

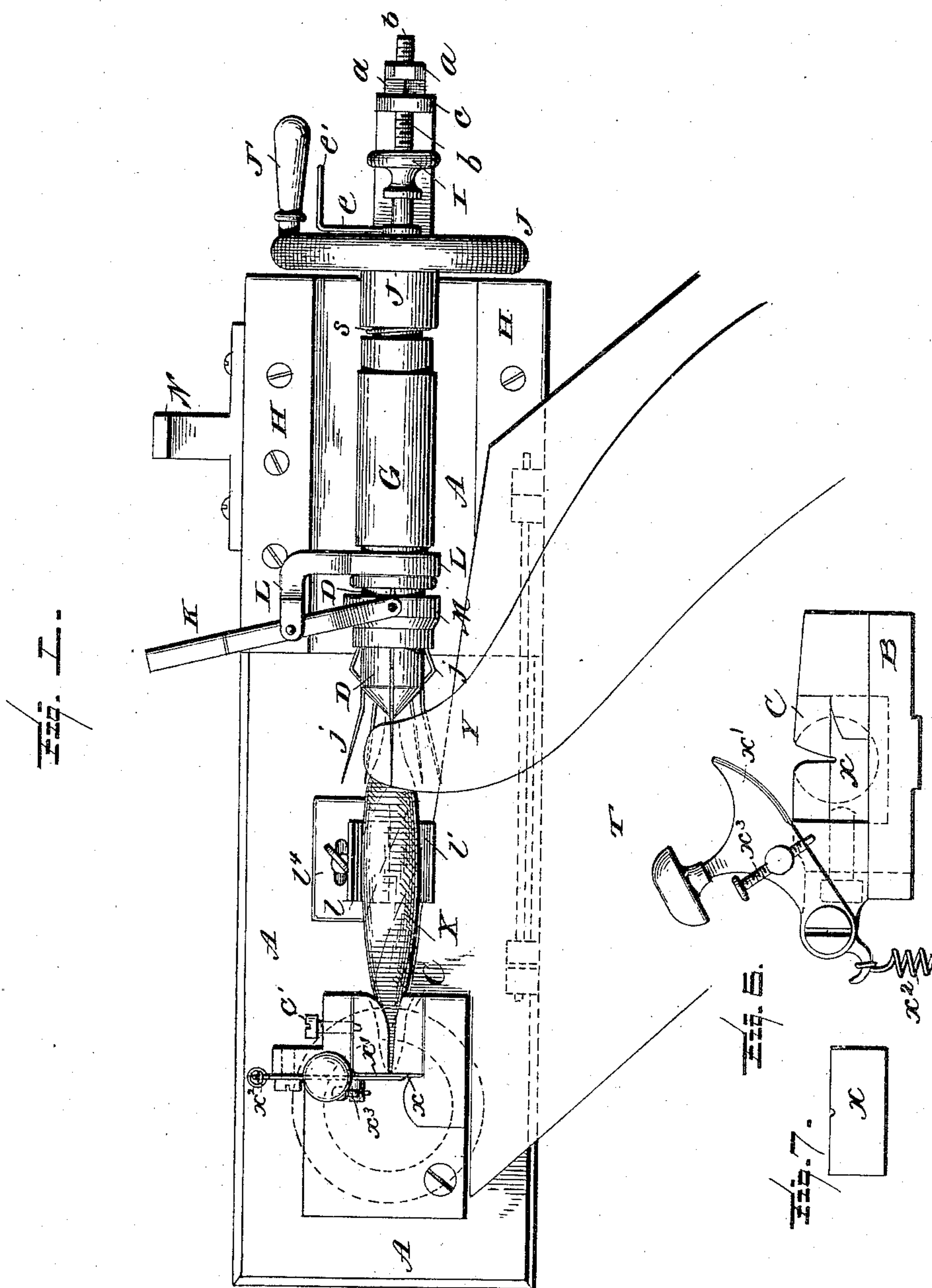
(No Model.)

2 Sheets—Sheet 1.

C. W. BOMAN.
CIGAR ROLLING MACHINE.

No. 442,945.

Patented Dec. 16, 1890.



