

Witnesses

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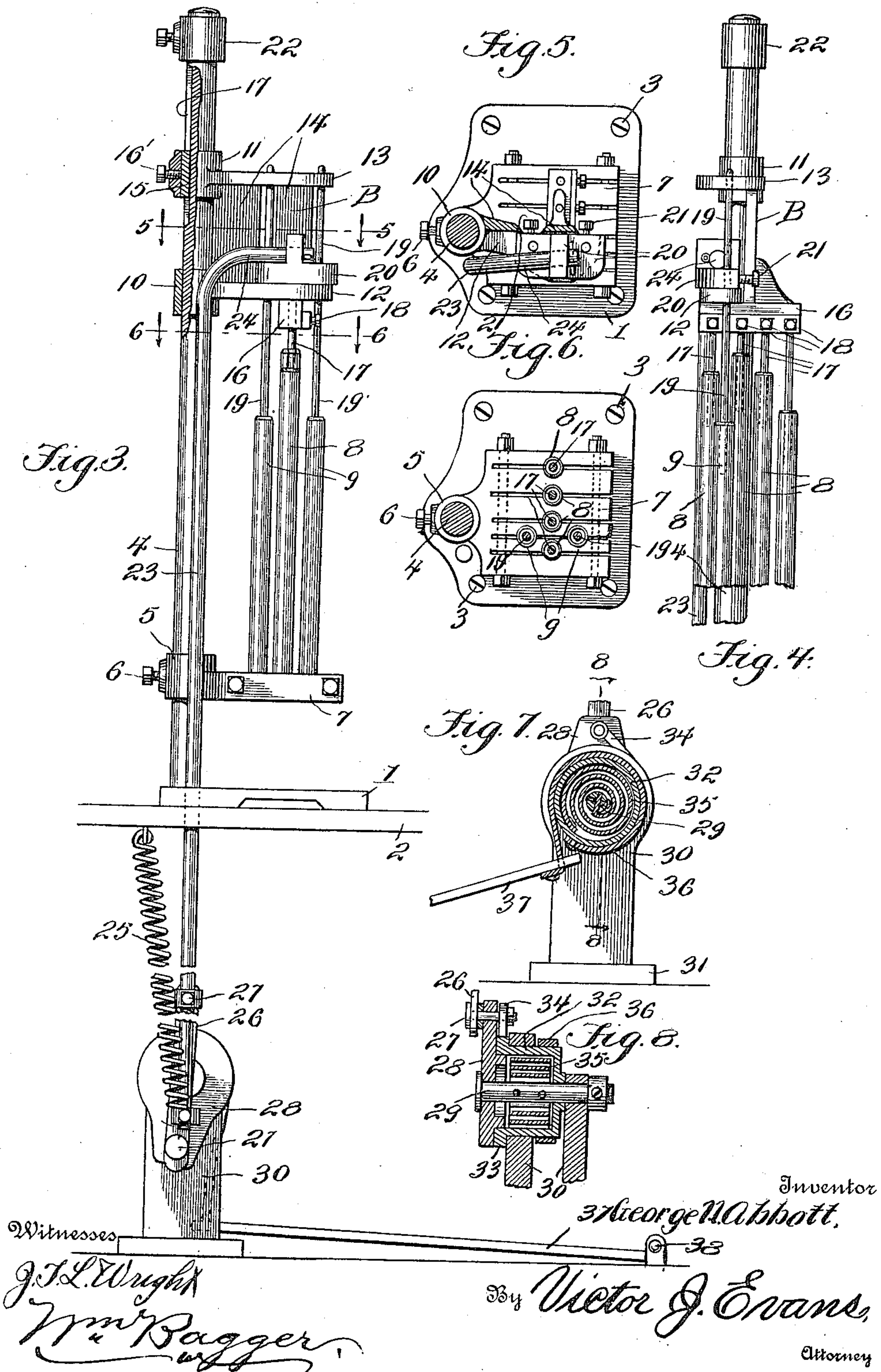
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G. N. ABBOTT.
GLOVE TURNING MACHINE.
APPLICATION FILED APR. 2, 1910

993,937.

Patented May 30, 1911.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

GEORGE N. ABBOTT, OF FINDLAY, OHIO, ASSIGNOR OF ONE-HALF TO CHARLES F. SAYRE, OF FINDLAY, OHIO.

