

4 Sheets—Sheet 1.

No. 548,077.

Patented Oct. 15, 1895.



INVENTOR

J. Kussblatt  
F. Richter

INVENTOR  
Joseph Ezra Mear  
BY  
Carnece Ladd-Davis  
ATTORNEY

(No Model.)

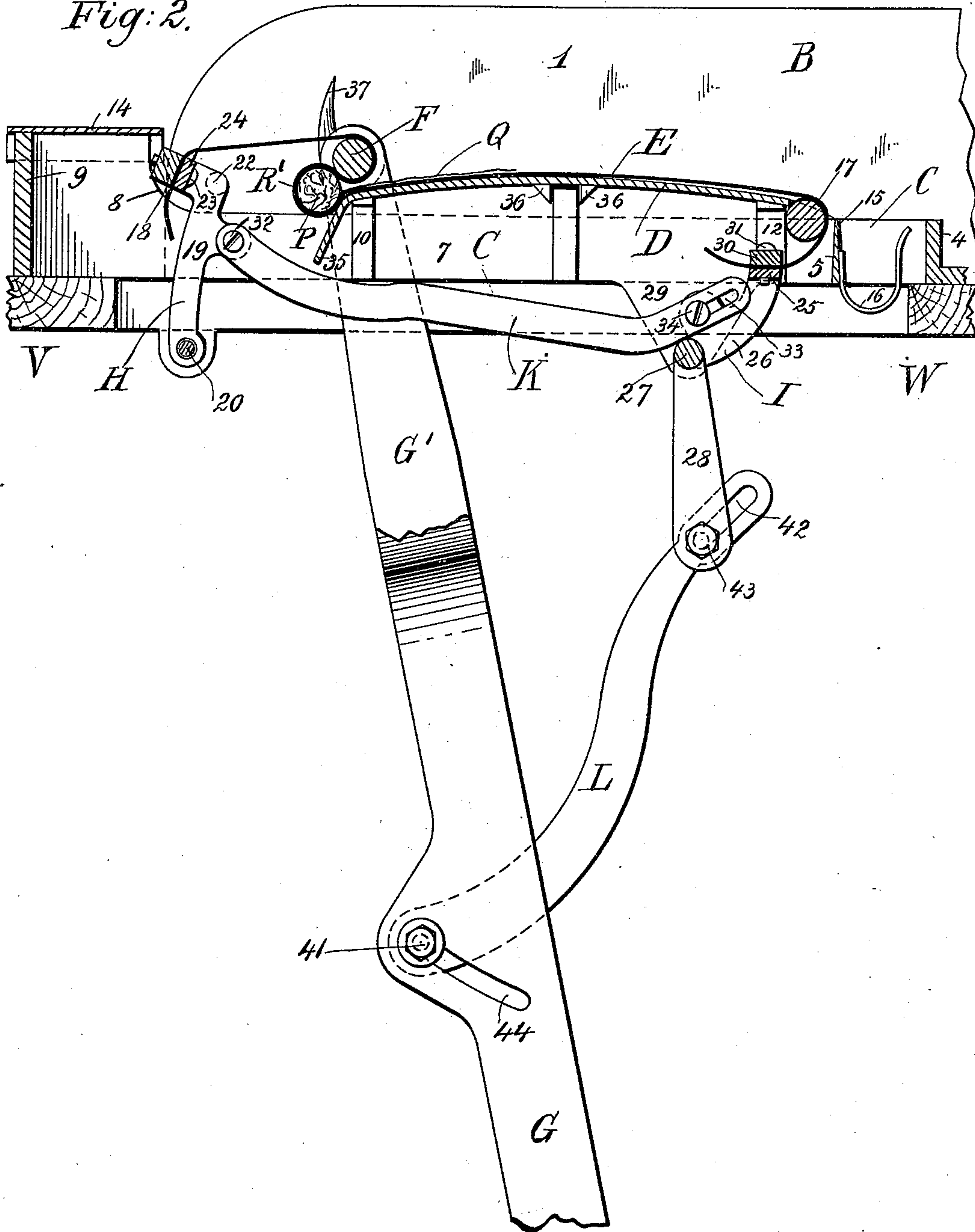
4 Sheets—Sheet 2.

J. DELA MAR.  
CIGAR BUNCHING MACHINE.

No. 548,077.

Patented Oct. 15, 1895.

Fig. 2.



WITNESSES:

J. Musblatt  
F. Richter

INVENTOR

Joseph Dela Mar

BY

Clarence Ladd-Davis  
ATTORNEY

(No Model.)

4 Sheets—Sheet 3.

J. DELA MAR.  
CIGAR BUNCHING MACHINE.

No. 548,077.

Patented Oct. 15, 1895.

Fig: 3.

