

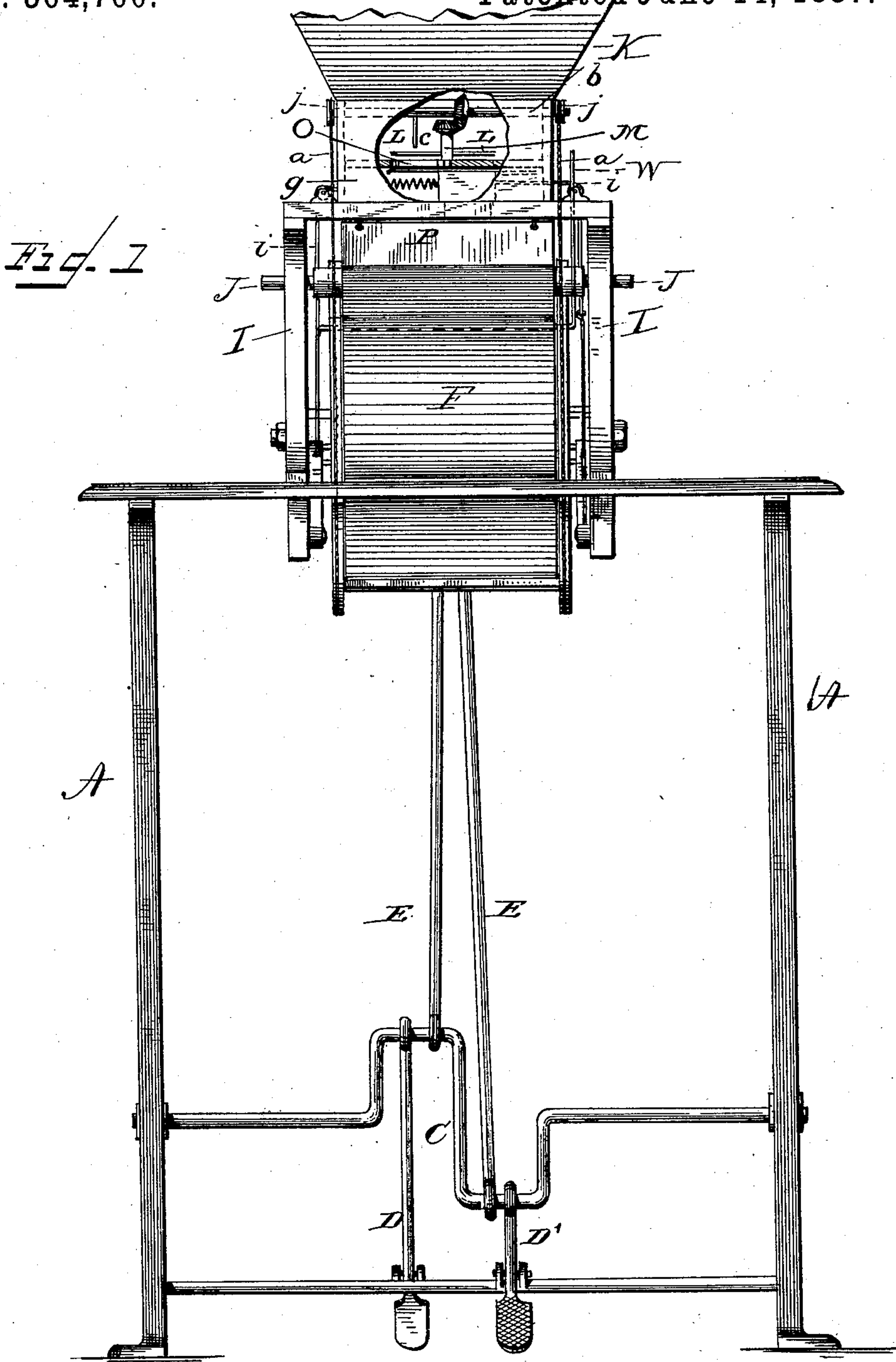
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4 Sheets—Sheet 1.