GLOVE-TURNING MACHINE.

993,937.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed April 2, 1910. Serial No. 552,950.

To all whom it may concern:

Be it known that I, GEORGE N. ABBOTT, a citizen of the United States of America, residing at Findlay, in the county of Hancock and State of Ohio, have invented new and useful Improvements in Glove-Turning Machines, of which the following is a specification.

This invention relates to glove turning machines, and it has for its object to produce a device of this class which shall possess superior advantages in point of simplicity, durability and general efficiency.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but the changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings,—Figure 1 is a front elevation of a machine constructed in accordance with the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation showing the tube-carrying clamp at a different adjustment and showing the rod-carrying cross heads in tube-engaging position. Fig. 4 is a front view of the upper part of the machine with the parts disposed relatively in the position shown in Fig. 3. Fig. 5 is a horizontal sectional view on the line 5—5 in Fig. 3. Fig. 6 is a horizontal sectional view on the line 6—6 in Fig. 3. Fig. 7 is a vertical sectional detail view on the line 7—7 in Fig. 1. Fig. 8 is a sectional detail view on the line 8—8 in Fig. 7.

Corresponding parts in the several figures are denoted by like characters of reference.

The base 1 of the improved machine may be firmly secured in position for operation upon a bench or table 2 by means of fastening devices, such as bolts or screws 3, 3, as best seen in Figs. 5 and 6. The base supports an upright or standard 4 upon which a collar 5 is vertically adjustable and capable of being secured in position by means of a set screw 6, said collar being provided with

a laterally extending arm 7 constituting a clamping device in which the finger tubes 8, 8 and two thumb tubes 9, 9 are suitably mounted. It will be observed that four fingers tubes are used, said tubes being lined in a row and that the two thumb tubes are mounted at opposite sides of the row of finger tubes, thereby adapting the tubes to be engaged by either a right hand or a left hand glove.

A cross head B, which is mounted for vertical slidable movement upon the standard 4, includes a pair of sleeves or collars 10 and 11 having laterally extending arms 12 and 13 which are connected by suitable webs 14, the upper collar 11 being equipped with a jib or key 15 secured by a set screw 16' in engagement with a groove or way 17 in the standard 4, whereby the cross head is prevented from rotating about the standard. The cross head is provided with sockets 16 wherein finger rods 17 are secured by means of set screws 18, said rods being directly opposed to the finger tubes hereinbefore referred to. The arms 12 and 13 are apertured to form guideways for a pair of thumb rods 19 which are adjustably secured in an auxiliary cross head 20 by means of set screws 21, said auxiliary cross head being guided for vertical movement relatively to the main cross head B by means of the thumb rods 19, the movement of the auxiliary cross head being limited by the arms 12 and 13. A stop collar 22 is mounted adjacent to the upper end of the standard 4 to limit the upward movement of the cross head B.

An operating rod 23 is guided for vertical movement through apertures in the base 1 and the bench or table 2, said rod being bent at its upper end to form an arm 24 which is suitably connected with the auxiliary cross head 20. The lower end of the rod 23 is connected with the underside of the bench or table by a retracting spring 25, the tension of which is exerted to move the rod in an upward direction. Said rod is also connected by a pitman 26 with a wrist pin 27 upon a disk or cam 28 which is supported for rotation upon a shaft 29 mounted in bearings 30 upon a foot piece 31 which may be suitably secured upon the floor of the shop underneath the bench or table. The shaft 29 carries a spring barrel 32 having a ratchet wheel 33 which is en-

gaged by a dog or pawl 34 upon the disk or cam 28, which latter, when the spring barrel is turned against the tension of the spring 35, will be rotated by the action of the ratchet wheel 33 engaging the pawl. For the purpose of rotating the spring barrel in a spring-winding direction, there is provided a flexible member, such as a strap 36, one end of which is suitably attached exteriorly upon the spring barrel about which the said strap is partly wound, the opposite end of the strap being connected with one end of a treadle 37, the opposite end of which may be pivotally supported, as shown at 38.