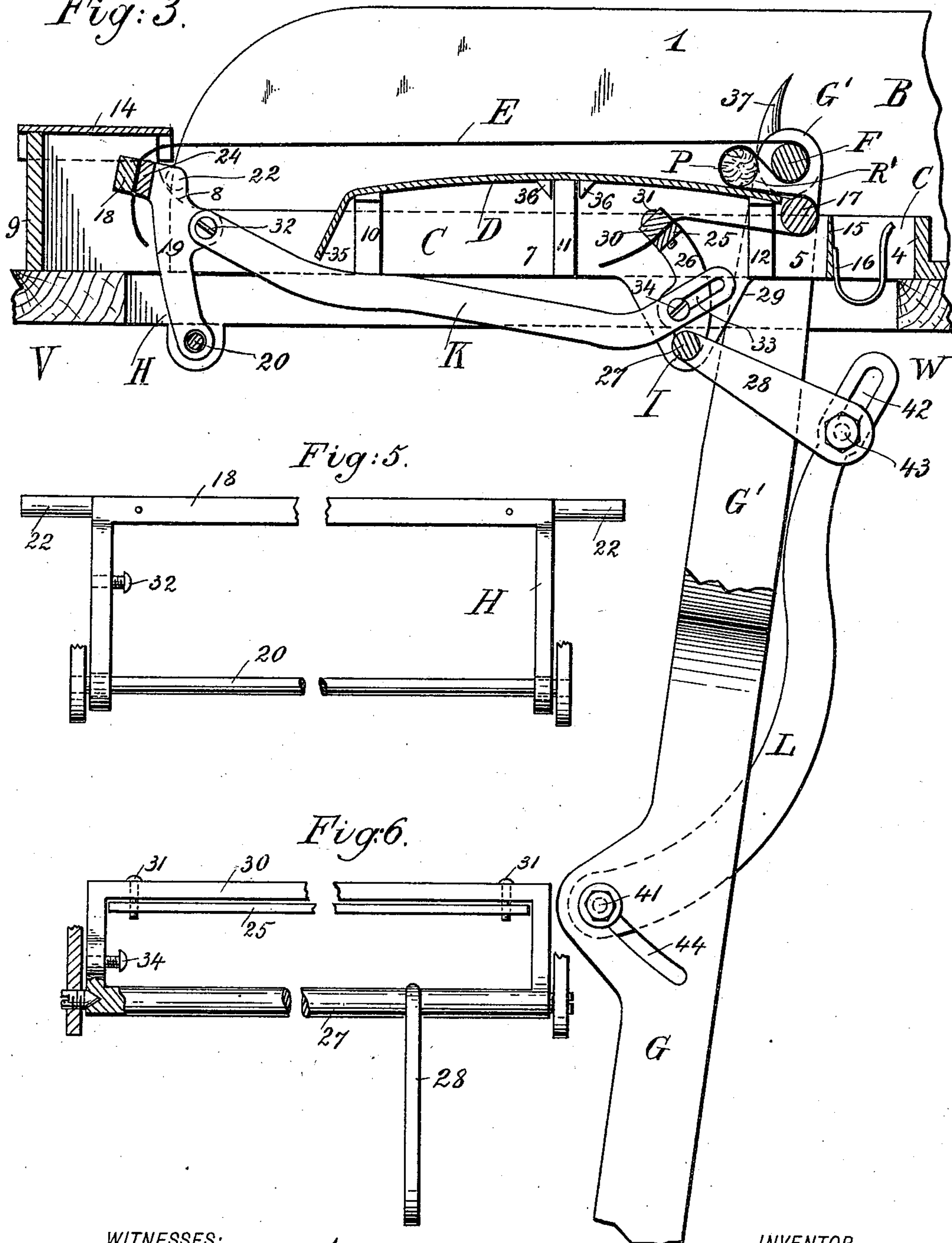


Fig: 5.

