

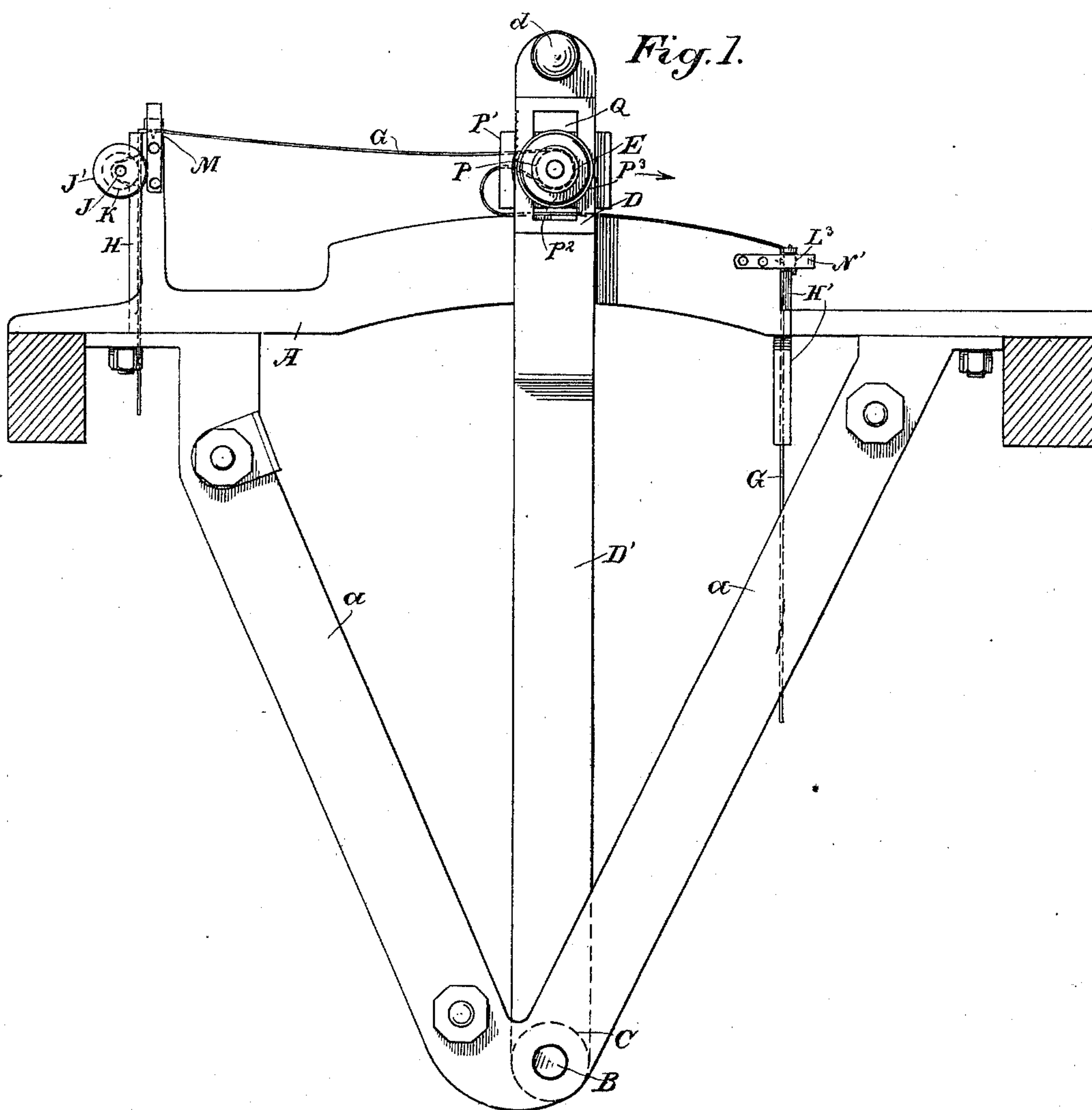
(No Model.)

2 Sheets—Sheet 1.

J. J. RYAN.
CIGAR BUNCHING MACHINE.

No. 600,379.

Patented Mar. 8, 1898.



Witnesses,
Ed. Morse
H. T. Aschbeck

Inventor,
John J. Ryan
By Dewey & Co. atty

(No Model.)

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Fig. 2.