In the operation of this device, the tube carrying cross head composed of the members 5 and 7 may be adjusted vertically and secured upon the standard by means of the set screw 6 in suitable position according to the size of the glove that is to be operated upon. The glove is now adjusted upon the finger tubes and one of the thumb tubes, and the treadle is now depressed to gradually rotate the spring barrel, thus gradually rotating the disk or cam 28 and lowering the operating rod 23 against the tension of the spring 25, thus moving the auxiliary cross head 20 in a downward direction. As the auxiliary cross head is being lowered, the cross head B will drop by gravity until the lower ends of the finger rods impinge upon the parts of the glove supported upon the finger tubes. The cross head 20 now continues its downward movement until it engages the lower arm 12 of the cross head B, when the latter will be forced positively in a downward direction, together with the cross head 20. The parts of the device are so adjusted and arranged that the positive simultaneous movement of the two cross heads shall begin at the time when the ends of the thumb tubes, as well as the finger tubes are in engagement with the object to be turned. The fingers and the thumbs of the glove will thus be turned simultaneously and without any relative displacement of the body of the glove, which is now grasped by the operator to complete the turning operation. It will be readily seen that the operator may gage the pressure upon the treadle and may thus absolutely control the downward movement of the rod-carrying cross heads, thus performing the turning operation gradually, delicately and deftly and without danger of injuring the glove. At the moment, however, when the rod 23 actuating the cross heads reaches the downward limit of its movement, the wrist pin 27 will pass the dead center, and the rod 23, together with the cross heads B and 20, will thus be instantaneously retracted or moved upwardly. The turned glove may now be removed, and the operator may release the pressure upon the treadle, thus causing the

latter to be raised by the action of the spring within the spring barrel which is now free to rotate until the treadle reaches the upward limit of its movement, and the machine is now ready for a repetition of the operation.

Having thus described the invention, what is claimed as new, is:—

1. In a machine of the character described, a row of finger tubes and two thumb tubes, the latter being arranged one adjacent to each side of the row of finger tubes for right and left hand work.

2. In a machine of the character described, a row of finger tubes, thumb tubes adjacent to opposite sides of said row, and finger and thumb rods supported movably in alinement with the respective tubes.

3. In a machine of the character described, a plurality of tubular glove supporting members including thumb engaging members, a standard, a cross head movable upon the standard, and tube-engaging rods carried by said cross head.

4. In a machine of the character described, a plurality of tubular glove supporting members, a standard, a cross head movable upon the standard, tube-engaging rods carried by the cross head, an auxiliary cross head guided upon the first cross head, and tube-engaging rods carried by the auxiliary cross head.

5. In a machine of the character described, a standard, a member slidably engaging the standard, finger and thumb tubes carried by said member, a cross head slidable upon the standard, an auxiliary cross head guided upon the first cross head, and finger and thumb rods carried by the two cross heads.

6. In a device of the character described, a standard, a plurality of finger and thumb tubes, a cross head slidable upon the standard, finger rods carried by said cross head, and an auxiliary cross head equipped with thumb rods slidably engaging the first cross head.

7. In a device of the character described, a plurality of relatively stationary finger and thumb tubes, a plurality of relatively movable finger and thumb rods, and means for moving the thumb rods and the finger rods independently in the direction of the tubes.

8. In a device of the character described, a standard, a plurality of relatively stationary tubes including thumb engaging tubes, a cross head slidable upon the standard, tube-engaging rods carried by the cross head, means for moving the rod-carrying cross head in the direction of the tubes, and independent means for retracting the cross head.

9. In a device of the character described, a standard, a plurality of relatively station-

ary tubes including thumb engaging tubes, a cross head slidable upon the standard and carrying a plurality of tube-engaging rods, means including a treadle for moving
5 the rod-carrying cross head in the direction of the tubes, means independent of the treadle for retracting the cross head, and spring means for elevating the treadle.

10 10. In a machine of the character described, a standard, a plurality of relatively stationary tubes, a cross head slidable upon the standard and carrying tube-engaging rods, an auxiliary cross head guided upon the first cross head and carrying tube-en-
15 gaging rods, a rod connected with the auxiliary cross head, a suitably supported shaft,

a spring barrel mounted upon the shaft and having a ratchet wheel, a disk supported for rotation upon the shaft and having a pawl engaging the ratchet wheel, a pitman 20 connecting the disk with the rod connected with the auxiliary cross head, a treadle, and a flexible element partly wound upon the spring barrel and connected at one end with said barrel and at the opposite end with the 25 treadle.

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

GEORGE N. ABBOTT.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
