

No. 748,463.

PATENTED DEC. 29, 1903.

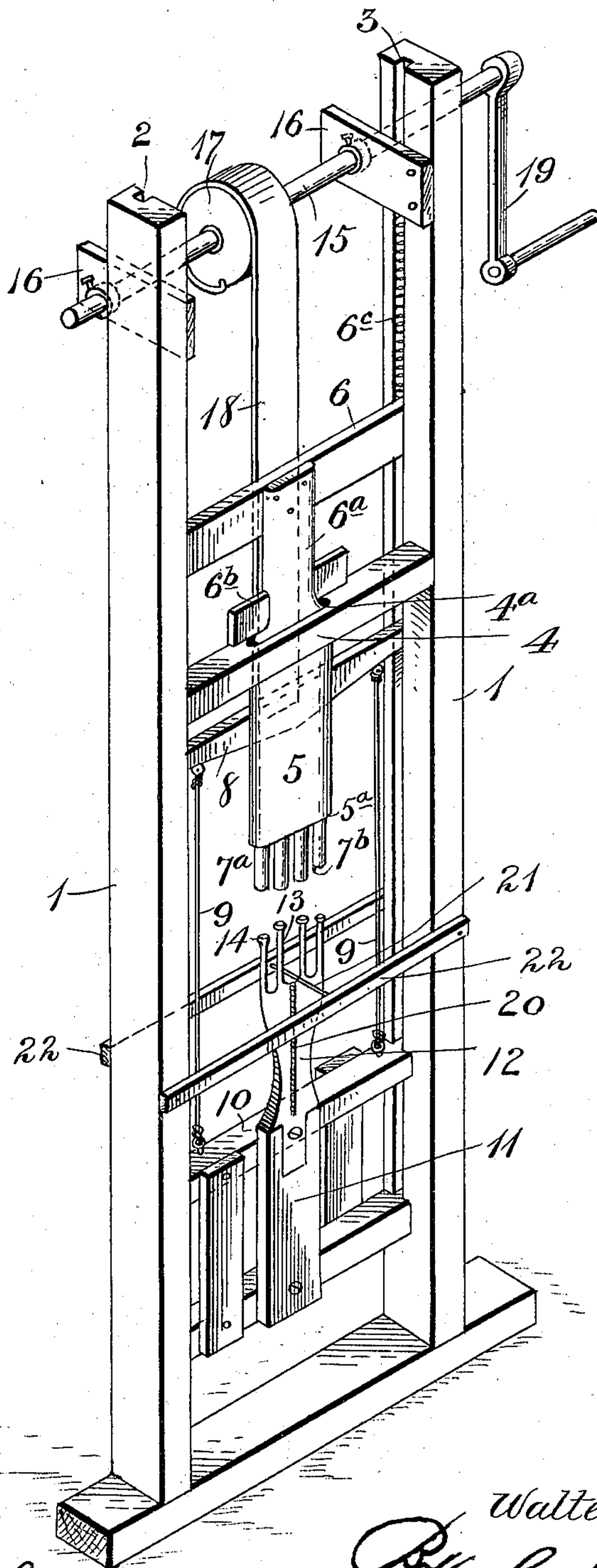
W. S. AYRES.  
MACHINE FOR TURNING GLOVES.