C. BECKERT.  
CIGAR BUNCHING MACHINE.

No. 364,700.

Patented June 14, 1887.



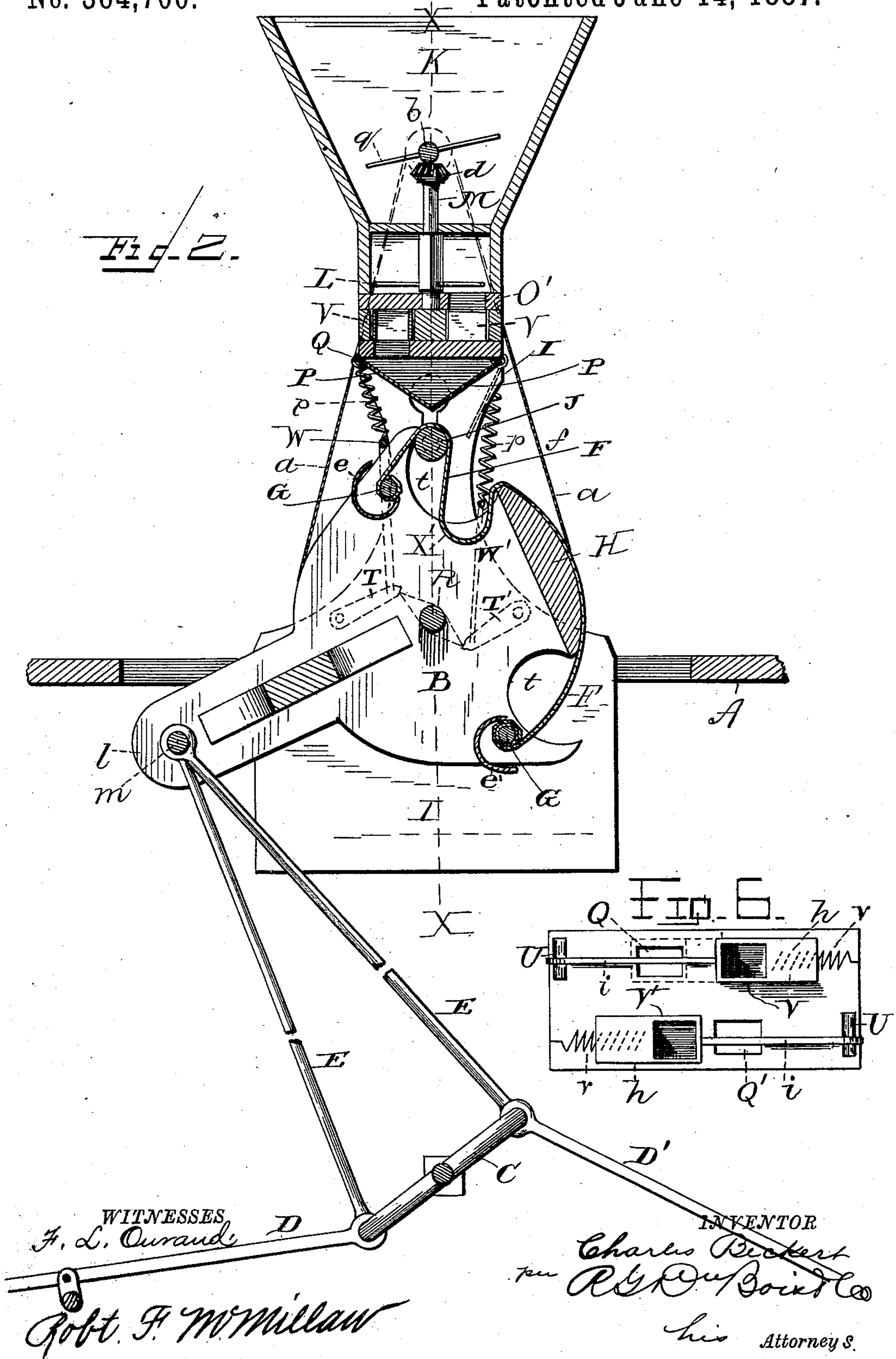
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his Attorney