Witnesses

L. C. Hills
William H. Shipley,

Inventor

Witness my hand and seal
this 10th day of March 1891

Charles W. Bryan
by Marshall Sailer
his Attorney

(No Model.)

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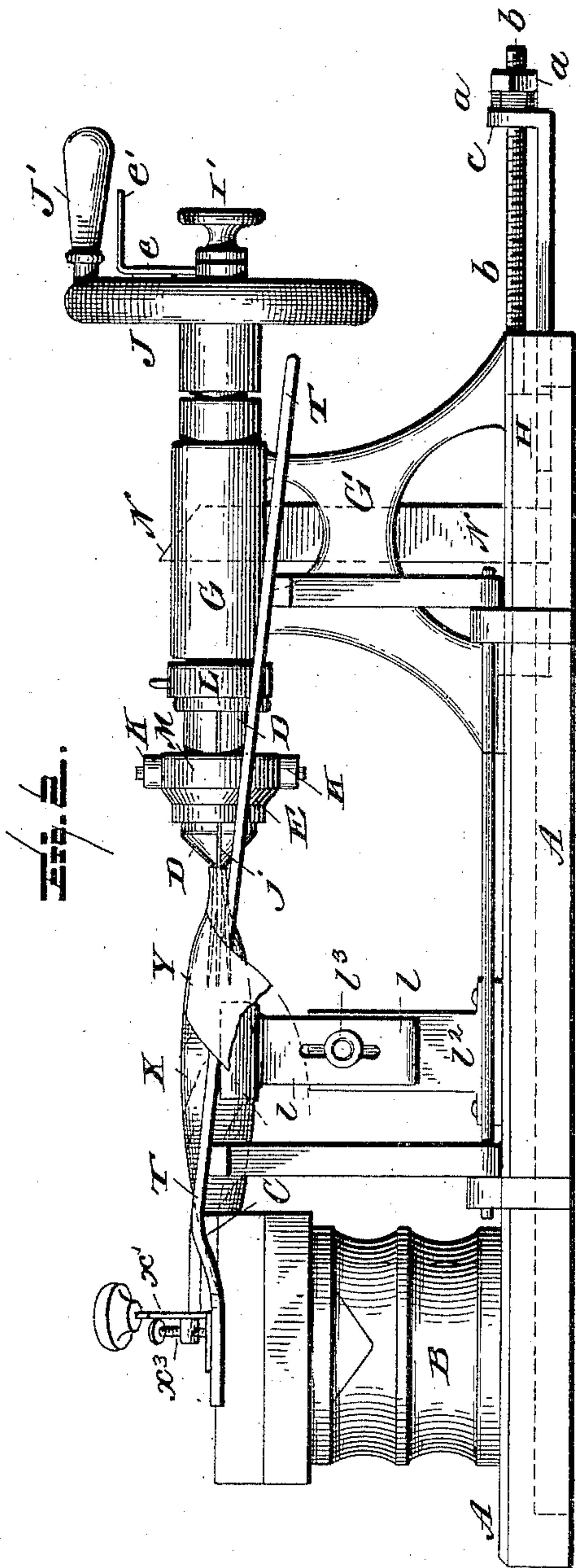
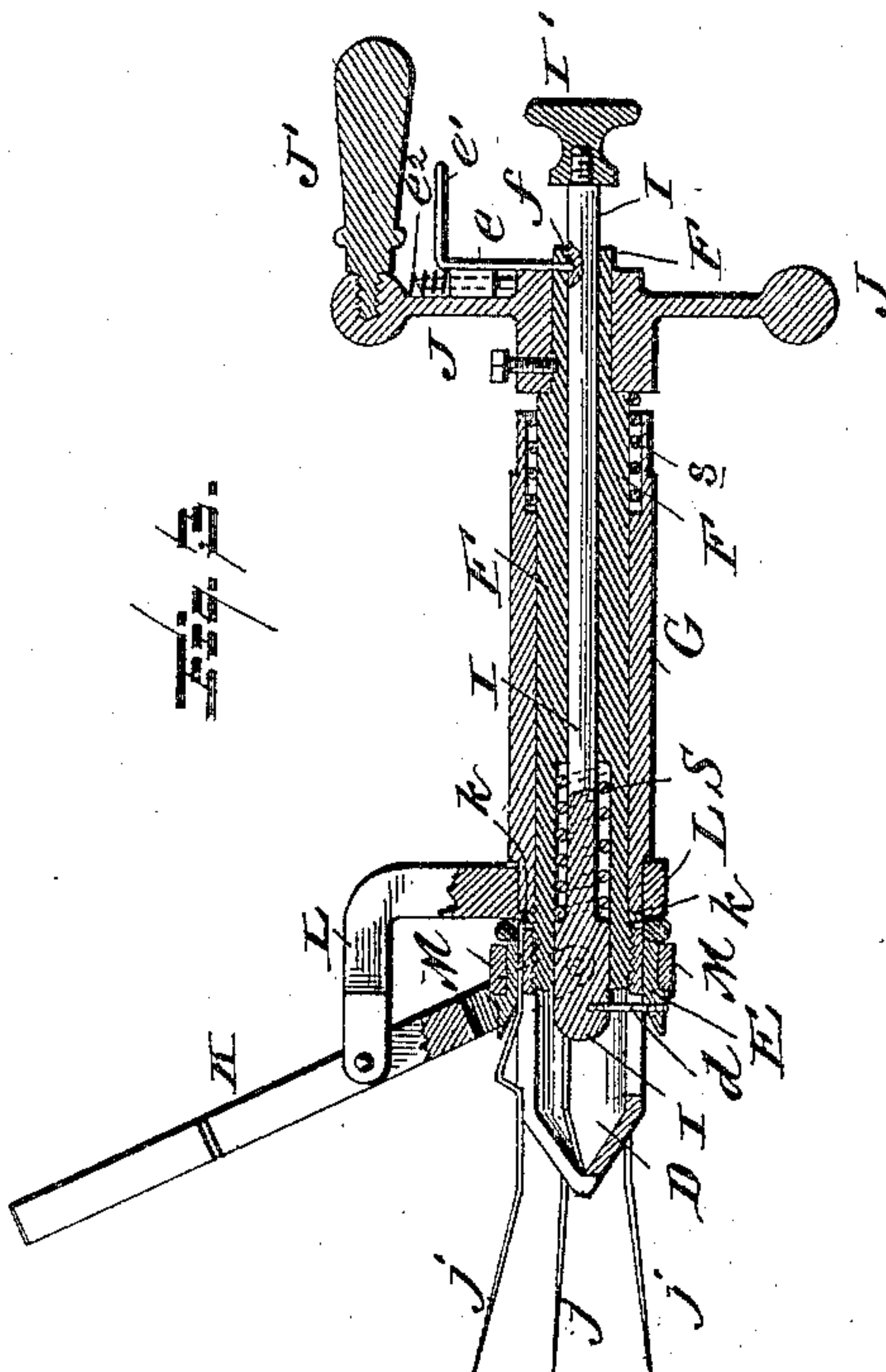
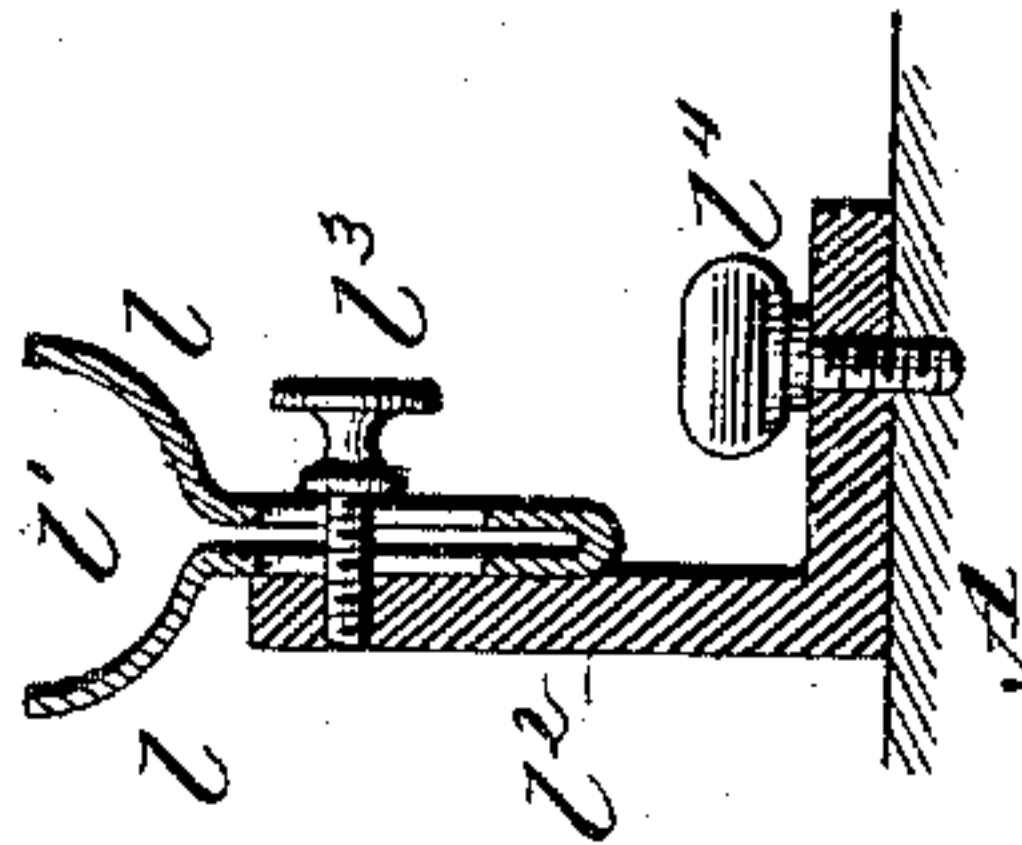


