the several plungers have moved downwardly in unison, the ends of the reduced portions of the plungers will enter the ends of the corresponding receivers at substantially the same time. These reduced portions are preferably cushioned and are connected to the body portions of the plungers in such a manner as to be movable relatively thereto, thereby enabling that plunger, which first engages the bottom of its receiver, to come to a stop while the remaining plunger or plungers continue to move downwardly. In the present instance I have shown three of the finger plungers as cushioned, while the other plunger, which corresponds to the middle finger of the glove, is fixed and has no movement relatively to the body portion thereof. The cushioning of these plungers may be accomplished in any suitable manner. In the present instance I have shown the lower ends of the body portions 30 of the plungers as hollow and have formed the reduced portions 31 separately therefrom and provided the same with heads or pistons 32 which fit within the hollow body portions and are retained therein by stops or collars 33 which are screw-threaded into the lower ends of the hollow body portions. Springs 34 are

inserted between the pistons or enlarged ends 32 of the reduced portions 31 of the plungers and the body of the plungers. The lengths of these springs are preferably varied according to the lengths of the plungers, and the springs are of greater strength than the springs 25 which support the receivers. Thus, in the operation of turning the glove, the springs 25 will be compressed until the body portions of the receivers rest upon the upper ends of the cylinders or guides 24 and then the springs 34 will be compressed to compensate for the different lengths of the fingers and thereby permit the shortest plunger to completely turn its finger without liability of injuring the other fingers of the glove which have already been completely turned.

The receiver for the thumb, which is indicated at 11, is similar in construction to the finger receivers 10 and is somewhat shorter than any of those receivers owing to the differences in the lengths of the thumb and the fingers. The thumb receiver is rigidly secured to the supporting plate 9, preferably by reducing the lower end thereof, as shown at 35, and inserting the same in an opening 36 in the plate within which it is held by means of a set screw 37. This opening is so arranged as to support the thumb receiver at one side of the adjacent finger receiver and in such a position as to slightly overlap that receiver. The plunger 8, which turns the thumb, is supported in the same position relatively to the finger plungers as the thumb receiver 11 is supported relatively to the finger receivers 10. The construction of the thumb plunger 8 is similar to that of the finger plungers with the exception that the body portion is hollowed out for a greater distance and is provided with a longer spring, thereby giving the reduced portion 31 of the thumb plunger a much longer movement relatively to the body portion thereof than is given to the reduced portions of the finger plungers relatively to their body portions. The lower end of the reduced portion 31 of the thumb plunger is preferably flattened, as shown at 38, to cause the same to conform more nearly to the shape of the thumb of the glove. The thumb plunger is detachably secured to the supporting block 39 by a set screw 40 in the same manner as are the finger plungers. The positions of both the thumb plunger and thumb receiver relatively to the finger plungers and finger receivers can be adjusted to accommodate the same to right and left hand gloves. This adjustment is secured by providing the supporting plate 9 and the block 39 with two apertures adapted to receive the thumb turning members, one of these apertures being arranged on each side of the line of the finger turning members. Thus, by shifting the thumb plunger



and thumb receiver from one side of the finger turning members to the other the machine is adjusted for use with right or left hand gloves, as the case may be.

5 Movement may be imparted to the plungers 7 and 8 in any suitable manner, but, in the present instance, I have shown these plungers as rigidly secured to the block 39 which is adapted to receive the upper ends 10 of the body portions of the plungers and to support the same in their proper relative positions. In the present instance this movement is imparted by rigidly securing the block 39 to an actuating member or slide 15 plate 41 which is preferably substantially rectangular in shape and is mounted to reciprocate in a vertical plane. A suitable guide is provided for the slide plate 41, such as a frame comprising four angle irons 20 supported upon the upper pair of arms 2 of the main frame and arranged to form guideways which receive the corners of the slide plate 41 and support the same in its proper position and permit of a free vertically reciprocating movement thereof. The 25 upper ends of the two pairs of angle irons 42 are connected by cross bars 43 upon which are mounted bearings 44 in which is journaled a crank shaft 45. This crank shaft 30 has the usual double crank arm 46 which is connected, by means of a pitman 47, with the slide plate 41.