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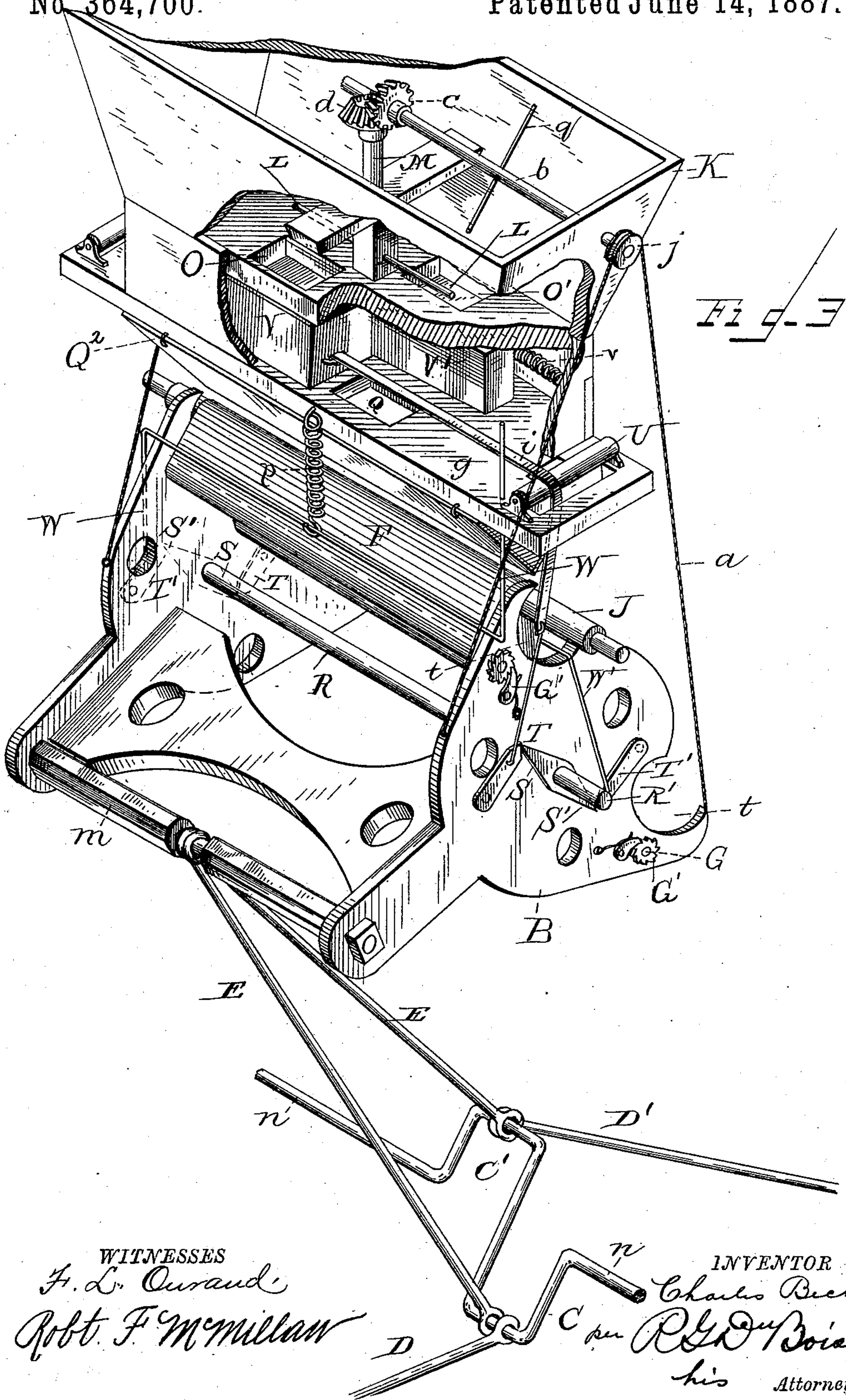
