

No. 644,217.

Patented Feb. 27, 1900.

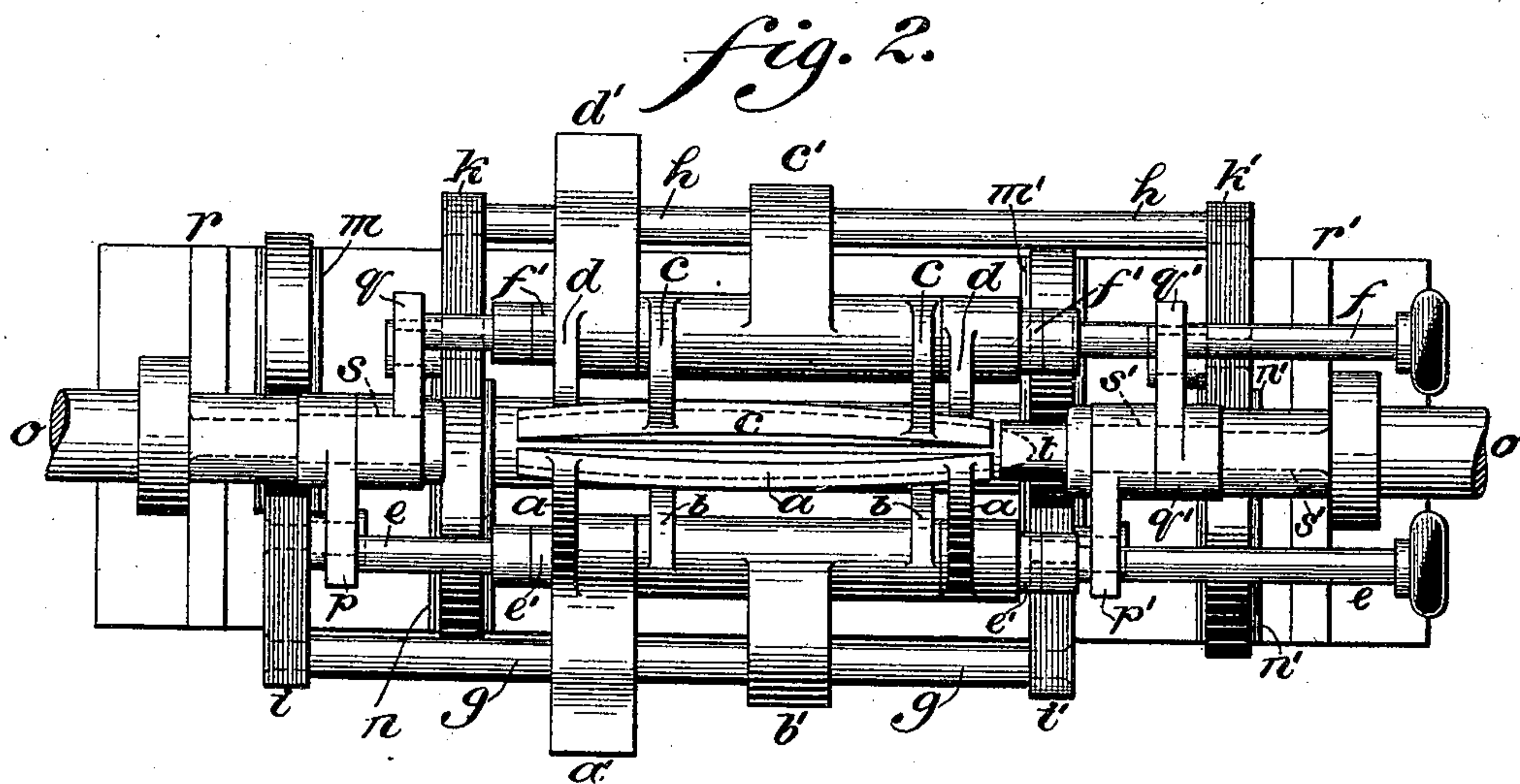