The shaft 45 is rotated from a suitable source of power, and means under the control 35 of the operator are provided for starting and stopping the movement of the shaft at the proper points during the process of turning the glove. The means which I have here shown comprises a clutch, one member, 40 48, of which is rotatably mounted upon the shaft 45 and is held against longitudinal movement thereon by means of collars 49 and 50, the collar 50 lying in a recess 51 formed in the face of the clutch member. 45 This clutch member has an elongated hub 52 which forms a pulley about which a power belt may be passed. The other member, 53, of the clutch is slidably mounted on the shaft 45 and is held against rotation 50 thereon, preferably by means of a key 54. A spring 55, which is confined between the outer face of the clutch member 53 and a disk 56 secured to the shaft 45 tends to move the clutch member 53 toward the clutch 55 member 48. The slidable clutch member 53 is provided at diametrically opposite points on its periphery with cams 57. A vertically reciprocable rod 58 is slidably 60 mounted in suitable brackets 59 and 60 secured to the angle irons 42 on the rear side of the machine and is provided at its upper end with a roller 61. This roller is so positioned that when the rod 58 is in its elevated position the roller will lie in a position to 65 be engaged by the inclined surface of one of

the cams 57, and, as this cam rides over the roller the clutch member 53 which carries the cam will be forced outwardly, away from the clutch member 48, thus breaking 70 the connection between the source of power and the driving shaft. A foot lever 62 is connected to the lower end of the rod 58 in such a manner that a slight pressure by the foot of the operator will move the rod 58 75 downwardly, carrying the roller 61 away from and out of the path of the cam 57, which has been in engagement therewith, and permitting the spring 55 to move the clutch member 53 into operative engagement with the clutch member 48. As soon 80 as the roller 61 has been released from the cam the pressure on the foot lever 62 is relieved and the spring 63 returns the same to its uppermost position in time to engage the cam 57 on the opposite edge of the 85 clutch member and again break the connection between the shaft 45 and the source of power. By this means the operation of the machine is automatically interrupted at every half revolution of the shaft and the 90 mechanism for interrupting the movement of the shaft is so arranged that the interruptions will take place when the plungers are in their lowermost and uppermost positions. 95

In the operation of the machine and with the parts in their normal positions, as shown in Figs. 1 and 2, the operator pulls a glove, wrong side out, over the finger and thumb receivers 10 and 11, each receiver entering 100 its particular finger. The foot lever 62 is then actuated to release the clutch member 53 and permit the power to be applied to the plungers which move downwardly. The lower ends of the several plungers engage 105 the tips of their respective glove fingers at substantially the same time and force the same into the receivers, the edges of the upper ends of which have been rounded to prevent injury of the glove. If the glove is 110 of soft or comparatively light material, each plunger will probably force its finger entirely into the corresponding receiver and against the bottom thereof before the springs 25 will be compressed, but, if the 115 glove is of heavy or stiff material, the springs 25 will probably be compressed before the fingers are completely turned. In either instance each receiver is moved downwardly until the shoulder 22 at the lower 120 end thereof rests upon the upper end of the cylinder or guide 24, thereby bringing the receiver to a full stop and causing the finger to be completely turned if this has not been accomplished heretofore. The new posi- 125 tions assumed by the receivers when they are in engagement with the cylinders 24 are the reverse of those occupied by them when in their normal or elevated positions and correspond to the relative positions of the 130



fingers of the glove, which positions have been reversed by the turning operation. In the downward movement of the plungers the little finger will first strike the bottom of its receiver and the other fingers will engage the bottoms of their receivers successively, according to the relative lengths of the plungers and the depths of the respective receivers. With the plunger resting upon the bottom of the receiver and the receiver resting upon the cylinder or guide 24, the movement of the plunger is necessarily checked, but the continued movement of the actuating member merely compresses the spring 34 which is back of the plunger and permits the other plungers to be moved downwardly until their movement also is checked, thereby permitting each plunger to engage the bottom of its respective receiver when that receiver is in its lowermost position and insuring the complete turning of each glove finger and of the thumb. The length of the reduced portion of the plunger which turns the middle finger is such that it will reach its lowermost position at the same time that the actuating member or slide plate 41 reaches its lowermost position. At the same time that the plungers reach their lowermost positions the roller 61 will engage the cam 57 on the clutch member and move the same out of operative relation with the other clutch member, thus stopping the movement of the plungers. The operator then grasps the wrist of the glove and turns the same up over the plungers, thereby completing the turning of the glove. As he does this he operates the foot lever 62 to release the clutch member and again apply the power to actuate the plungers. The plungers are then moved upwardly to their elevated position, and, as they reach this position, the roller 61 engages the other cam 57 and again separates the clutch and stops the movement of the plungers. The turned glove is then removed from the plungers and another unturned glove drawn over the receivers and the operation repeated.