Fig. 2.

Fig. 3.

Fig. 4.



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L. C. Mills.
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UNITED STATES PATENT OFFICE.

CLAES W. BOMAN, OF NEW YORK, N. Y.

CIGAR-ROLLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 442,945, dated December 16, 1890.

Application filed August 15, 1890. Serial No. 362,112. (No model.)

To all whom it may concern:

Be it known that I, CLAES W. BOMAN, of the city, county, and State of New York, have invented certain new and useful Improve-
5 ments in Cigar Rolling or Wrapping Machines, of which the following is a specification.

My invention has reference to machines for applying the wrapper to a cigar "bunch" or
10 "filler;" and it has to do principally with the appliances which take hold of that end of the bunch or filler to which the front end of the wrapper is applied, which end of the cigar I shall hereinafter term the "tuck end." Diffi-
15 culty heretofore has been experienced in tucking the front end of the wrapper into or between the cigar wrapping or rolling appliances so that it shall be held securely in place at the time the cigar bunch or filler is put in
20 revolution, and various means for the purpose have been essayed.

My invention has in view the holding of the tuck or front end of the wrapper, as well as a simplification of the means for holding and
25 revolving the cigar-filler by its tuck end. What I employ for the purpose is a set of elastic fingers or jaws which can and are adapted to close upon the tuck end of the bunch, and are spring yielding, so as to automatically
30 adapt themselves to the shape of the part of the bunch which they grasp, said fingers or jaws serving not only to hold the tuck end of the wrapper, but to revolve the bunch. In practice I use, in conjunction with these ap-
35 pliances, a suitable thimble for the point or tip of the bunch and a rest for the body of the bunch, which serves merely as a support for the same before the spring-fingers are applied to and closed upon the bunch. The front
40 end of the wrapper is applied to the bunch in proper position before the spring jaws or fingers are closed, and then when the latter are closed they close not only on the tuck end of the bunch itself, but also on the tuck end or
45 front end of the wrapper, which is thus held most firmly. By revolving the jaws the cigar-bunch is caused to revolve and the wrapper is applied. When thus applied, it covers or enfolds the ends of the spring fingers or jaws
50 which clasp the tuck end of the bunch. This, however, is of no consequence. The jaws are so formed and arranged that when closed they

have a tendency to press toward each other, and by reason of this tendency it is very easy to withdraw them without disturbing the
55 wrapper by sliding back the chuck or carrier on which they are mounted.