APPLICATION FILED MAY 1, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

*Fig. 1.*



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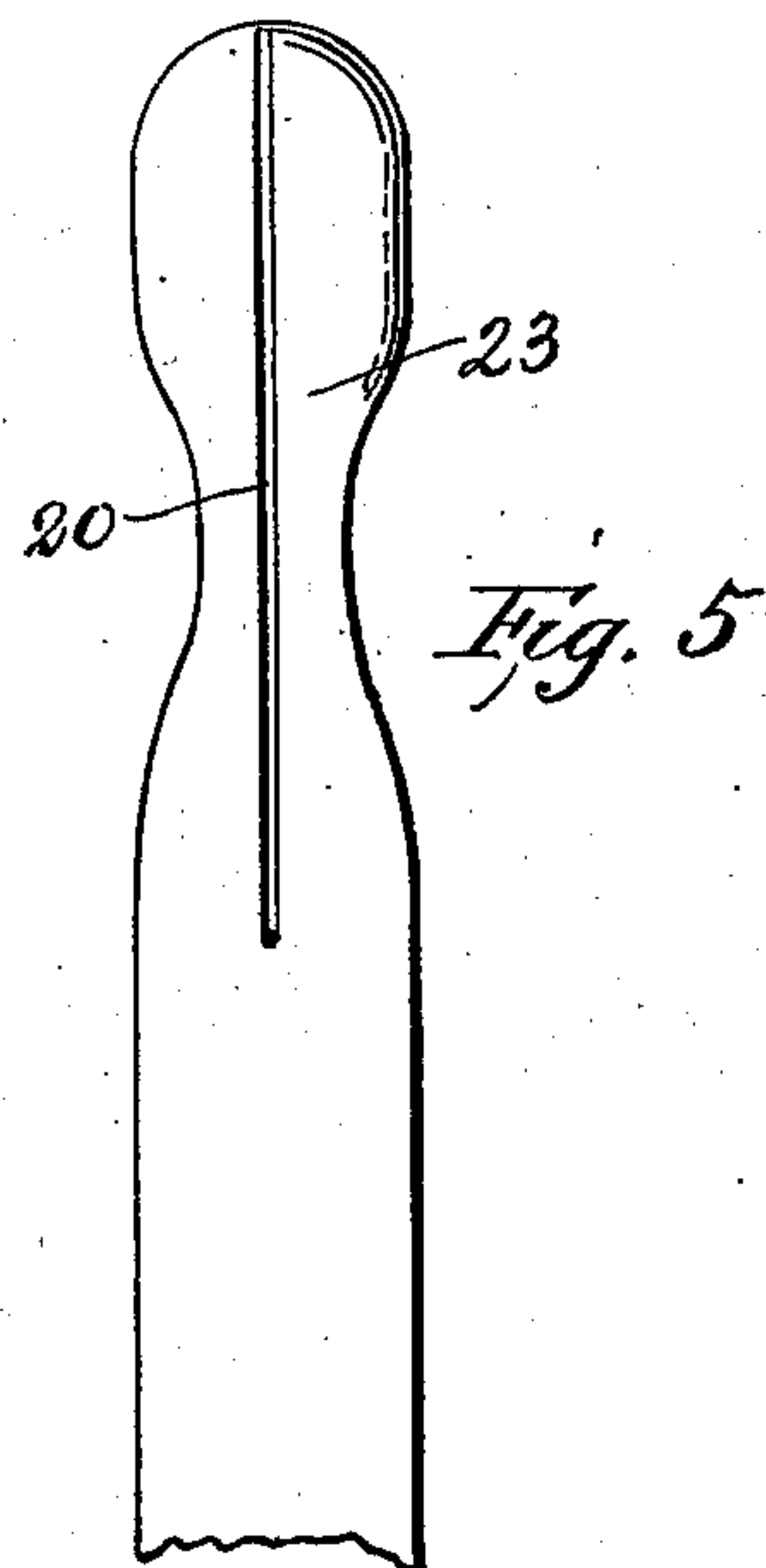
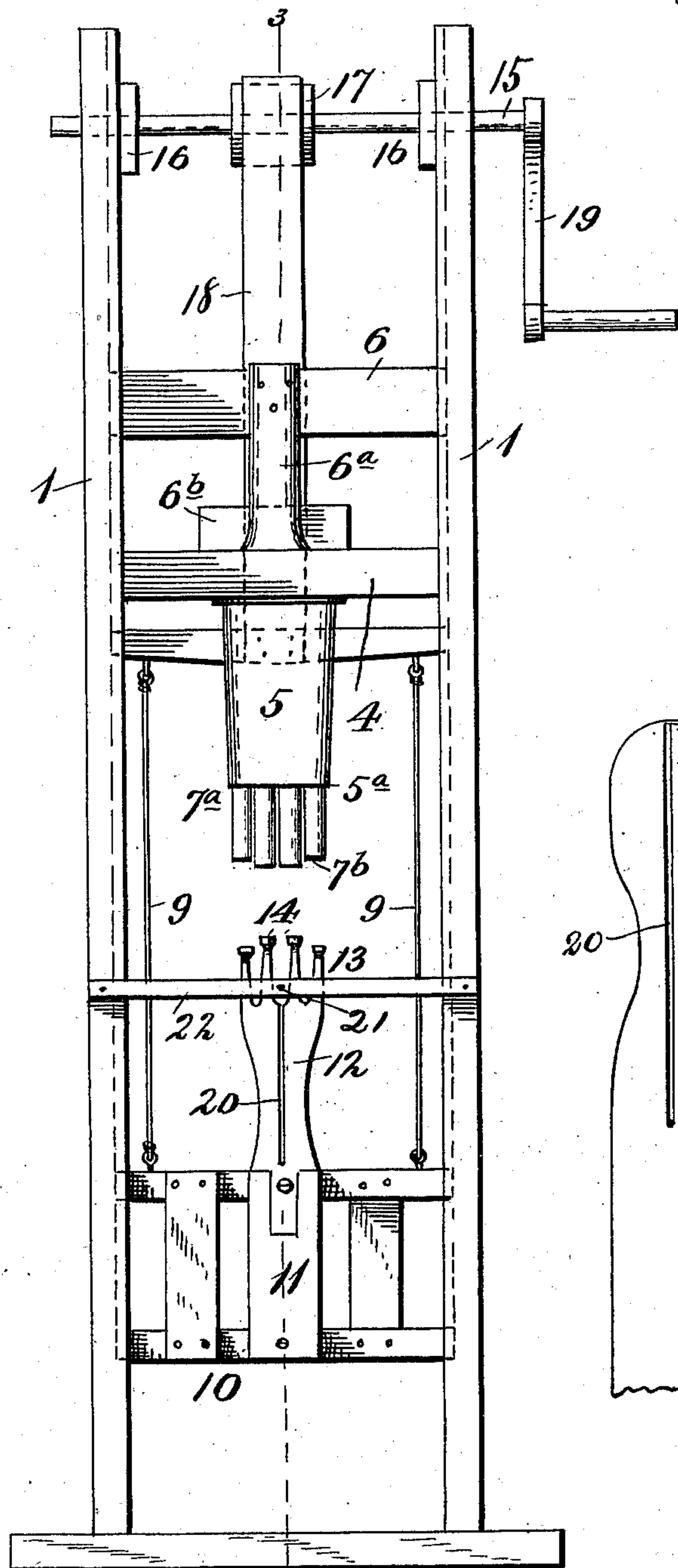
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3 SHEETS—SHEET 2.