It will be obvious that the device can be readily adapted to turn mittens instead of gloves, and, in Figs. 12 and 13, I have shown a receiver 64 which is rigidly secured to the supporting plate 9 and is of such a size and shape as to receive the hand portion of the mitten and a plunger 65 corresponding in size and shape to the receiver 64 is carried by suitable guide rods 66 which extend through the supporting plates 5 and 6 and are operated in the same manner as are the plungers above described. The thumb of the mitten is sewed to the hand portion thereof right side out, and, consequently, there is no need to provide means for turning the same.

While I have shown and described the machine as mounted upon a vertical frame

with the plungers reciprocating vertically, it will be apparent that the positions of these parts are not essential to the operation of the machine and it will further be apparent that the construction and arrangement of the parts can be materially altered without departing from the spirit of my invention. Therefore, I wish it to be understood that I do not desire to be limited to the details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

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

1. A glove turning machine comprising two groups of turning members, each of said groups comprising a plurality of finger turning members and a thumb turning member, and means for moving one group of said members toward and away from the other group of said members.

2. A glove turning machine comprising two groups of turning members, one group comprising a plurality of finger turning members having their end arranged to correspond to the relative positions of the tips of the glove fingers, and a thumb turning member of less length than said finger turning members, and the other group of members comprising a plurality of cooperating finger turning members having their ends arranged inversely to the arrangement of the first finger turning members, and a thumb turning member of greater length than said finger turning members.

3. In a glove turning machine, the combination, with a group of finger turning members having their ends arranged to correspond to the relative positions of the tips of the glove fingers, and a group of cooperating finger turning members having their ends arranged inversely to the arrangement of the turning members of the first group, of driving mechanism for moving one group of finger turning members toward and away from the other group of finger turning members, means for actuating said driving mechanism and clutch mechanism for controlling the movement of said driving mechanism.

4. In a glove turning machine, the combination, with two groups of turning members, each of said groups comprising a plurality of finger turning members and a thumb turning member, of driving mechanism operatively connected to one of said groups of turning members to move the same toward and away from the other of said groups of turning members, means for actuating said driving mechanism and clutch mechanism arranged to be actuated by the operator for controlling the movement of said driving mechanism.

5. In a glove turning machine, the combination, with two groups of turning members,



one of said groups comprising a thumb turning member and a plurality of finger turning members, having their ends arranged to correspond to the relative positions of the tips of the glove fingers, and the other of said groups comprising a thumb member and a plurality of cooperating finger turning members, having their ends arranged inversely to the arrangement of the first-mentioned finger turning members, of driving mechanism operatively connected to one of said groups of turning members for moving the same toward and away from the other of said groups of turning members, and means actuated by the operator for controlling the movement of said driving mechanism.

6. A glove turning machine comprising a plurality of independently cushioned finger receivers, a corresponding plurality of plungers, and means for causing said plungers to enter said receivers.

7. A glove turning machine comprising a plurality of independently movable finger receivers, a spring for each of said receivers arranged to resist the movement of that receiver, a corresponding plurality of plungers, and means for causing said plungers to enter said receivers.

8. In a glove turning machine, the combination, with a plurality of cushioned finger receivers, of a plurality of cushioned plungers arranged to cooperate with said receivers.

9. A glove turning machine comprising a plurality of cushioned finger receivers having their ends arranged to correspond to the relative positions of the tips of the glove fingers, of a corresponding plurality of plungers having their ends arranged inversely to the arrangement of said receivers, a part of said plungers being cushioned.

10. In a glove turning machine, the combination, with a plurality of finger receivers, and a thumb receiver, of a plurality of finger turning plungers, a cushioned thumb turning plunger, and means for causing said plungers to enter said receivers.