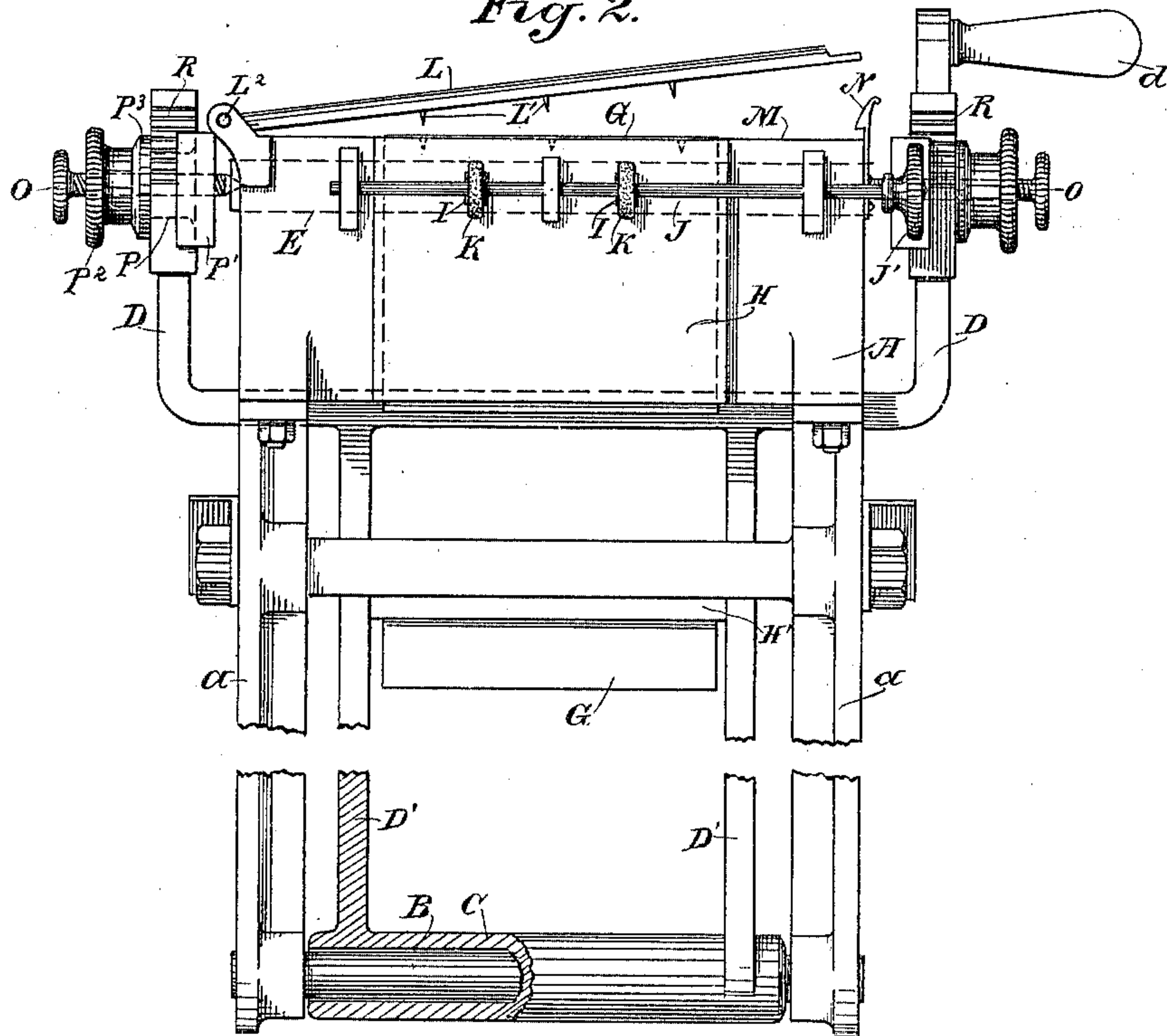
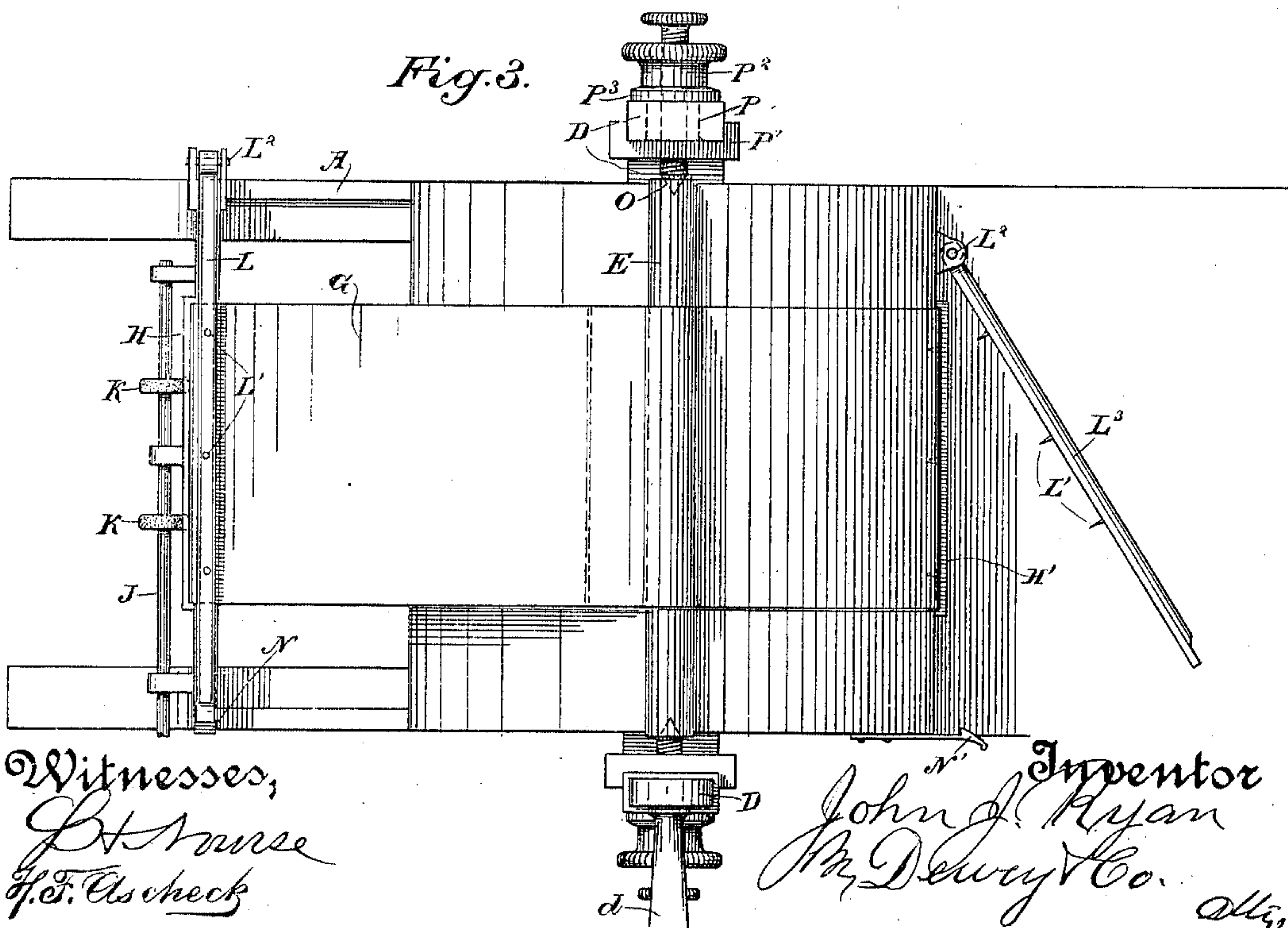