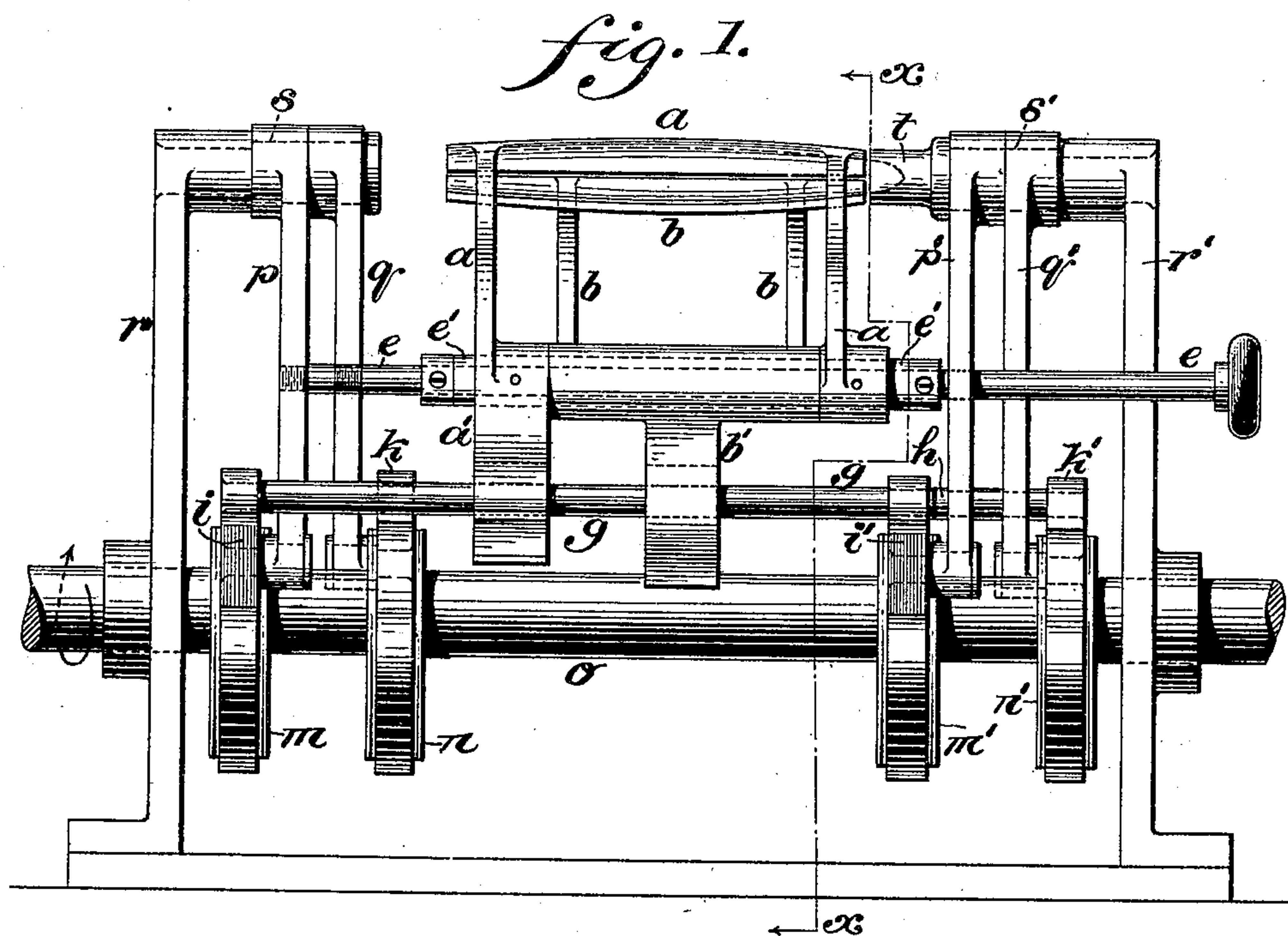
C. B. SCHULTZ.