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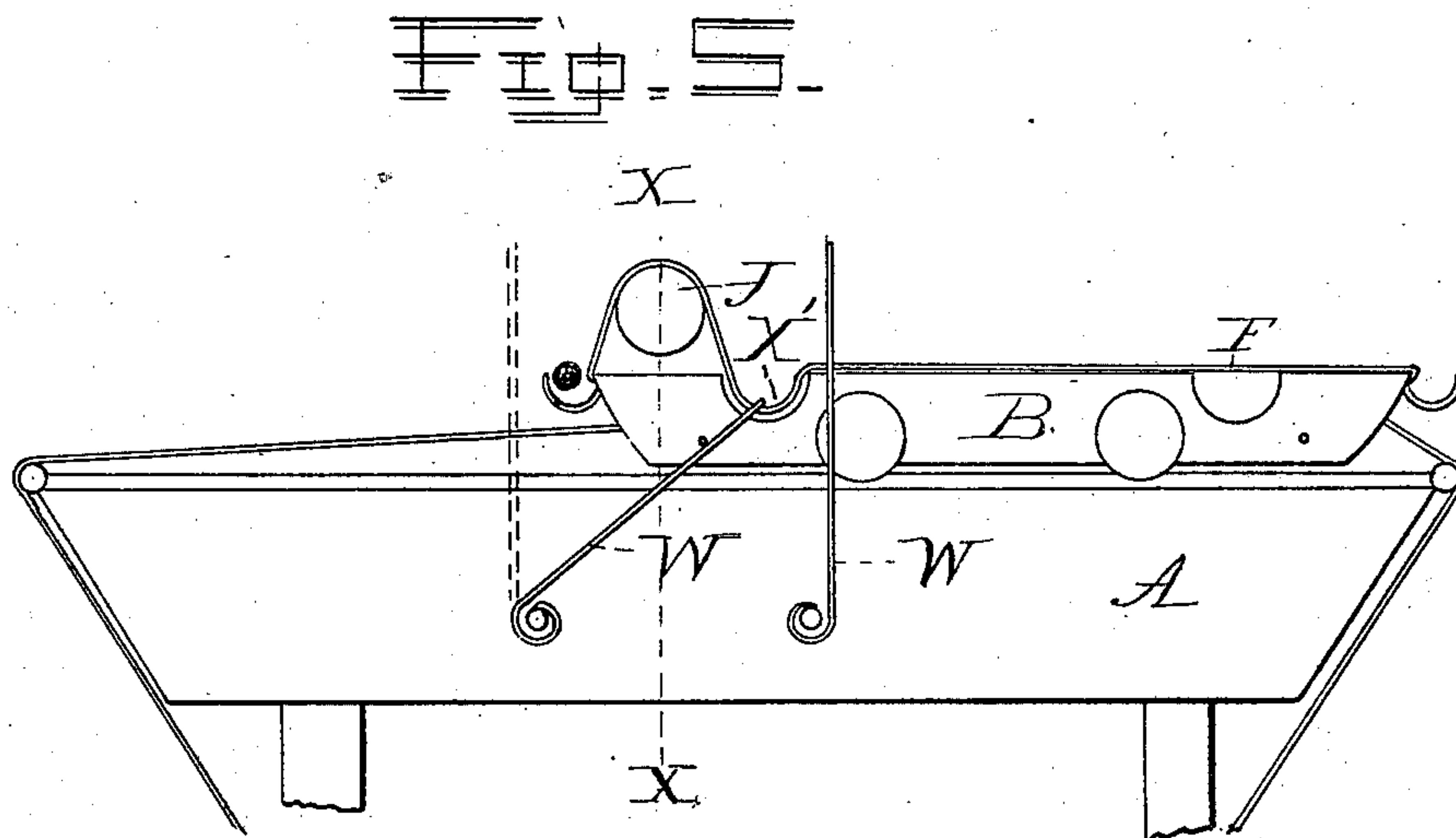