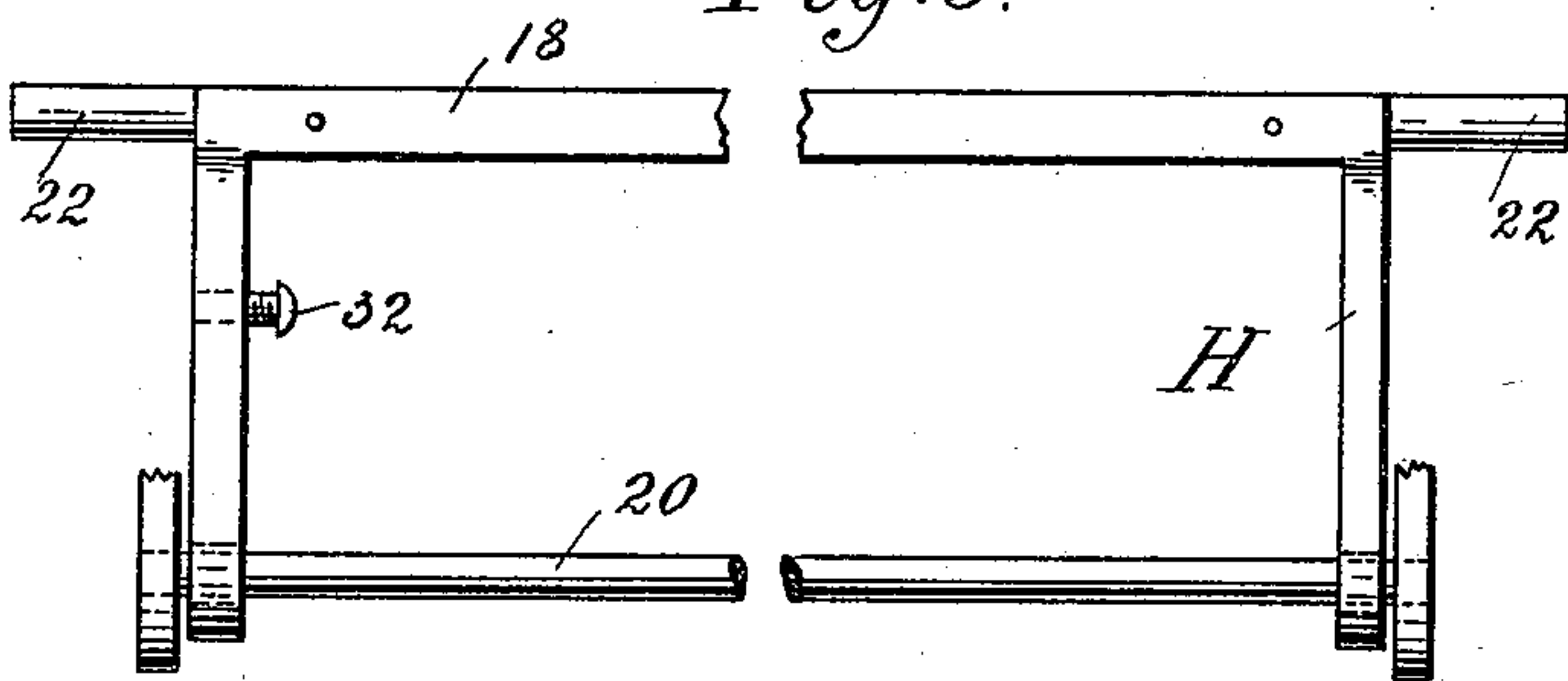
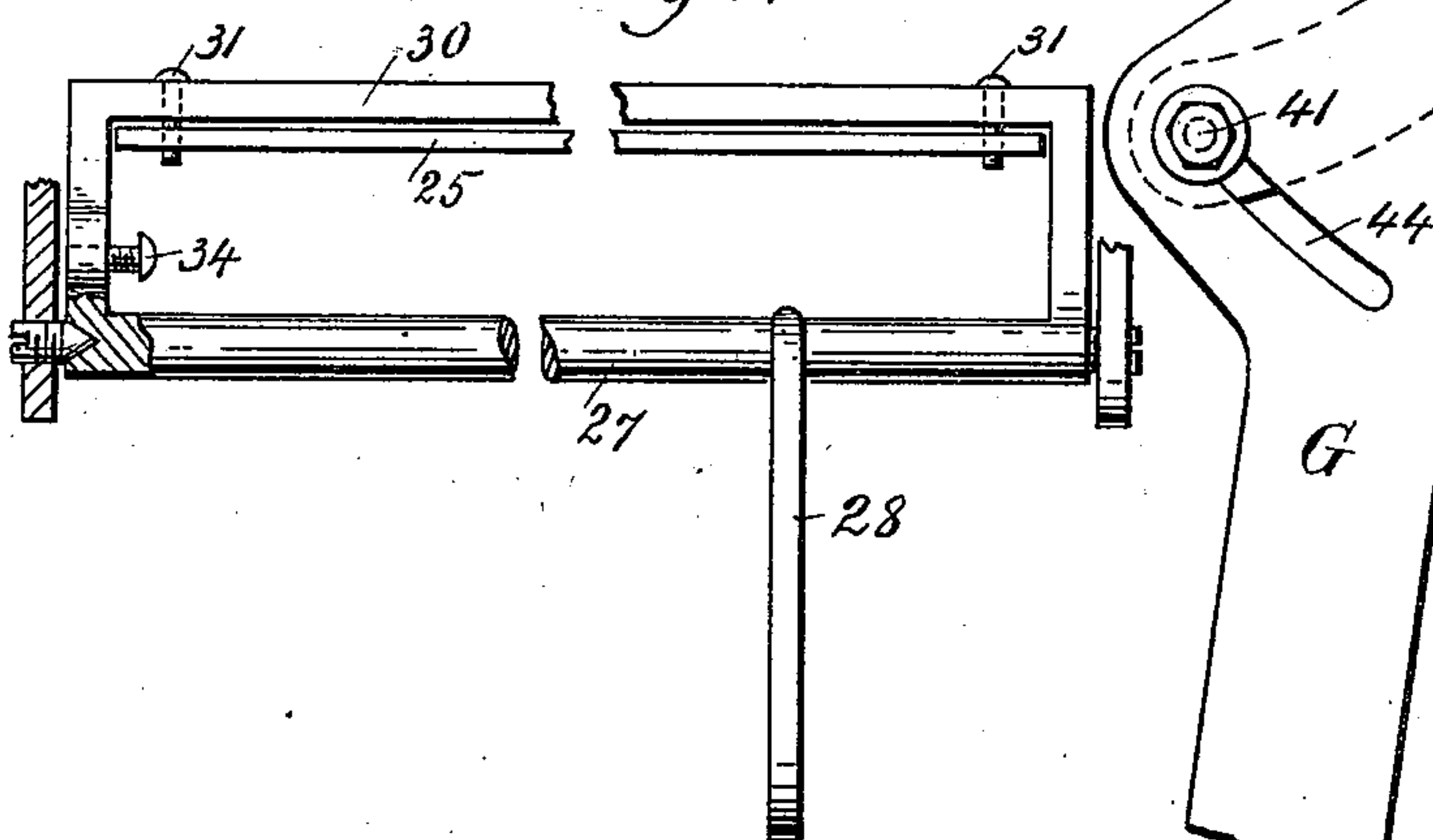