**WITNESSES:**

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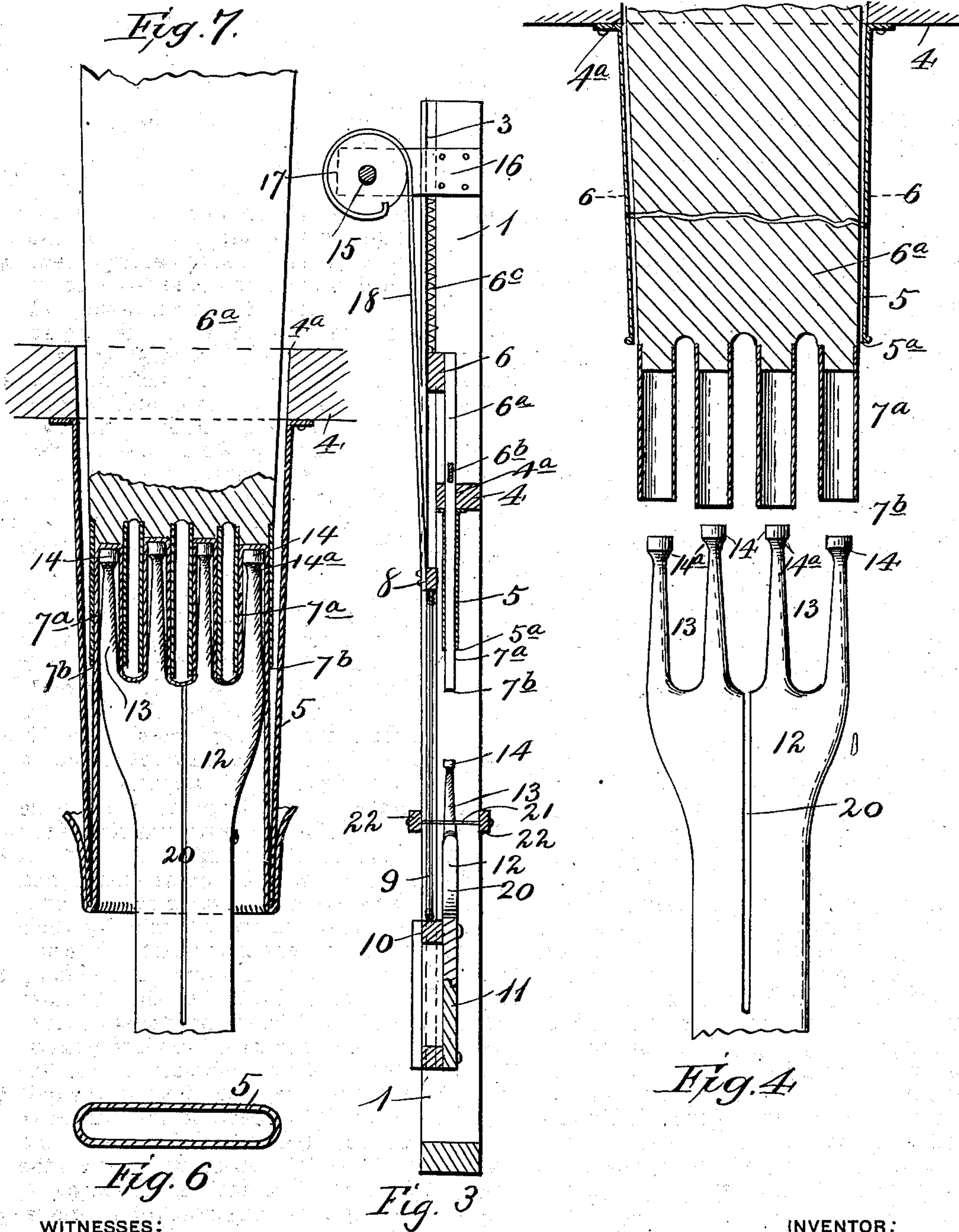
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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

WALTER SCOTT AYRES, OF WASHINGTON, IOWA.

## MACHINE FOR TURNING GLOVES.

SPECIFICATION forming part of Letters Patent No. 748,463, dated December 29, 1903.

Application filed May 1, 1903. Serial No. 155,173. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER SCOTT AYRES, a citizen of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented new and useful Improvements in Machines for Turning Gloves, of which the following is a specification.

My invention relates to glove-turners; and the object of the same is to construct a machine for automatically turning the fingers and hand portion of a glove and then tossing it into a receptacle to make room for another glove to be turned.