Fig. 3.



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Inventor
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UNITED STATES PATENT OFFICE.

JOHN JAMES RYAN, OF SAN JOSÉ, CALIFORNIA.

CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 600,379, dated March 8, 1898.

Application filed October 1, 1897. Serial No. 653,672. (No model.)

To all whom it may concern:

Be it known that I, JOHN JAMES RYAN, a citizen of the United States, residing at San José, county of Santa Clara, State of California, have invented an Improvement in Cigar-Bunching Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in cigar-bunching machines; and it consists, essentially, in improvement in the construction and assemblage of the parts and the constructions and combinations of parts hereinafter described and claimed.

Figure 1 is a side elevation of my machine. Fig. 2 is an end view of the same. Fig. 3 is a plan view.

The object of my invention is to provide a simple, effective, and rapid-working device with which to roll scraps, short or long fillers of tobacco, into the binder and to deliver the scraps or leaves which constitute the filler perfectly straight and parallel with each other, preventing the same from twisting or forming knots or lumps, and so that the cigar made therefrom will burn perfectly even for its entire length, the bunch being maintained in a perfectly porous condition from end to end, so that the draft is easy and unobstructed.

In the construction of bunching-machines of this class but little attention has been paid to accuracy of adjustment, and experience has shown that without the utmost accuracy the operation of bunching the tobacco will produce more or less faulty cigars.