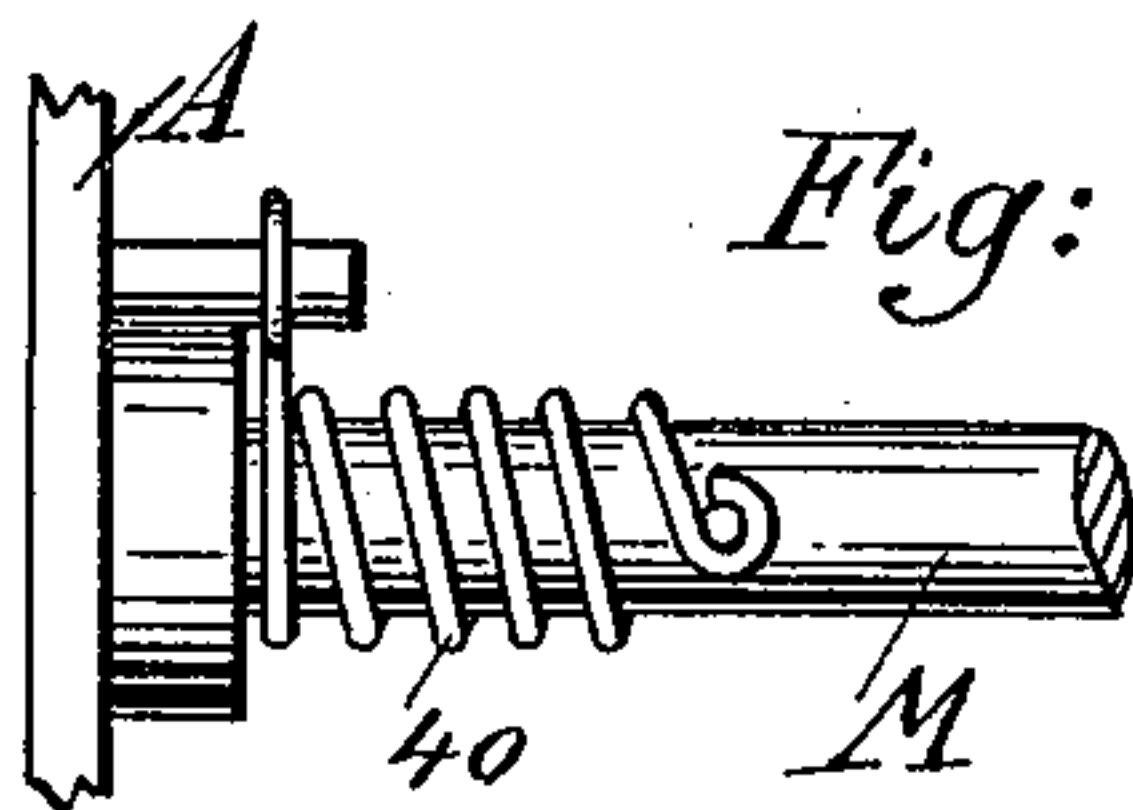
Fig: 6.