The simple and novel construction employed by me in carrying out my invention is fully described and claimed in this specification and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a perspective of my machine. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical transverse section of the same on the line 3 3, Fig. 2. Fig. 4 is a detail of the turning mechanism. Fig. 5 is a detail of a modification of the form. Fig. 6 is a cross-section of the sleeve on the line 6 6, Fig. 4. Fig. 7 is a section of the turning mechanism in the act of turning hand portion of the glove.

Like numerals of reference designate like parts in the different views of the drawings.

The numeral 1 designates two uprights having two longitudinal guide-grooves 2 therein. A cross-bar 4 connects the uprights 1 and has a transverse slot 4<sup>a</sup> formed therein to accommodate a sleeve 5 elliptical in cross-section. A cross-head 6 is slidingly mounted in the guide-grooves 2 and has a plunger 6<sup>a</sup> connected thereto, which extends downwardly into the sleeve 5 and carries four parallel tubes 7<sup>a</sup> open at their lower ends 7<sup>b</sup>, which normally extend about six inches—the length of the longest finger on a glove—below the lower end 5<sup>a</sup> or mouth of the sleeve 5. A bar 6<sup>b</sup> is attached to the plunger and sleeve to engage the upper side of the cross-bar 4 to limit the downward movement or drop of the cross-head 6 and hold it in its normal stationary position. Springs 6<sup>c</sup> bear on the cross-head 6 and serve to return it to its normal depressed position.

Mounted in the guide-groove 2 is a cross-

head 8, which is attached by wires 9 to a carriage 10, slidingly mounted in the lower ends of the guide-grooves 2, which carriage bearing an upwardly-extending plunger 11, carrying a detachable form 12 on its upper end. The form 12 has four fingers 13, having enlarged rounded heads 14 formed thereon, which are beveled off on their backs at 14<sup>a</sup> to adapt them to withdraw the glove-fingers from the tubes 7<sup>a</sup>, as will appear. The bevel 14<sup>a</sup> of the heads can be modified to suit different material. The fingers 13 are located in alinement with the tube 7<sup>a</sup>.

To drive the machine a shaft 15 is journaled in arms 16, secured to the upper ends of the uprights 1. A pulley 17 is secured on the shaft 15 and a belt 18 is connected at its upper end to the circumference of said pulley and at its lower end to the cross-head 8. A crank 19, adapted to be turned by hand, is fitted on one end of the shaft 15. A slot 20 traverses the body of the form 12, and a wire 21, stretched between two cross-bars 22, passes through the slot and serves to detach the glove therefrom, as will appear.

The operation of my machine can now be sketched. Suppose the initial position of the parts to be that illustrated in Fig. 1. A glove to be turned is grasped by the wristband and turned fingers down and drawn by hand over the sleeve 5, when the tubes 7<sup>a</sup> will find their way into the four pendent fingers. The machine is then driven by the crank 19 to wind up the belt 18 on the pulley 17, and thereby raise the carriage 10 and force the fingers 13 into the tubes 7<sup>a</sup>, together with the glove-fingers, thereby turning them. As soon as the fingers 13 have been inserted their full length into the tubes 7<sup>a</sup> the ends of the fingers 13 will engage the upper ends of the tubes 7<sup>a</sup> and raise them up. This action will permit the body of the form 12 to pass into the sleeve 5, thereby turning the hand portion of the glove. The crank 19 is then released, when the weight of the carriage or through the reaction of springs provided for the purpose will withdraw the form 12 from the sleeve 5 and the fingers 13 from the tubes 7<sup>a</sup>. The heads 14 on the fingers 13 will engage the glove-fingers and hold them on the fingers 13 until withdrawn from the tubes 7<sup>a</sup>. As the carriage descends farther the wire 21 will engage the wristband



of the glove and force it up, thereby pushing the glove off of the form 12 and tossing it on the floor or into a receptacle placed to receive it. The cross-head 6 and plunger 6<sup>a</sup> are forced  
 5 down by the springs 6<sup>c</sup> and the machine is ready to receive another glove. In case the heads 14 do not serve to withdraw the fingers from the finger-tubes another wire can be mounted to engage the glove to pull it off of  
 10 the tubes in the same manner the wire 21 does off of the form 12.