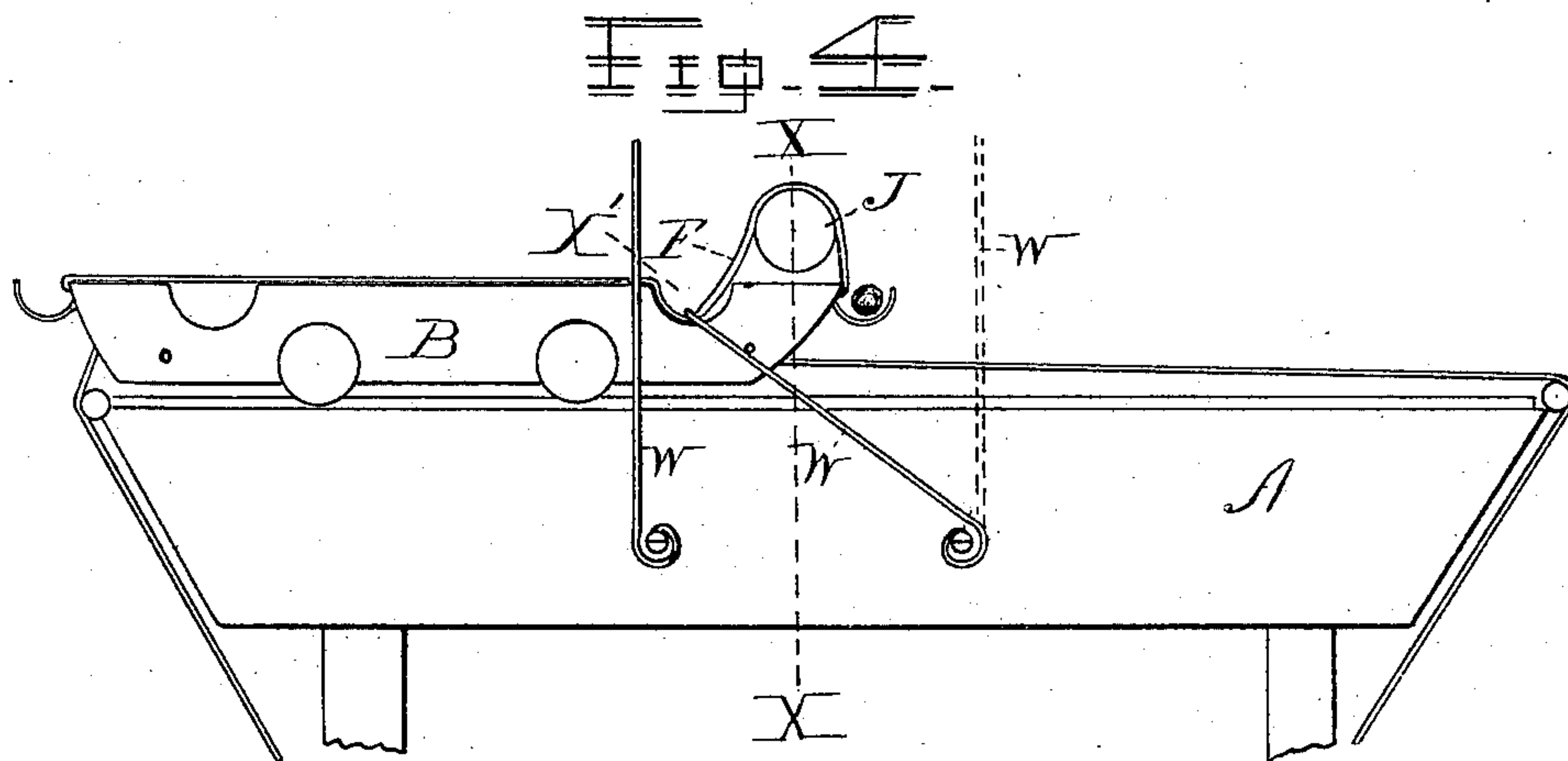
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Patented June 14, 1887.