WITNESSES:

J. Muehlhoff  
F. Richter

Fig: 7.



INVENTOR

Joseph Dela Mar

BY

Carver Ladd-Davis  
ATTORNEY



(No Model.)

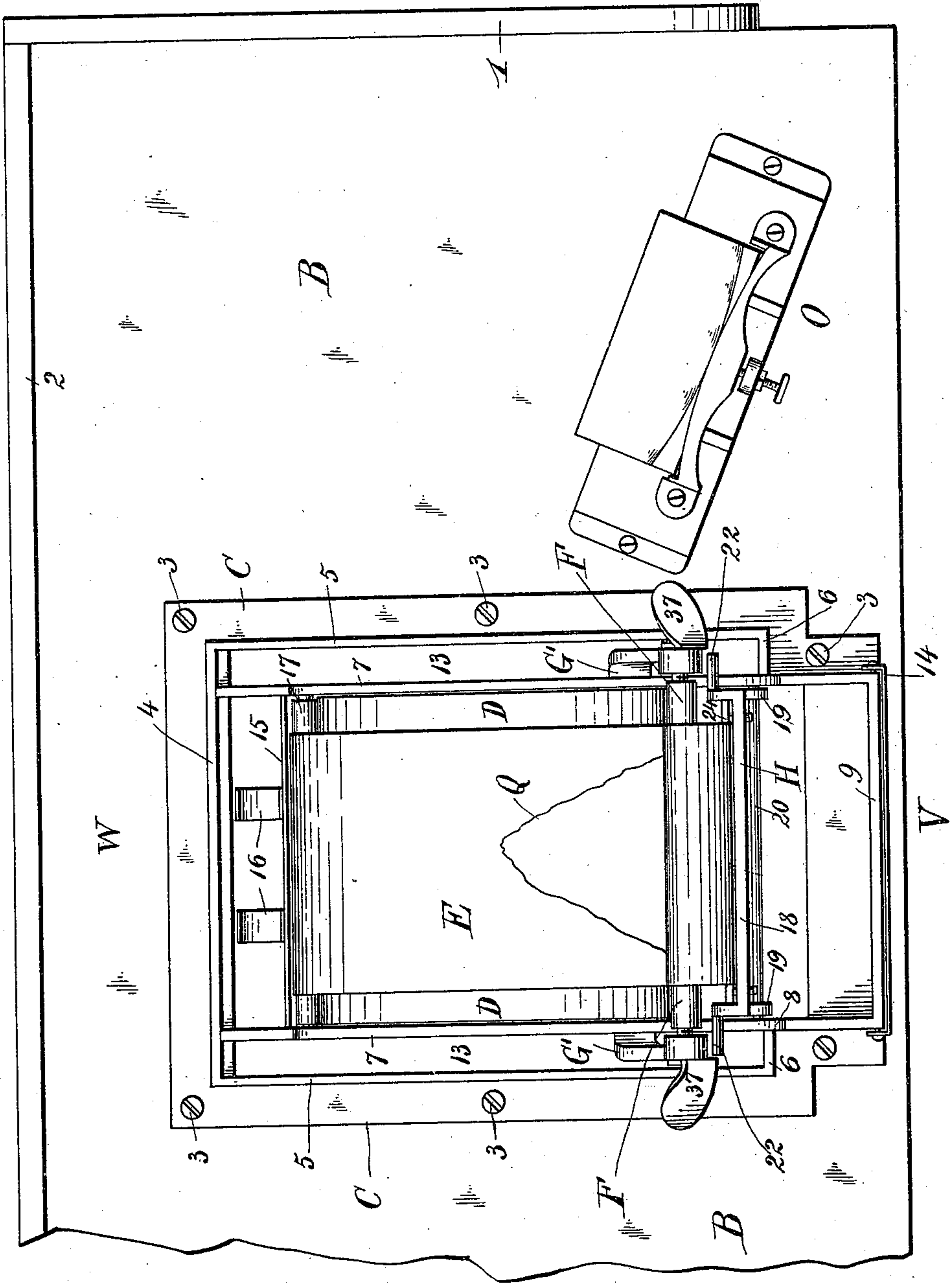
4 Sheets—Sheet 4.

J. DELA MAR.  
CIGAR BUNCHING MACHINE.

No. 548,077.

Patented Oct. 15, 1895.

Fig: 4.



WITNESSES:

J. Muehlhoff  
F. Richter

INVENTOR

Joseph Dela Mar  
BY  
Clarence Ladd-Davis  
ATTORNEY

# UNITED STATES PATENT OFFICE.

JOSEPH DELA MAR, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO LEON KLEIN, OF SAME PLACE.