11. In a glove turning machine, the combination, with a main frame, an independently movable finger receiver slidably mounted in said main frame, a spring arranged to support said receiver in its normal position, and means for limiting the movement of said receiver against the tension of said spring, of a plunger movably mounted on said main frame and adapted to enter said receiver.

12. In a glove turning machine, the combination, with a main frame, a plurality of independent receivers slidably mounted thereon and having their ends arranged to correspond to the relative positions of the tips of the glove fingers, springs arranged to retain said receivers in their normal positions, and means for limiting the movement

of said receivers against the tension of said springs, said means being arranged inversely to the arrangement of the ends of said receivers, of a plurality of cooperating plungers having their ends arranged inversely to the arrangement of said receivers, and means for actuating said plungers.

13. In a glove turning machine, the combination, with a main frame, a plurality of finger receivers slidably mounted in said main frame, a stem depending from each of said receivers, a guide supported beneath each of said receivers, and a spring confined within said guide and adapted to engage the end of said stem, of a plurality of cooperating plungers movably mounted in said main frame, and means for actuating said plungers.

14. In a glove turning machine, the combination, with a main frame, of a plurality of independently movable finger receivers slidably mounted in said main frame and each comprising a body portion having a tubular upper end, a stem depending from said body portion and having a head at the lower end thereof, a guide supported beneath each receiver and adapted to receive the head carried by said stem, and a spring confined within said guide and adapted to engage the head of said stem to retain said receiver in its normal position.

15. In a glove turning machine, the combination, with a plurality of tubular finger receivers having their bottoms arranged substantially in the same horizontal plane, and a corresponding plurality of plungers having their ends arranged inversely to the relative positions of the tips of the glove fingers, of means for cushioning a part of said plungers to enable all of said plungers to engage the bottoms of the respective receivers at the same time.

16. In a glove turning machine, the combination, with a main frame, and a finger receiver mounted therein, of a plunger movably mounted in said main frame and comprising a body having a hollow end portion, a reduced portion having one end extending into the hollow end of said body and provided with a head, and a spring confined within said hollow portion and exerting an outward pressure on said reduced portion.

17. In a glove turning machine, the combination, with a plurality of finger turning members arranged in substantial alinement to engage the fingers of a glove, and a thumb turning member arranged near said finger turning members and in position to engage the thumb of said glove, of means cooperating with said turning members to turn a glove.

18. In a glove turning machine, the combination, with a plurality of finger turning members arranged in substantial alinement, a thumb turning member, and means for



supporting said thumb turning member on either side of the line of said finger turning members, of means coöperating with said finger turning members to turn a glove.

5 19. In a glove turning machine, the combination, with a transverse supporting member, a plurality of finger receivers arranged thereon in substantial alinement, a thumb receiver, and means for securing said thumb  
10 receiver to said supporting member on either side of the line of said finger receivers, of means coöperating with said receivers to turn a glove.

15 20. In a glove turning machine, the combination, with a main frame, a plurality of finger receivers arranged in substantial alinement upon said main frame, a thumb receiver, and means for securing said thumb  
20 receiver to said main frame on either side of the line of said finger receivers, of a plurality of finger turning plungers movably mounted in said main frame and arranged in substantial alinement, a thumb turning  
25 plunger, and means for movably mounting said thumb turning plunger on said main frame on either side of the line of said finger turning plungers.

21. In a glove turning machine, the combination, with a main frame comprising a  
30 vertical member, and a plurality of pairs of parallel guides, of a plate supported by one pair of said guides, a plurality of receivers carried by said plate, a plate mounted in each of the other pairs of said guides, plungers reciprocally mounted in said last mentioned plates, and means for actuating said  
35 plungers.

22. In a glove turning machine, the combination, with a main frame comprising a  
40 vertical member having a pair of parallel arms extending therefrom near the lower end thereof and having their adjacent faces provided with guideways, said vertical member also having two pairs of parallel arms  
45 extending therefrom near the upper end thereof and spaced some distance apart, the arms of each pair having their adjacent faces provided with guideways, a plate removably mounted in the guideways of each pair of arms, a plurality of finger receivers  
50 mounted on the plate carried by the lower pair of arms and removable with said plate, and a plurality of plungers slidably mounted in the plates carried by the upper arms and removable with said plates.  
55

23. In a mechanism of the character described, a receiver, a plunger movable toward and away from said receiver, a driving mechanism operatively connected to said  
60 plunger, and clutch mechanism for controlling the movement of said driving mechanism.