WRAPPING SHAPER FOR CIGAR ROLLING MACHINES.

(Application filed May 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

fig. 3.

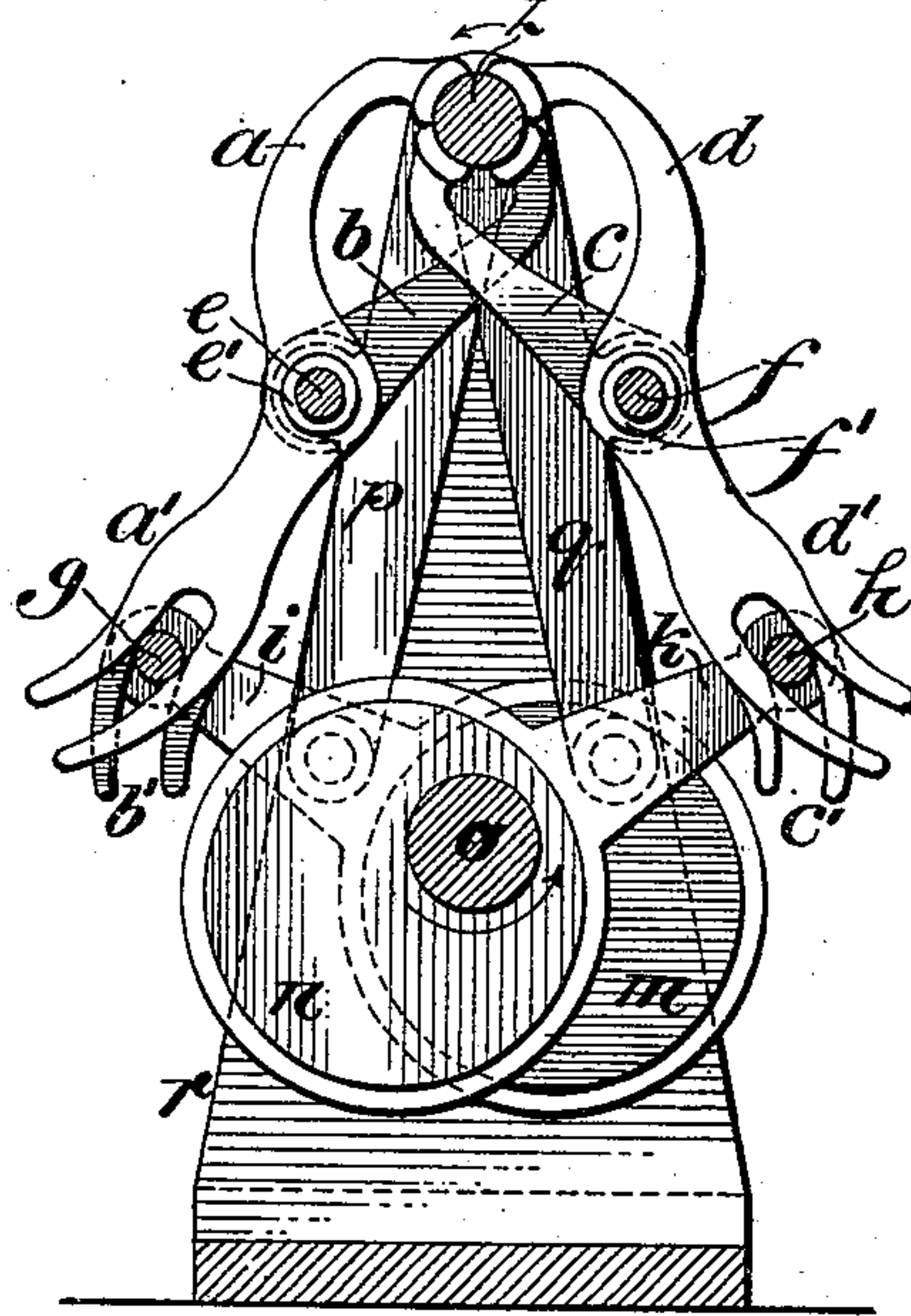
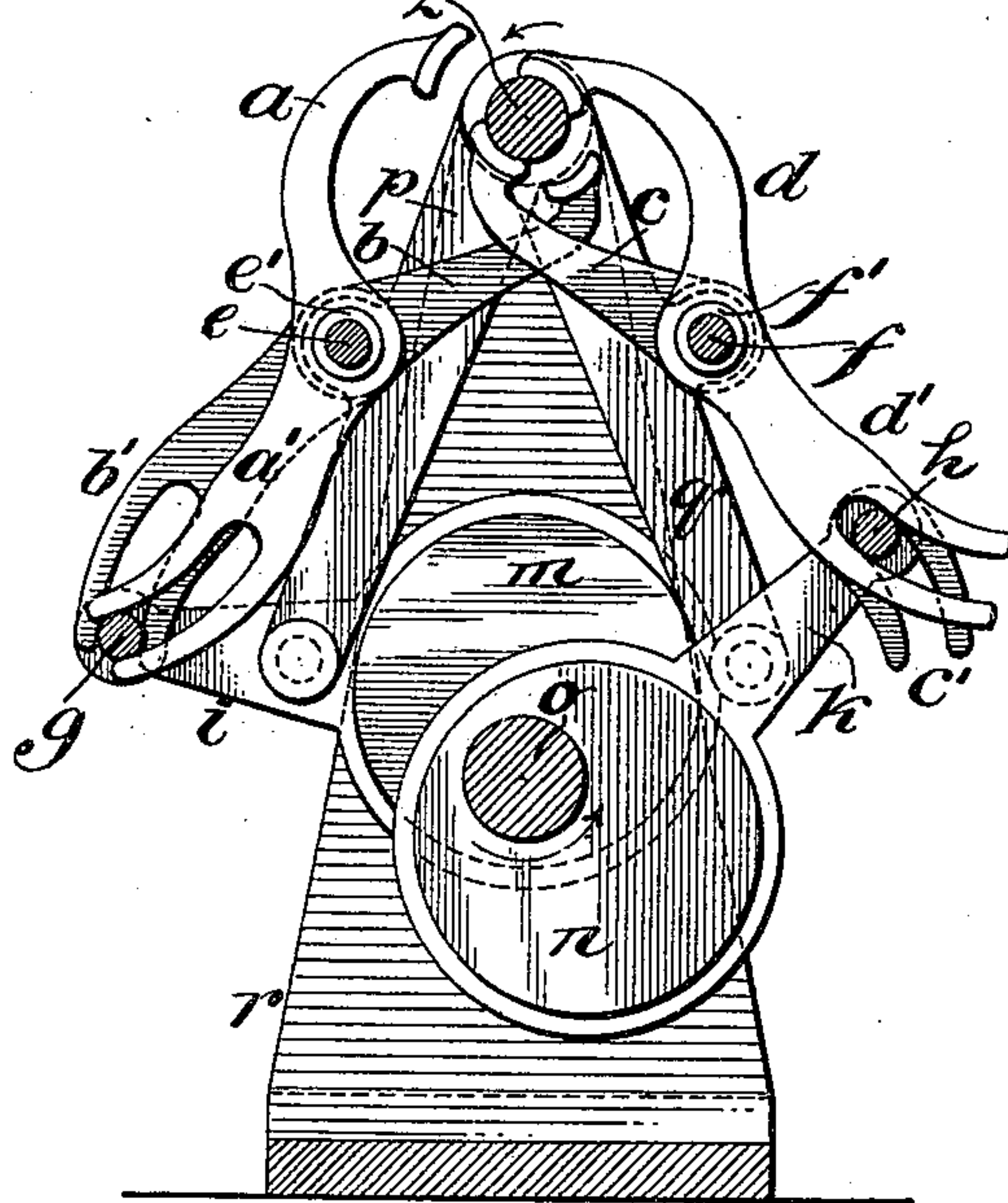


fig. 4.