## CIGAR-BUNCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 548,077, dated October 15, 1895.

Application filed April 15, 1895. Serial No. 545,717. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH DELA MAR, a citizen of the United States, residing in the city and county of New York, in the State of New York, have invented certain new and useful Improvements in Cigar-Bunching Machines, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The objects of my invention are, first, to provide a cigar-bunching machine of a new and improved form, of simple and cheap construction, which may be operated by unskilled labor; second, to so construct such machine that right or left taper or straight bunches may be rolled thereon with ease and without readjustment of any of the parts; third, to make a machine in which the bunches, whether straight or taper and although varying one from another in diameter, will all be of the same consistency throughout, and, fourth, to provide a machine of such form that when used by unskilled labor in connection with a suitable cigar-shaper for shaping the filling-tobacco before bunching all the bunches formed thereon will be of like form as well as of like consistency throughout, whereby the necessity of compressing the bunches in forming molds after the same are made is obviated and a bunch is formed that when wrapped and finished into a cigar cannot be told from the highest grade of handwork; and to such ends my invention consists of a suitably-supported rolling-bed, a bunching-roller vibrating, reciprocating, or moving to and fro over the same, a flexible bunch-rolling apron, which is also preferably highly elastic as well as flexible, means for tightening and stretching the bunch-rolling apron as the bunching-roller is moved over the table in the operation of rolling, and means for slacking upon the forward end of the apron so as to permit such end to travel rearward with the bunching-roller upon the first movement of such roller as the bight is being closed, all as more fully shown and described in the following specification, of which the accompanying drawings form a part, wherein similar letters and numerals of reference designate like or

equivalent parts wherever found throughout the several views, and in which—

Figure 1 is a side view, partially in section, of Fig. 4, looking in the direction of the arrow of my improved cigar-bunching machine, showing the position assumed by the various parts at the moment of the placing of the filler-tobacco in position upon the binder-leaf and in the pocket of the bunch-rolling apron preparatory to rolling the same. Fig. 2 is a similar view showing the position assumed by the working parts at the moment of the closing of the pocket to form the bight of the bunch-rolling apron. Fig. 3 is a like view showing the position assumed by the working parts when the bight, with the inclosed bunch, has traveled nearly to the rear end of the rolling-table and the finished bunch is about to be deposited in the bunch-catcher upon the further movement of the bunching-roller; and Fig. 4 is a top plan view of such machine, the working parts being in the position shown in Fig. 2, the pocket having just been closed to form the pocket, a shaper for shaping the loose filler-tobacco being shown in position upon the table of the machine. Figs. 5 and 6 are views in detail of the apron holders or clamps, to which are secured the ends of the bunch-rolling apron; and Fig. 7 is a view in detail of the spring which keeps the reciprocating frame normally forced forward.

In order to facilitate the description of the machine, that side of the table of the machine at which the operator sits will be called the "front," and will be designated by the reference-letter V, while the side opposite to such front side will be termed the "rear," and will be designated by the reference-letter W.

Referring to the drawings, the reference-letter A designates a suitable frame supporting a table B.

C is the rolling-table frame supported by the table B.

D is the rolling-table.

E is the bunch-rolling apron.

F is the bunching-roller.

G is the reciprocating frame carrying the bunching-roller F.

H is the forward and I the rear vibrating



apron holder or clamp to which the ends of the apron E are secured.

K is the connecting-rod, which forms an operative connection between such apron holders or clamps H and I, and L is the connecting-rod operatively connecting the clamp or holder I with the reciprocating frame G.

M is the shaft supporting the lower end of the frame G.

O is a shaper secured upon the table B, in which the filler-tobacco is formed or shaped into a loose cigar-shaped bunch P preparatory to placing the same upon the binder-leaf Q and in the pocket R of the bunch-rolling apron, which, when closed, forms the bunch-rolling bight R'.

The table B is preferably formed of wood and of the shape shown, being provided with upwardly-extending side and back pieces 1 and 2, and the frame A, upon which such table B is supported, is preferably of the shape shown, and formed of cast-iron or other suitable metal, and the other parts of the machine, with the exception of the flexible bunch-rolling apron E, are also preferably of cast-iron, steel, or brass, as may in each case be deemed best.