24. In a mechanism of the character described, a receiver, a plunger movable toward  
65 and away from said receiver, a driving

mechanism operatively connected to said plunger, and means under the control of the operator for interrupting the movement of said plunger at the opposite extremities of such movement.

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25. In a glove turning machine, the combination with a main frame, a receiver mounted on said main frame, a plunger mounted on said main frame, one of said members being movable toward and away  
75 from the other, a crank shaft supported by said main frame and operatively connected to said movable member, means for rotating said shaft, and positively actuated means for interrupting the rotation of said shaft.  
80

26. In a glove turning machine, the combination, with a main frame, a receiver mounted on said main frame, a plunger mounted on said main frame, one of said members being movable toward and away  
85 from the other, a crank shaft supported by said main frame and operatively connected to said movable member, means for rotating said shaft, and automatically operated mechanism for interrupting the rotation of  
90 said shaft.

27. In a glove turning machine, the combination, with a main frame, a receiver mounted on said main frame, a plunger slidably mounted on said main frame, a  
95 crank shaft supported by said main frame and operatively connected to said plunger, a driving member for rotating said shaft, clutch devices for connecting said driving member to said shaft, a part arranged to engage one of said clutch members and interrupt the connection between said driving member and said shaft, and means under the control of the operator for moving said  
100 part out of engagement with said clutch device.  
105

28. In a glove turning machine, the combination, with a main frame, a receiver mounted on said main frame, a plunger slidably mounted on said main frame, a crank  
110 shaft supported above said main frame and operatively connected to said plunger, a clutch mounted on said shaft and comprising two members, one of said members being rotatable on said shaft and held against  
115 longitudinal movement relatively thereto, the other of said clutch members being slidably mounted on said shaft and held against rotation relatively thereto, a spring for holding said slidable clutch member normally in  
120 engagement with said rotatable clutch member, means for moving said slidable clutch member out of engagement with said rotatable clutch member, and means for actuating said rotatable clutch member.  
125

29. In a glove turning machine, the combination, with a main frame, a receiver mounted on said main frame, a plunger slidably mounted on said main frame, a crank  
130 shaft supported above said main frame and



operatively connected to said plunger, a clutch mounted on said shaft and comprising two members, one of said members being rotatable on said shaft and held against longitudinal movement relatively thereto, the other of said clutch members being slidably mounted on said shaft and held against rotation relatively thereto, said second clutch member having a plurality of cams secured to the periphery thereof and spaced fixed distances apart, a spring for holding said second clutch member in engagement with the first-mentioned clutch member, means for rotating the first-mentioned clutch member, a rod slidably mounted on said main frame, a roller carried by the upper end of said rod, and arranged to be engaged by the cams on said clutch member, a spring for holding said roller normally in the path of said cams, and means under the control of the operator for moving said roller out of the path of said cams.

30. In a glove turning machine, the combination, with a main frame, a plurality of finger receivers mounted on said main frame, a plurality of finger turning plungers slidably mounted on said main frame, an actuating member connected to said plungers and adapted to move the same in unison, of

a crank shaft supported above said actuating member, a pitman connecting the crank of said shaft to said actuating member, a clutch member rotatably mounted on said shaft and held against longitudinal movement relatively thereto, means for rotating said clutch member, a second clutch member slidably mounted on said shaft and held against rotation relatively thereto, a spring arranged to hold said second clutch member normally in engagement with the first-mentioned clutch member, a plurality of cams secured to the periphery of said second clutch member and spaced fixed distances apart, a rod slidably supported on said main frame, a roller carried by the upper end of said rod and adapted to extend into the path of the cams on said clutch member, a spring for holding said roller normally in a position to engage the cams on said clutch member, and a foot lever connected to said rod and adapted to move said roller into an inoperative position.

In testimony whereof, I affix my signature in presence of two witnesses.

JACOB E. CROSBY.

Witnesses:

J. FRED ANDERSON,  
EDWARD L. REED.