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UNITED STATES PATENT OFFICE.

CLARENCE B. SCHULTZ, OF CHARLOTTENBURG, GERMANY.

WRAPPING-SHAPER FOR CIGAR-ROLLING MACHINES.

SPECIFICATION forming part of Letters Patent No. 644,217, dated February 27, 1900.

Application filed May 20, 1898. Serial No. 681,194. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE B. SCHULTZ, M. E., a citizen of the United States, residing at Charlottenburg, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Wrapping-Shapers for Cigar-Rolling Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

For the purpose of rolling cigar-bunches into their wrappers, and particularly of revolving the bunches around their axis, quite a number of devices have been in use. In some cases the bunch has been stuck upon a revolving pin, in others it has been revolved by an endless up-and-down band, and in another instance again the revolving motion has been brought about by fingered claws; but all these methods have shown more or less defects, among others the following, to wit: The wrappers, the most valuable part of a cigar, have been torn during the rolling process to an extent which seriously affects the economy of machine-work. The drawing of machine-made cigars was far from being satisfactory. Besides, machine-made cigars as heretofore made could easily be distinguished from hand-made cigars, and most smokers are prejudiced against the former. All these defects and failings my new device has thoroughly overcome.

While the bunch is being revolved by and between my longitudinal shapers, which ordinarily extend substantially the entire length of the cigar, it is constantly changing its form from circular to oval, and vice versa, so that the motion of the human hand is naturally imitated, less than one-half of the circumference of the bunch being held by one of the shaper pairs at the time. The filler of the bunch is subjected to a loosening process, which opens air-channels in the longitudinal direction, and thus insures perfect free drawing. The wrapper as it is fed is taken hold of by the shapers in its entire width, since said shapers extend nearly or substantially the entire length of the cigar, thus avoiding the tearing, and at the same time the wrapper is held more taut, which gives to the finished cigar that smooth and soft appearance

which is one of the distinctive features of the best hand-made article.

In the accompanying drawings, Figure 1 represents a side view; Fig. 2, an upper view; and Figs. 3 and 4 show the range of the mechanism, the two latter views being vertical sections on line $x x$ in Fig. 1.

a, b, c , and d in Figs. 1, 2, 3, and 4 show the pair of wrapping-shapers provided with shaping-jaws containing the hollow space corresponding with the shape of the cigar to be wrapped, it being noted that said shaping-jaws extend longitudinally substantially the entire length of said cigar. Each pair is hinged upon a bushing e' and f' and swings upon rods e and f . Below their fulcrums e and f these shapers are provided with guiding-curves a', b', c' , and d' , which are shaped in such a manner that the rods g and h , sliding up and down in the same, open and close the shapers, also holding them closed for a certain time.

Rods e and f are connected to levers p and p' and q and q' , respectively, and swing around the axis of the cigar-bunch and parallel with the same upon bolts s and s' , fastened to frame r and r' of the machine. Besides, levers $p q p' q'$ are linked to eccentric-rods $i k i' k'$, to which latter rods g and h are fastened. The eccentric-rods $i k i' k'$ are actuated by eccentric-sheaves $m n m' n'$, which are revolved by shaft o . Shaft o has its bearings in frame r and r' of the machine.

When shaft o is turned in the direction of the arrow, levers p and q , Figs. 3 and 4, swing around their fulcrum-bolts s , and with them the two pairs of shapers $a b c d$ rock also. Levers $p' q'$ swing in the same manner. At the same time rods g and h , fastened to eccentric-rods i and k , slide up and down in the guiding-curves $a' b' c' d'$.