The nature of my invention and the manner in which the same is or may be carried into effect can, however, best be explained and
60 understood by reference to the accompanying drawings, in which—

Figure 1 is a plan, and Fig. 2 is a side elevation, of a machine embodying my improvements in their preferred form. In Fig. 1 the
65 spring jaws or fingers are represented in their open position with the tuck or front end of the wrapper in position on the bunch to be clasped by one of the jaws when the latter close. In Fig. 2 the jaws or fingers are rep-
70 resented as closed upon the bunch, and the wrapper is shown as applied far enough to cover the fingers. Fig. 3 is a longitudinal central horizontal section of the finger chuck or carrier. Fig. 4 is a transverse vertical section
75 of the cigar support or rest, which is located in the machine between the thimble and the chuck or carrier. Fig. 5 is a detached view of one of the jaws or fingers. Fig. 6 is an outside end elevation of the thimble and
80 its support. Fig. 7 is a view of the stationary part of the cutter.

The several parts of the machine are mounted upon and carried by a frame A. At one end is a stand B for the thimble C, which is
85 of conical form, with a longitudinal slit in its top for the passage of the wrapper and a cutter consisting of the stationary and movable members $x x'$. This thimble is removable, to the end that thimbles of different
90 shapes (according to the particular shape of the cigar) may be used with one and the same stand or head-piece B. To this end the thimble is fitted into a recess formed for it in the frame, and is there held by a set-screw C'.
95 The stationary member of the cutter for the point of the wrapper is a steel blade x , which is set in the stand B, just back of the thimble. The movable member of the cutter is the hinged blade x' , upwardly pulled by spring
100 x^2 , and having its downstroke limited by set-screw x^3 . The cutter makes simply a slit in the wrapper, not punching or cutting out a portion of the tip end of the wrapper as usu-

ally has been done, and the length of this slit is determined by the adjustment of the set-screw x^3 . The thimble alone is removable from the stand, the cutter itself being adapted for use with thimbles of various shapes.

In practice the point or tip of the bunch or filler is inserted in and supported by the thimble. The other end, or "tuck end," as I have termed it, is clasped and supported by the mechanism in which my present invention is mainly comprised, and which will now be described. This mechanism comprises, essentially, fingers or jaws capable of closing together to clasp the end of the bunch to which they are applied, and of opening so as to separate or stand apart for the purpose of receiving the end of the bunch, a chuck or carrier for said fingers, and a clamp for closing the fingers. The chuck is movable longitudinally to and from the thimble, and the clamp is preferably spring-pressed, so that normally it will act upon the fingers or jaws in such manner as to cause them to close together with yielding pressure. With this spring-pressed clamp is combined a detent by which it can be retained retracted in a position where it will not operate to close the jaws. The latter are preferably spring-acting, and so set that normally and when uninfluenced by the clamp they will open or stand apart. One of these jaws j in its preferred form is shown detached in side elevation in Fig. 5. It is made, preferably, of steel piano-wire. The part 1 is that part which grasps the filler or bunch, the part 2 is the incline on which the spring-pressed clamp acts in closing the jaw, and the part 3 is the shank by which the jaw is secured to the chuck.

The chuck is shown at D. It has a separate slot formed in it for each jaw, of which there are in this instance five. The jaws normally stand apart, as seen in Fig. 1, and are acted on by a sleeve E, which surrounds and slides on the cylindrical portion of the chuck, and when pressed forward acts against the inclines on the jaws with the effect of closing the latter. The chuck is tubular, and at its rear end screws upon the front end of a spindle F, which is supported and capable of rotation in a tubular bearing G on the upper part of a stand G', which is capable of sliding movement toward and away from the thimble for the purpose of allowing the chuck, with its fingers or jaws, to be moved up to and back away from the tuck end of the bunch or filler. For this purpose the stand is held to the frame A in guideways H, in which it can slide, the extent of its forward or inward movement being regulated by set-nuts a on a screw-stem b , which is attached to the stand G', and at its outer end passes loosely through a stop-piece c , attached to the frame A. By adjusting the set-nuts on the screw the extent of inward movement of the stand G' can be regulated to a nicety to adjust the chuck and its jaws to cigars of different lengths.

The sleeve is spring-pressed in a direction to cause it to close the jaws. To this end it is connected by a cross-pin d (which passes through slots formed for it in and longitudinally of the chuck) with the head of a plunger I, which is mounted and adapted to slide lengthwise in the spindle F, which latter is suitably cored out to receive said plunger. Surrounding the plunger and confined between shoulders on the plunger and the spindle is a spiral spring S, which acts to press forward the plunger and consequently the sleeve. These parts thus form a spring-pressed clamp for closing the jaws with yielding pressure upon the bunch.