Formed in and through the top of the table B, at or near the center thereof, as shown, is a suitable hole or perforation, preferably rectangular in form and of slightly smaller size than is the rolling-table frame C, which is secured upon the table B over such perforation, preferably by means of suitable screws 3. Such rolling-table frame C is preferably of substantially the shape and form shown, having an upwardly-extending flange 4 at the rear end, a similar side flange 5 extending from the flange 4 along each side of such frame toward the front, and two short flanges 6 extending inward from the end of the flanges 5 at the front end a short distance and merging with two longitudinal flanges or girders 7, which run parallel with the flanges 5 about an inch inside of the same the entire length of the frame C, as shown, so as to leave a guideway or slot 13 in and through the frame from the front flanges 6 to the rear flange 4. The girders 7 extend two or three inches forward of the flanges 6 and curve upward, rising forward of such flanges to about double the height thereof, as shown at 8, and the end of the frame C being closed by an end flange 9 of the same height as the side extensions 8, and the central portion of the girders 7 are higher than the end portions, and the top thereof is formed of the same curve as is the top of the rolling-table D, and such girders are preferably provided on the inner side with suitable inwardly-extending studs or lugs 10, 11, and 12, the tops of which are located the thickness of the curved plate forming the rolling-table D below the top edges of the girders 7, so that such rolling-table D, being of the same width as the space between the girders 7, will when in position rest upon such studs or lugs 10, 11, and 12,

and the upper curved surface will be flush with the curved top of such girders 7, as shown.

The frame C may of course be formed of any suitable material, but is preferably formed of a single piece of iron cast into the shape shown. The box-like cavity formed by the high forward portions 8 of the girders 7 and the end flange 9 is preferably kept normally closed at the top by a suitable hinged or pivoted cover 14, formed, preferably, of sheet-brass, and when such cover is raised up into the position shown in Figs. 1 and 4 access to the forward end of the apron and to the holder or clamp H to which the end thereof is secured is easy, and like access may be had to the rear holder or clamp I simply by lifting the rolling-bed D from its normal position in the frame C, where it is held by the force of gravity alone. Mounted at the ends in the girders 7 in any desired manner, or, if desired, cast integral with the frame C, and extending from girder to girder near the rear ends thereof, is a cross-bar 15, to which are secured in any desired manner fingers 16, formed, preferably, of sheet metal, which serve as a bunch-catcher, in which is deposited the finished bunch, and located just forward of the cross-bar 15 and extending from girder to girder parallel therewith and revolvably mounted at the ends in such girders is a roller 17, over which roller and between which and the cross-bar 15 passes the rear end of the bunch-rolling apron E to a point beneath the rolling-table, where it is secured to the rear holder or clamp I.

The front apron-holder or clamp H, to which is secured the forward end of the bunch-rolling apron E, is preferably of the shape shown in detail in Fig. 5, consisting of a cross-bar 18, provided at either end with downwardly-depending side pieces 19, preferably of the shape shown, and provided at the lower ends with suitable holes, through which pass a suitable rod or shaft 20, supported at the ends in downwardly-depending lugs or projections, formed integral with the girders 7 in such manner that the clamp or holder will move or vibrate freely back and forth upon such shaft or rod as a pivot. The cross-bar 18 is preferably provided at either end, as shown in Fig. 4, with outwardly-projecting studs or pins 22, which extend outward over the girders 7 in such manner as to come into contact with the rearward curved edge of the forward high portion 8 of the girders 7 when such holder or clamp is swung toward the front of the machine, and thus prevent the said holder or clamp H from swinging forward beyond the point shown in Fig. 1. Removably attached to the cross-bar 18 of the forward clamp or holder H in any desired manner, preferably by means of two screws 23, is a bar 24, of substantially the same length as the cross-bar, and when the parts are in position the forward end of the bunch-rolling apron E is tightly clamped in the clamp thus formed by the bars



18 and 24, as shown, or, if preferred, the end of the apron E may be secured to the cross-bar 18 in any other convenient manner.

The rear holder or clamp I differs preferably in form from the holder or clamp H, consisting, preferably, of a cross-bar 25, provided at either end with side pieces 26, also connected together at the bottom by a rod or bar 27, having a downwardly-depending lever 28, such cross-bar 25, side pieces 26, rod or bar 27, and lever 28 being preferably formed integral with one another by being cast of one piece of metal, and the rod or bar 27 being revolvably supported at the ends by suitable downwardly-depending lugs 29, formed integral with the girders 7, preferably by the insertion through screw-threaded holes formed in such lugs of suitable screws, pointed at the ends, so as to enter suitable sockets or holes formed to receive them in the ends of such rod or bar 27, thus forming pivots therefor, as shown in Fig. 6, and the rear end of the apron E is secured to the clamp or holder I in the same manner as is the forward end of such apron to the holder H by fastening the apron tightly between the cross-bar 25 and a bar 30 of the same form as the bar 24, which bar 30 is secured to the cross-bar 25 by suitable screws 31.