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# UNITED STATES PATENT OFFICE.

CHARLES BECKERT, OF ALLEGHENY, PENNSYLVANIA.

## CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 364,700, dated June 14, 1887.

Application filed June 21, 1886. Serial No. 206,067. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES BECKERT, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Cigar-Bunching 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.

The object of my invention is to provide a machine for making cigar-bunches, whereby the work can be accomplished in a much more economical manner than has hitherto been customary.

With this end in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

The machines heretofore used have been calculated to form only one bunch of tobacco in the backward and forward movement of the bunching-roller; but by my arrangement two separate bunches can be formed in these two movements, thereby saving much time, labor, and expense.

Referring to the accompanying drawings, Figure 1 represents a front elevation, part of the hopper being cut away to show the mechanism inside. Fig. 2 is a side elevation, partly in section, showing a reciprocating head thrown to the right with a pocket-forming arm making a pocket in the bunching-apron. Fig. 3 is a perspective view of the feeding mechanism and reciprocating head free from the stand. Fig. 4 is a side elevation of a modified form of reciprocating rolling-table with its pocket-forming devices, the table being shown shifted to the left, having just formed a complete cigar-bunch, which has fallen into the pocket located on the reciprocating head at the end of the apron. Fig. 5 shows the same shifted to the right, having repeated the operation shown in the preceding figure; and Fig. 6 shows a plan view of the feeding-carriers.

A represents a suitable supporting stand or table, to the bed of which a pair of upright standards, I, are secured. A reciprocating head, B, is secured between the standards I on a shaft, R, the trunnions R' of which have

suitable bearings in and extend through and project beyond the sides of the standards, as shown. The lower part of the head B is provided with downwardly-extending arms *l*, carrying between them a cross-rod, *m*, to which the links E are attached. These links connect with the double cranks C C' in the treadle-shaft *n*, each crank being provided with a treadle, D D'. The head B is also provided with the usual rolling-board, H, and bunching-apron F, the latter being attached to adjustable rollers G, provided with pawl-and-ratchet mechanism G', whereby the slack of the apron can be taken up or let out to increase or diminish the size of the bight or pocket X', in the usual manner. Just above the center of movement of said rolling-board, and journaled in the standards I, there is the usual bunching-roller, J, over which the apron F passes. Dotted lines represent through X X the center of movement in Figs. 2, 4, and 5.

In the bottom of the hopper K there are two outlet apertures, O O', which permit the tobacco to drop down into the sliding carriers V V', moving back and forth in the chambers *g* beneath the hopper K. These carriers consist of a receptacle having an open top and bottom and a shelf, *h*, which extends in a plane with the top of the carrier back from its end a distance equal to the length of a stroke of the carrier, and thereby serves to close the opening O or O', when the carriers are drawn forward over the lower apertures, Q Q', in the bottom of the chambers.

Each carrier is actuated by means of a band, *i*, attached to one end and a spring, *v*, attached to the opposite end. Each of the bands *i* extends over an anti-friction pulley, U, and thence downwardly to the end of a pawl, T, pivoted to the inside of the standard. The carriers are made of a size sufficient to contain the amount of tobacco necessary to form a cigar-bunch, and their capacity can be made greater or less, as may be desired. One obvious mode of regulating their capacity would be to employ carriers of different sizes.

P represents two doors hinged opposite each other, and which overhang the pockets formed in the apron. Each door is provided with a spring, Q<sup>2</sup>, which keeps it normally closed.

W W' are pocket-forming wires attached



to the free ends of the pawls T T', pivoted to the standard and provided with actuating-springs, *p*.