Upon the rear end of the spindle F (which projects beyond the bearing G) is mounted the hand or crank wheel J, by which the operator revolves the spindle, and upon this wheel is mounted the sliding detent or catch e , the inner end of which projects through a slot in the spindle F in position to engage a notch f in the plunger I, this notch being so placed that when the plunger has been moved back sufficiently to remove the clamp from the spring fingers or jaws it will come opposite to the detent or catch, which latter, by the impulse of a spring e^2 , is caused to automatically enter and engage the notch, and thus hold the plunger in retracted position against the stress of its impelling-spring S. The parts are represented in this position in Fig. 3. A finger-piece e' on the catch, located just beneath and in convenient proximity to the handle J' of the crank-wheel J, affords a convenient means by which the operator can at the proper moment operate the catch to release the plunger. A knob I' on the outer end of the plunger, which projects beyond the spindle F, affords a convenient means by which the operator can retract the plunger at any time. Another means for this purpose may be provided in the shape of a lever K, pivoted at its middle to a bracket-arm L, fixed to stand G', and provided at its inner end with a yoke having pins which enter a split ring or collar M, loose in a groove on the sleeve or clamp E, and having its outer end so placed with relation to a stop N on the frame A that when the stand G is pulled back a sufficient distance the lever will strike against the stop, and will thus be actuated to move the sleeve and consequently the plunger back far enough to permit the detent e to engage and hold the plunger.

At the rear end of the bearing G is a spiral spring s , housed by the bearing encircling the spindle and confined between shoulder on the bearing and a shoulder on the spindle, the latter shoulder being formed in this instance by the hub of the crank or hand wheel J. The spindle has a slight longitudinal play in the bearing, and by the spring it is pressed rearwardly to bring the annular flange k on its front end into contact with the front end of the bearing. This arrangement is a nicety rather than a necessity. Its object

primarily is to hold the spindle in whatever position it may be left when the operator's hand is taken off from the crank-wheel. Over and beyond this, however, the operator, after the cigar has been wrapped, can polish and finish the tip by pressing forward or inward the spindle at the same time that he revolves it, thus pressing the tip of the cigar into the thimble and polishing it by frictional contact with the latter.

Between the thimble and the chuck is a support or rest for the bunch or filler before it is seized by the jaws. This is virtually its only use. After the bunch has been gripped by the jaws it is supported by them at one end and by the thimble at the other end, and while these conditions last no other support is needed. The support or rest just referred to can be constructed in various ways. I prefer to make it of a strip of spring brass, which is doubled on itself to form legs l , which tend to spread apart, and which at their free ends are bent outwardly and away from each other to form a receptacle l' of U shape approximately, the diameter of which can be varied by allowing the legs to spread apart more or less. This device is attached to a bracket l^2 by a set-screw l^3 , which passes through longitudinal slots in the legs, thus allowing the support to be adjusted vertically to bunches or fillers of different diameter. The bracket l^2 is also held to the frame by a slot and set-screw device l^4 , which permits the support to be adjusted lengthwise of the cigar.

A table T is provided, as usual, in this class of machines for the wrapper which is to be applied to the cigar.

Having now described the mechanical construction of the machine, I shall proceed to describe the manner in which it is used and operated. Having first drawn back the stand G' and brought the jaws to their open position, as in Fig. 3, in which position they are locked by the detent e , the operator selects a bunch or filler X , places it on the support l' with its tip inserted in the thimble, then brings up the stand G' toward the bunch and adjusts it, if he has not done so already, to the particular length of cigar to be operated on. He then takes a wrapper Y , spreads it out properly on the table, and places its tuck end upon the tuck end of the filler or bunch and under one of the outspread fingers or jaws. The parts are represented in this position in Fig. 1. He then takes hold of the hand-wheel and draws on the catch e to release it from the plunger. As soon as this is done the plunger, by the spring S , is forced forward, thereby carrying along the sleeve or clamp E , which by pressing upon the inclines 2 of the jaws causes their ends to close upon and grip the tuck end of the cigar, as well as the tuck end of the wrapper. The jaws automatically adapt themselves to the end of the cigar, whatever may be its shape. With the cigar and wrapper thus held the operator turns the hand-wheel, thus revolving the cigar and insuring