Fig. 3 shows the mechanism at the moment when the shapers $c d$ take hold of bunch z and shaper pair $a b$ let it go, rods g and h occupying the corners of the curves. In Fig. 4 shaft o , with the eccentric-sheaves, is turned about ninety degrees. Shaper pair $c d$ has hold of the bunch and has already turned it slightly. Rod h has approached the point of suspension f without, however, changing the relative position of c to d , a consequence of the shape of the guiding-curves. Shaper pair

a b is moved by lever *p* toward the left, reaching out for a new stroke. Rod *g* has passed downward by the angle in the guiding-curve, opening the shapers tong-like. If shaft *o* is
 5 turned another ninety degrees, shaper pair *a b* will take hold of the bunch and turn it in the same sense as *c d*, while shaper pair *c d* has let go, reaching out for another stroke. Consequently the cigar-bunch is being re-
 10 volved by the shapers in the direction of the arrows, at the same time receiving its proper form.

It will thus be seen from the foregoing that by my invention the longitudinally-extending
 15 shaping-jaws are caused to open and close upon the body of a cigar and at the same time to rock about their center or axis of closure, said shaping-jaws engaging, substantially, the entire length of the bunch, and by reason
 20 of their alternate engagement with every portion of the opposite sides thereof they provide for a working of the bunch similar to manipulation by hand, thus insuring free drawing and a positive similarity to a hand-made cigar.

25 I am aware that it has been proposed to construct cigar-rolling machines with pairs of fingered shapers, the fingers of the shapers of different pairs interfitting; but in such construction the cigar is not pressed throughout its
 30 entire length, but only in ridges, and the ridges of different pairs of shapers alternate. This does not afford an evenly-distributed pressure that is attained by using pairs of longitudinal shapers, each shaper extending
 35 substantially the entire length of the cigar, for with the latter the cigar is subjected to an evenly-distributed pressure on opposite sides thereof throughout its entire length. Furthermore, in the present invention the
 40 shapers of each pair are situated practically diametrically opposite, while the shapers of different pairs are in planes practically at right angles, so that the cigar-bunch is first pressed throughout its length on opposite
 45 sides by the shapers of one pair and then on opposite sides at right angles thereto by the shapers of the other pair, a pair of shapers grasping the bunch along the space left between the sides of the pair of shapers that are
 50 about to open and release the cigar. This gives a manipulation similar to manual working and opens up the filler throughout its entire length to insure free drawing. I am also aware of United States Patent No. 552,447,
 55 dated December 31, 1895, in which two pairs of fingered and interfitting jaws are arranged to swing and to alternately open and close; but the jaws of one pair do not grasp the cigar along the longitudinal spaces between the
 60 sides of the other jaws and so do not give the desired alternate pressure above described. I am also aware of United States Letters Patent No. 174,361, dated March 7, 1876, in which a cigar is carried by a spindle and rotated
 65 between two oppositely-situated jaws; but this device is a different class and subjects the cigar to an operation that is different from

the pressure of alternately-arranged pairs of jaws that hold the cigar against rotation and subject it to pressure.

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

1. In a cigar-rolling machine, pivoted levers, pairs of wrapping-shapers pivoted upon
 75 said levers and capable of opening and closing, the pivots of said levers being coincident with the axis of closure of said members, and rotatable eccentrics having sheaves and rods, said levers being pivoted to said rods and
 80 said rods engaging said shapers to open and close the same.

2. In a cigar-rolling machine, pivoted levers, pairs of opening and closing longitudinal wrapping-shapers pivoted upon said levers and provided with shaping-jaws, and vibratory members pivoted to said levers to
 85 cause them to vibrate simultaneously in opposite directions, said vibratory members being connected with the shapers to open and
 90 close the same, the shaping-jaws of each pair being situated opposite each other, the shaping-jaws of different pairs being alternately arranged, and the width of the shaping-jaws being less than the distance between the two
 95 shaping-jaws between which they are situated, whereby the shaping-jaws of each pair grasp the bunch between and along the spaces between the sides of two other shaping-jaws.