*b* is a horizontal shaft located in the hopper 5 K, and is journaled in the sides thereof and actuated by bands *a*, operating over pulleys *j*, connected to the sides of the oscillating head. The shaft *b* is provided with a bevel-wheel, *c*, meshing with a similar wheel, *d*, keyed horizontally to the upright shaft M. Pockets *e e'* 10 are provided at the front and rear sides of the head B, into either of which a formed bunch may be ejected from the apron. The upright shaft M is provided with arms L, which rotate 15 horizontally in the lower part of the hopper for the purpose of loosening the tobacco, so that it will fall freely into the carriers below. The horizontal shaft *b* is also provided with transverse arms *g*, for the same purpose.

20 The trunnions R' are provided with the pallets S S', secured rigidly thereto, which engage with the free ends of the pawls T T' as the head operates.

The object and construction of my device 25 having been set forth, its operation will now be described.

As the machine is adapted to form alternately a cigar-bunch, first upon one side and then upon the other, two operators are seated, 30 one upon each side thereof. When the left treadle D is depressed, the crank-shaft *n* is turned and the head B swings to the right, as shown in Figs. 2 and 3. In this movement the apron travels over the roller J, and as the head 35 reaches its limit of movement the bight or pocket passes into the recess *t*, and is drawn out straight, thereby ejecting the completed bunch of tobacco into the receiving-pocket *e*. While the pocket is being drawn out straight 40 the arm W' is being drawn down upon the apron by the pawl T'. This operation is effected by the end of said pawl engaging with the pallet S', and the apron is thereby drawn into the bight-recess *t* and a pocket, X', formed 15 for the reception of a batch of tobacco. As the head continues to move toward the right, the pawl T' slips over the end of the pallet S', and the tension of the spring *p* lifts the arm W' out of the pocket. The operator then places 50 a wrapper in the pocket and opens one of the doors P, either by placing the fingers over the exposed end of the door or by means of any well-known or approved handle or knob which may be attached thereto within convenient reach, 55 which allows a batch of tobacco to drop into the pocket just formed. The treadle is then depressed by the operator upon the right, which serves to swing the head to the left, and the operation previously described will be repeated 60 upon the opposite side of the machine, the operator upon the right taking a completed bunch out of the pocket *e'*. Thus it will be seen that each operator alternately forms his own bunch, and that a completed bunch is formed during 65 both the forward and backward strokes of the head, thereby saving the waste motion common to the machines in general use. As the

head moves to and fro, motion is imparted to the horizontal shaft *b* through the medium of the bands *a*, passing over pulleys *j*, attached 70 to the ends of said shaft, and thus the arms upon the vertical shaft M and said horizontal shaft are made to stir the tobacco in the hopper. When the head is moved to the left, the end of the pallet S engages with and depresses the 75 end of the pawl T, and, as one of the bands *i* is attached to the end of this pawl, the carrier V is drawn over the opening Q in the bottom of the chamber *g*, as shown in dotted lines, Fig. 6. The contents of the carrier then fall 80 through the opening Q into the lower receptacle, where they remain ready to be let out into the open pocket below.

The openings Q and Q', in the bottom of the chambers *g*, are made of such length that the 85 tobacco falling through them from the carriers will distribute itself sufficiently along between the approaching edges of the doors P to give it the required distribution within the bight of the apron, when it has fallen from between 90 the doors into said bight, to make a bunch of the desired length. It will in practice be quite evenly distributed throughout the length of the binder or wrapper; but if it should fall a 95 trifle unevenly the pressure in rolling will tend to crowd the tobacco at the thicker portions into the thinner portions, and thereby even the whole. The general tendency will under all circumstances be to crowd the tobacco at 100 the central portion out toward the ends, and hence it is desirable that the tobacco should fall more thickly at the central portion of the bunch.

The length of openings shown in the drawings are those which are at present found to 105 be the most expedient. They may, however, be increased or diminished at pleasure, as experience may dictate.

It is evident that the details in construction of my device can be varied in many ways 110 which might suggest themselves to a skilled mechanic, and therefore I do not limit myself to the precise construction herein shown, but consider myself entitled to such variations as come within the scope of my invention. 115

Although the construction shown for reciprocating the rolling-board in a curved path is deemed preferable, yet the gist of my invention might be carried out by the employment 120 of a rolling-table constructed to reciprocate in a plane, as shown in Figs. 4 and 5.