In operating on mittens the form 12 is removed and a form 23 (see Fig. 5) substituted which has no fingers thereon. The cross-head  
 15 6 is also dispensed with and can be raised up and secured. The mitten to be operated on is then drawn over the sleeve 5 and the machine operated the same as before to force the form 23 into the sleeve 5 to turn the mitten.  
 20 I do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the spirit of my invention.

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

1. In a machine for turning gloves, the combination of a sleeve shaped to fit within the hand portion of a glove, a slidingly-mounted  
 30 plunger bearing tubes open at their lower ends which extend through and a finger length beyond the lower end of said sleeve, a carriage carrying a form bearing fingers mounted in alinement with said tube, and means for  
 35 reciprocating said carriage, substantially as described.

2. In a machine for turning gloves, the combination of a sleeve adapted to fit the hand portion of a glove, a slidingly-mounted plunger  
 40 loosely fitting within said sleeve and bearing hollow tubes open at their lower ends which normally extend below the lower end of said sleeve, a slidingly-mounted plunger bearing fingers located in alinement with said  
 45 tube, and means for reciprocating said last-mentioned plunger to insert said fingers into said tube and force said tubes into said sleeve to turn the fingers and hand of a glove, substantially as described.

3. In a glove-turning machine the combination of a sleeve designed to fit within a glove, a slidingly-mounted form designed to fit within a glove, and means for reciprocating said  
 50 form to insert it into said sleeve and thereby turn a glove stretched on said sleeve, substantially as described.

4. In a machine for turning gloves, the combination of a sleeve shaped to fit within the hand portion of a glove, a yieldingly-mounted  
 60 plunger extending into said sleeve and bear-

ing tubes designed to fit within the fingers of a glove, a slidingly-mounted plunger bearing a glove-form provided with fingers located in alinement with said tubes and having enlarged heads thereon, and means for reciprocating said plunger to insert said fingers into  
 65 said tubes and force said first-mentioned plunger to yield, and then withdraw said fingers from said tubes together with the turned glove which is held by said heads, substantially as described.

5. In a machine for turning gloves, the combination of a sleeve mounted substantially vertically, and shaped to fit the hand of a glove, yieldingly-mounted finger-tubes open  
 75 at their lower ends and extending below said sleeve, a slidingly-mounted vertical plunger bearing a glove-form provided with fingers located below said tubes and in alinement therewith, and means for reciprocating said  
 80 last-mentioned plunger to turn a glove placed fingers down on said sleeve and fitted over said tubes, substantially as described.

6. In a glove-turning machine, the combination of parallel tubes open at their ends and shaped to fit within the fingers of a glove, a slidingly-mounted glove-form bearing fingers having enlarged heads beveled off on their backs to adapt them to engage and hold the  
 90 fingers of a glove while being withdrawn from said tubes, and means for reciprocating said form to insert said fingers into said tube and then withdraw them to turn a glove placed on said tubes, substantially as described.

7. In a glove-turning machine, the combination of a slidingly-mounted glove-form having a longitudinal slot therein, a wire mounted in alinement with said slot to engage and remove a glove from said form, and means  
 100 for reciprocating said form, substantially as described.

8. In a glove-turning mechanism, the combination of a sleeve shaped to fit within the hand portion of a glove, yieldingly-mounted finger-tubes extending through and beyond  
 105 said sleeve, a slidingly-mounted glove-form bearing fingers located in alinement with said tubes, said form having a slot therein, a wire mounted in alinement with said slot to engage a glove and remove it from said form  
 110 and means for reciprocating said form to turn a glove, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WALTER SCOTT AYRES.

Witnesses:

SCHWYLER W. LIVINGSTON,  
 A. S. FOLGER.