3. In a cigar-rolling machine, pivoted levers, pairs of opening and closing longitudinal wrapping-shapers pivoted upon said levers and provided with shaping-jaws, and vibratory members pivoted to said levers to
 100 cause them to vibrate simultaneously in opposite directions, said vibratory members engaging slotted end portions of said shapers to alternately open and close the same, the shaping-jaws of each pair being situated opposite
 105 each other, the shaping-jaws of different pairs being alternately arranged, and the width of the shaping-jaws being less than the distance between the two shaping-jaws between which they are situated, whereby the shaping-jaws of each pair grasp the bunch
 110 between and along the spaces between the sides of two other shaping-jaws.

4. In a cigar-rolling machine, pivoted levers, a pair of longitudinal wrapping-shapers fulcrumed upon each of said levers, the pivot
 120 of said levers being in alinement with the axis of closure of said shapers, there being slots in the ends of said shapers, a shaft, eccentrics upon said shaft, eccentric sheaves and rods, said eccentric-rods carrying rods
 125 situated within the slots of said shapers, and said levers being pivoted to said eccentric-rods.

5. In a cigar-rolling machine, a plurality of jaws, levers on which said jaws are pivotally
 130 supported, said jaws being situated diametrically opposite when closed, the fulcrum of each of said levers being substantially in alinement with the axis of the bunch, eccentric-

rods to which the lower portions of said levers are pivotally attached, a driving-shaft, and eccentrics mounted on said driving-shaft, said eccentric-rods being prolonged and each carrying a rod extending transversely thereto, there being slots in the lower portion of said jaws, the walls of said slots being engaged by said transverse rods.

6. In a cigar-rolling machine, a plurality of wrapping-shapers arranged in pairs and extending substantially the entire length of the bunch, said shapers being juxtaposed to each other in substantially-parallel order, levers on which said shapers are pivotally supported, said shapers being situated diametrically opposite when closed, the fulcrum of each of said levers being substantially in alinement with the axis of the bunch, eccentric-rods to which the lower portions of said levers are pivotally attached, a driving-shaft, and eccentrics mounted on said driving-shaft, said eccentric-rods being prolonged and each carrying a rod extending transversely thereto, there being slots in the lower portion of said shapers, the walls of said slots being engaged by said transverse rods.

7. In a cigar-rolling machine, pairs of longitudinal wrapping-shapers, and means for alternately opening and closing and for rocking the same, the shapers of each pair being situated opposite each other, the shapers of different pairs being alternately arranged, and the width of the shapers being less than the distance between the two shapers between which they are situated, whereby the shapers of each pair grasp the bunch between and along the spaces between the sides of two other shapers.

8. In a cigar-rolling machine, two pairs of longitudinal wrapping-shapers, and means for alternately opening and closing and for rocking the same, the shapers of each pair being situated opposite each other, the shap-

ers of one pair alternating with the shapers of the other pair, the width of the shapers of one pair being less than the distance between the adjacent sides of the shapers of the other pair, whereby the shapers of one pair grasp the bunch between and along the spaces between the sides of the shapers of the other pair.

9. In a cigar-rolling machine, pairs of longitudinal wrapping-shapers, means for alternately opening and closing the same, and means for rocking the same about their axis of closure, the shapers of each pair being situated opposite to each other, the shapers of different pairs being alternately arranged, and the width of the shapers being less than the distance between the two shapers between which they are situated, whereby the shapers of each pair grasp the bunch between and along the spaces between the sides of two other shapers.

10. In a cigar-rolling machine, pivoted levers, pairs of longitudinal wrapping-shapers pivoted upon said levers, the pivots of said levers being coincident with the axis of closure of said shapers, means for causing said levers to vibrate simultaneously in opposite directions, and means for alternately opening and closing said shapers, the shapers of each pair being situated opposite to each other, the shapers of different pairs being alternately arranged, and the width of the shapers being less than the distance between the two shapers between which they are situated, whereby the shapers of each pair grasp the bunch between and along the spaces between the sides of two other shapers.

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

CLARENCE B. SCHULTZ.

Witnesses:

C. H. S. SCHULTZ,

C. H. DAY.