The principal difficulties arise from the fact that the top of the table is not in an absolute curve radially from the axis about which the movable roller travels or is higher on one side than the other, and also because it is very difficult to so regulate the apron which is employed for forming a bunch as to hold it absolutely in the line of travel of the bunch.

The least variation in the position of this band will cause the bunch to be advanced in such a way as to twist the material which forms the filler and often to form knots or lumps within it. The latter prevent a free draft of air through the cigar and the former

causes it to burn faster upon one side than the other, and consequently produces a very disagreeable result when the cigar is smoked. To overcome these difficulties is the object of my invention.

The table A is formed of cast-iron or other metal and has arms or supports *a*, which may be cast with or bolted to the table. These arms or supports converge from the ends of the table downwardly, and at or near the apex or point of meeting a shaft B is fitted to pass transversely through these arms from side to side. Upon this shaft is fitted a sleeve C, and to this sleeve the arms *D'* are fixed, extending upwardly to a point beneath the table, thence bent outwardly, so as to pass up on each side of the table and form a support or carriage D for the adjustable bunch-forming roller E, which will be hereinafter described.

In the manufacture of these machines it has been common to simply pivot the lower ends of the arms *D'* upon the fixed shaft, so that in swinging the carriage about the shaft as a center the wear would be brought upon the comparatively narrow journals formed by the thickness of the ends of the arms. There is a great deal of loose dirt and sand mixed with the tobacco, and this falling down into these journals will soon wear them, so that one side would become slightly more depressed or higher than the other, and this would throw the upper portion of the carriage and the roller which is journaled upon its sufficiently out of line to twist the bunch when formed.

In my invention the lower ends of the arms of the carriage are fixed upon a sleeve which extends the full length between the arms *a* of the table and fits sufficiently close to form a practically tight joint to prevent the entrance of any sand or dust into the journal-box thus formed. This box being of such considerable length forms a long bearing which is subject to very little wear, and whatever there is is even from one end to the other, so that the upper part of the carriage is never thrown out of line.

The top of the table A is planed by means of a tool which is operated from the center

represented by the shaft B, so that when finished the top of the table is an accurate curve radially from the center about which the carriage D is movable and absolutely even and true from one side to the other.

The carriage D is provided with a handle *d* or other means by which it is caused to swing in the arc of a circle above the table A, and by means of a roller E, which is journaled in the carriage and extends across above the table A, the bight in the flexible apron G is actuated so as to roll the tobacco filling material and deliver it in proper shape for the binder at the end of the table when the rolling has been completed. This apron is made of rubber-coated cloth or other suitable flexible material, and its ends are fixed so that there will be sufficient slack in the part intermediate between the ends to receive the tobacco which is to form the filler, and it is then rolled in a bight within this portion of the apron which lies between the roller E and the table A, so as to form a "bunch," so called, ready to receive the wrapper. It is very difficult to place this apron so that it lies accurately in the line of travel of the bunch-forming roller and the carriage, and one portion of my invention relates to the proper fixing and adjusting of this apron.

H is a flattened tube which is fixed vertically at the end of the machine and is of sufficient length transversely to receive the width of the apron and accurately guide its edges within the tube H. The width of the slot is also just sufficient to allow the apron to be moved within the tube.

The tube H has slots or openings formed in its side, as shown at I, and a shaft J is journaled transversely exterior to the tube and in line with the slots I. This shaft carries rollers K, which project sufficiently into the slots I to press upon the apron G, and when the shaft is turned by means of the milled head J', fixed upon its end, or by other suitable means, the apron is moved, so as to be lengthened or shortened evenly, and the part of the apron intermediate between this point and the opposite end of the table can be lengthened or shortened and thus adjusted to the size of the bunch which the machine is to make. By reason of the tube and the ends thereof acting as a guide for the apron as it is moved up or down the latter is prevented from twisting or getting into a position in which one side is longer than the other, or so that it gets out of line with the line of travel of the material to be bunched. When the adjustment has been completed, the apron is absolutely fixed in place by means of a bar L, having projecting points or teeth L', which pass through the apron when the bar L is closed down upon the top of the wall M, which forms the end of the machine and the support for the tubular guide H. The bar L is hinged, as shown at L², at one end of the wall M, so as to be turned about this hinge. The

opposite end has a latch which is adapted to engage with the catch N, fixed to the end of the wall M which is opposite to the hinge.

Small holes are made in the top of the part M to receive the points L', and when the bar L has been closed down and latched it forms a sufficient clamp to hold the apron firmly in place at this point.