the wrapping of the wrapper upon the filler, as indicated in Fig. 2. In this operation the wrapper, as seen in Fig. 2, incloses and envelops the ends of the jaws. This operation goes on until the bunch is completely wrapped, after which, by pressing forward and at the same time revolving the spindle, the wrapped tip of the cigar can be thoroughly polished and finished in the thimble, as hereinbefore explained. The operator then, taking the tuck end of the cigar in one hand, draws back with his other hand the stand, and consequently the chuck and the fingers, which latter, inasmuch as they have a tendency to close upon each other when pressed by the clamp, withdraw readily from the inclosing-wrapper without injuring or breaking it. The wrapped cigar is now ready to be taken from the machine.

Having described my invention and the best manner now known to me of carrying the same into effect, I desire it to be understood that I do not restrict myself to the mechanical details herein described in illustration of my invention, for manifestly the same can be varied considerably and in many particulars without departure from the spirit of the invention; but

What I claim herein as new, and desire to secure by Letters Patent, is—

1. In a cigar wrapping or rolling machine, the combination of a rotatable chuck or carrier, expansible jaws or fingers attached thereto for claspings the tuck end of the filler or bunch to be wrapped, a spring-pressed clamp for closing said jaws with yielding pressure upon said bunch, and a detent for holding said clamp in retracted position, substantially as and for the purposes hereinbefore set forth.

2. In a cigar wrapping or rolling machine, the combination, with a rotatable chuck or carrier, of a series of expansible jaws or fingers for claspings the tuck end of the bunch or filler, consisting of spring-yielding wires or strips, and means for closing the said jaws upon the bunch, substantially as and for the purposes hereinbefore set forth.

3. The combination of the thimble for receiving the tip of the bunch or filler, the expansible jaws or fingers for claspings the tuck end of and rotating said bunch, the rotating chuck or carrier for said fingers, the spring-pressed clamp for closingsaid jaws with yielding pressure, and the detent for holding said clamp in retracted position, substantially as described and shown.

4. The combination of the thimble, the expansible jaws or fingers, the rotating chuck or carrier therefor, the spring-pressed clamp for closing said jaws with yielding pressure, the detent for holding said clamp in retracted position, and the bunch or filler support intermediate of the thimble and the jaws, substantially as and for the purposes hereinbefore set forth.

5. The combination of the thimble, the ex-

pansible jaws or fingers, the rotating chuck or carrier therefor, the sliding carrier stand or support movable to and from the thimble, the spring-pressed clamp for closing said fingers, and the detent for holding said clamp 5 in retracted position, substantially as and for the purposes hereinbefore set forth.

6. The combination, with the rotating hollow spindle F and the stand or support there- 10 for, of the chuck, the expansible fingers or jaws carried by the same, the sliding sleeve E, the spring S, the plunger I, mounted and longitudinally movable in the spindle, and the detent for engaging and locking the spin- 15 dle in retracted position, substantially as and for the purposes hereinbefore set forth.

7. The combination of the thimble, the spindle stand or support, the spindle rotatable and longitudinally movable in said sup- 20 port, the spring S, the finger-clutch, the expansible normally-open fingers or jaws carried by said chuck, and means for closing said fingers, substantially as and for the purposes hereinbefore set forth.

8. The combination of the stand or head- 25 piece, the thimble detachably connected to the stand and removable therefrom independently of the cutter, and the cutter for slitting the wrapper, having its stationary member on the stand immediately back of the thimble, 30 and its movable member also mounted on and attached to the stand, substantially as hereinbefore set forth.

9. The stand or thimble support, the movable spring-controlled cutting-blade x' , hinged 35 thereto, the set-screw x^3 , and the stationary blade x , attached to the stand, in combination with the thimble mounted in and detachably connected to said stand, as and for the purposes hereinbefore set forth. 40

In testimony whereof I have hereunto set my hand.

CLAES W. BOMAN.

Witnesses:

JOE. W. SWAINE,
A. SCHIFF.