I have herein shown and described certain features which are incorporated and claimed in my pending application filed February 23, 1887, Serial No. 228,464, which are disclaimed 125 herein.

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

1. In a cigar-bunching machine, the combination, with a suitable supporting-frame and a stationary bight-forming roller journaled therein, of a rolling-table adapted to be reciprocated beneath the roller, a rolling-apron pass- 130



ing over the bight-forming roller and attached to the rolling-table, bunch-receiving, pocket-forming spaces located at the opposite ends of the table, and bight or pocket forming arms 5 actuated by the reciprocating table to form a pocket in each of the spaces, substantially as set forth.

2. In a cigar-bunching machine, the combination, with a suitable supporting-frame and 10 a stationary bight-forming roller journaled therein, of a rolling-table adapted to be reciprocated beneath the roller, a rolling-apron passing over the bight-forming roller and attached to the rolling-table, bunch-receiving, pocket- 15 forming spaces located at the opposite ends of the table, bight or pocket forming arms to form pockets in each of the spaces, the said arms being actuated in one direction by the reciprocating table and in the opposite direc- 20 tion by springs, substantially as set forth.

3. In a cigar-bunching machine, the combination, with a rolling-table constructed to reciprocate in a curved path and provided with bight or pocket forming spaces at its opposite 25 ends, of a stationary bight-forming roller located over the rolling-table, a rolling-apron extending over the bight-forming roller and adjustably secured to the reciprocating table, and the bight-forming arms actuated by the 30 reciprocating table to form pockets in the apron in each of the spaces, substantially as set forth.

4. In a cigar-bunching machine, the combination, with a reciprocating rolling-table 35 carrying a rolling-apron and provided with pocket-forming spaces at each end, and a stationary bight-forming roller arranged over the apron, of a tobacco-receptacle located above the roller and provided with doors 40 opening on opposite sides of the roller, for the purpose substantially as set forth.

5. In a cigar-bunching machine, the combination, with a feed-hopper provided with discharge-openings in its bottom and a bunch 45 receiving and discharging receptacle located above the rolling-apron, of horizontally-reciprocating open carriers located between the bottom of the hopper and the bunch receiving and discharging receptacle, and upon a bot-

tom which has openings corresponding with 50 those in the bottom of the hopper, the said carriers having cut-off shelves attached thereto in a plane with their upper edges and adapted to convey the tobacco from beneath the open- 55 ings in the bottom of the hopper to the openings leading to the said receptacle, substantially as set forth.

6. In a cigar-bunching-machine, the combination, with a hopper having apertures in the bottom, reciprocating spring-actuated carriers 60 located beneath the hopper and registering with the said apertures, and a reciprocating head having pallets secured to its trunnions, of pawls pivoted to the supporting-frame and adapted to be engaged by the pallets and 65 straps connecting the pawls and carriers, all arranged and operating substantially as set forth.

7. In a cigar-bunching machine, the combination, with a hopper provided with stirring 70 devices and a receptacle beneath the hopper provided with spring-doors, of carriers located between the hopper and said receptacle, adapted to receive tobacco through openings leading to the spring-door receptacle, substantially as 75 set forth.

8. In a cigar-bunching machine, the combination, with a curved face rolling-table adapted to be reciprocated in a curved path, and table- 80 operating arms projecting beyond the bearing upon which the table is supported, of oppositely-faced operating-treadles attached to the ends of the table-operating arms, for the purpose substantially as set forth.

9. In a cigar-bunching machine, the combination, with a reciprocating rolling-head pro- 85 vided with a rolling-apron and a stationary roller journaled directly above the center of movement of said head, of a bunch-receptacle provided with doors through which the 90 bunches are fed to the apron on opposite sides of the roller, substantially as set forth.

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

CHARLES BECKERT.

Witnesses:

ROBT. F. McMILLAN,  
R. G. DU BOIS.