Any variation or adjustment of the length of the apron is effected by simply disengaging and raising the bar L and moving the band by means of the shaft J and rollers previously described, after which the apron can be again clamped and secured in place.

At the opposite end of the table the apron passes into a smaller guiding-tube H', and as these tubes H and H' are absolutely in line with each other the apron being guided by them cannot get out of the line of movement. A hinged clamping-bar L³, with points similar to those described for the bar L, and a catch N' serve to hold this end of the band or apron in position.

It is important that the roller E, which passes through or forms the loose fold or bight of the apron G and which acts to roll the bunch when the carriage is moved from one end to the other of the table A, should be maintained absolutely parallel with the table and that this adjustment should be exceedingly accurate. This roller has its ends counterbored, preferably, with conical depressions into which fit the correspondingly cone-shaped ends of pivots O, upon which the roller is thus turnable, and these pivots can be advanced to take up any wear from time to time. These pivots O have screw-threaded shanks which pass through correspondingly-threaded nuts P, and these nuts are slidable in slots Q, formed in the arms of the carriage D. These nuts P have extensions P' upon the inner faces of the arms D, which extend across the arms and at the ends are bent so as to clasp the sides of the arms, as shown, so that the nuts may be accurately moved in the slots Q and the roller maintained in its proper line when adjusted.

The screw-shanks of the cone-pivots have milled heads upon the outer ends by which they may be screwed in or out through the nuts to adjust the roller-bearings, and lock-nuts P² are turnable upon the screw-threads, so as to be set up against the washers P³, which fit the screw-shanks loosely and which are clamped against the outer faces of the arms D when the locking-nuts are set up against them. These and the transverse plates P', which carry the nuts, form a sufficiently frictional lock to hold the roller firmly in place wherever it may be set.

In order to insure an absolute accuracy in adjusting the roller when it is moved to make larger or smaller bunches, I have shown gage-marks R, formed across the edges of the carriage D, over which the ends of the plates P' are fitted, and by means of these gage-marks

both ends of the roller can be accurately and absolutely adjusted.

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

1. In a cigar-bunching machine, a convex table, a carriage movable over said table having radial arms turning about the center of convexity of the table and having a movable roller extending across the carriage above the table, an apron adapted to receive the material to be bunched, and with which the roller engages to form the bunch when moved across the table, and means for adjusting the apron consisting of flattened tubes of a length equal to the width of the apron into which the apron is inserted, and by the sides of which it is guided, and means for clamping or locking the apron when thus adjusted.

2. In a cigar-bunching machine, the convex table, a carriage having arms with the same common center and adapted to move backward and forward over the table, a roller journaled upon the carriage, a flexible apron fixed at the ends having an intermediate loose fold adapted to receive the material to be bunched and be acted on by the roller when the carriage is moved over the table so as to form a bunch, flattened tubes within which the ends of the apron are inserted and by which they are held in line with the line of travel of the bunch-forming device, slots formed in the side of the tube, a shaft journaled across in front of the slots having rollers fixed thereto and extending into the slots to engage the apron, a means for turning the shaft so that the apron may be lengthened or shortened between its points of attachment, and means for clamping or holding the apron after such adjustment.

3. In a cigar-bunching machine, a convex-

surfaced table, a carriage having the same common center with the curved table and means whereby it may be moved backward and forward over the table, an adjustable roller journaled upon the carriage, an apron fixed at the ends and forming a fold intermediate between the ends which is adapted to receive the material to be bunched, said fold being engaged by the roller when the latter traverses the table, whereby the bunch is formed, vertical flattened tubes of a width sufficient to receive the ends of the apron whereby the edges thereof are guided and the apron maintained in exact line across the table, rollers mounted upon a transverse shaft and engaging the surface of the apron through the openings in the guiding-tube whereby the apron may be lengthened or shortened, and a hinged clamping-bar having points and a latch whereby it is engaged and held in place after the apron has been adjusted.

4. In a cigar-bunching machine, the combination of a convex table, an apron, a hollow guide for one or both ends of the apron whereby the apron may be adjusted, means for locking the apron when adjusted, a carriage movable over the table, having a roller engaging the bight of the apron, said carriage having parallel radial arms extending from the carriage to the center of curvature of the table, a bearing-shaft for the arms of the carriage and a closed tubular sleeve extending from one of said arms to the other, fitting said shaft and forming a continuous closed journal-box.

In witness whereof I have hereunto set my hand.

JOHN JAMES RYAN.

Witnesses:

Mrs. B. TAYLOR,
W. C. FANSELOW.