Pivotally secured to the forward holder or clamp H, preferably by means of a suitable pivot bolt or screw 32, secured to one of the side pieces 19 thereof, is the connecting-rod K, which is provided at its rearward end with an elongated slot 33, through which passes a suitable pivot bolt or screw 34, by which such rod is connected with the rear holder or clamp I, preferably by being screwed or otherwise firmly fastened to the inner side of one of the side pieces 26 of such holder or clamp in the same manner as is the bolt or screw 32 to one of the side pieces 19 of the forward holder H, and the slot 33 is of such width as to permit of free movement of the bolt or screw 34 along the same.

The rolling-table E is preferably formed of a thin piece of metal, cast or otherwise formed into the shape shown, having at the forward end the downwardly-depending front piece 35, and at the center on the under side and at each side of the table two downwardly-depending lugs 36, so spaced as to just permit of the upper end of the lugs 11 entering between them, such lugs 36 thus serving to hold the rolling-table firmly against displacement when once the same has been placed in position upon the rolling-table frame E.

The bunching-roller frame G consists, preferably, of a lower single central stud or upright, from which rises two side pieces G', forming a bifurcation or fork, and such side pieces G' extend up through the slots 13 to a short distance above the rolling-table D, and are provided with suitable thumb-pieces 37. Revolvably supported at the ends in suitable bearings in the upper ends of the side pieces G' is the

bunching-roller F, which is located beneath the bunch-rolling apron E, as shown. The lower end of the frame G is supported by the frame A in such manner as to permit of reciprocation and vibration of the bunching-roller over the rolling-table D preferably by being mounted upon a shaft M, supported at the ends in the frame A, so as to be partially revolvable therein; but in some cases the shaft M may be rigidly mounted in the frame A, and the frame G may be loosely mounted thereon; but I prefer to have the shaft rest in bearings and to have the frame G kept normally in its extreme forward position, as shown in Fig. 1, by a suitable spring 40, as shown in detail in Fig. 7. I also prefer to connect the lower end of the frame G rigidly with the shaft M by a suitable T-shaped casting secured to such shaft and frame by suitable set-screws 38 and 39.

The connecting-rod L is connected in any desired manner with the reciprocating or moving bunching-roller frame G, preferably by being pivotally mounted upon a suitable pivot-bolt 41, rigidly secured to the said frame G below the fork or bifurcation thereof, preferably by means of a suitable nut, as shown, and such connecting-rod L is provided at its rearward end with a suitable slot 42, through which passes a suitable bolt 43 of such size as to slide easily along such slot 42, which bolt is firmly secured to the lever 28 in any desired manner, preferably by means of a suitable screw-nut, as shown. In order to render the apron-tightening mechanism easy of adjustment when it is desired to increase or diminish the amount of the stretch or draw upon the bunch-rolling apron D, the pivot-bolt 41 is preferably passed through a suitable slot 44, preferably of the shape and location shown formed in and through the lower portion of the frame G, and when the bolt 41 is moved from the position shown in the drawings to the lower end of the slot 44, and there firmly secured in position by the tightening of the nut thereon, the stretching-power of the vibrating holders upon the apron E will be considerably diminished.

The size of the pocket R, which when closed forms the bunch-forming bight R' of the apron D, may be regulated and increased or diminished in size by loosening the screws upon either of the holders or clamps, letting out or taking in such apron in the clamp formed by the cross-bars and bars, and again tightening up the screws so as to compress the apron between the cross-bar and bar thereof.

While an apron of non-elastic flexible material may be in some cases used in my improved bunching-machine, I prefer to make such apron elastic throughout its entire width, and it is formed of a cloth or fabric woven partly of threads of elastic india-rubber and partly of non-elastic threads of linen or similar material, such material being usually that



fabric used to form the elastic side pieces of what are commonly known as "Congress" shoes or gaiters.

The operation of the device is as follows:  
 5 The parts being in the position shown in Fig. 1, a suitable quantity of loose filler-tobacco is roughly formed into the shape of the cigar-bunch desired to be formed by the machine, either by forming the same in the shaper O or  
 10 in any other desired manner, and the binder-leaf Q having been placed in position upon the bunch-rolling apron E with one end thereof resting in the pocket R of such apron and the other extending rearward upon the apron, the loose bunch of filler-tobacco so shaped is  
 15 placed in the pocket R and upon the end of such binder-leaf, as shown in Fig. 1. The operator standing during this operation at the front U of the table B presses with his hand or  
 20 thumb against one of the thumb-pieces 37 of the frame G and forces such frame rearward into the position shown in said Fig. 1, when the bunching-roller, being carried rearward with the frame G, will pass over the forward end  
 25 of the rolling-table D, so as to close the pocket R and form the bight R' of such apron, and during this first rearward movement of the bunching-roller, the forward apron holder or clamp H will be rocked rearward by the friction  
 30 of the apron E upon the bunching-roller into the position shown in Fig. 2, and this movement of such holder or clamp H pushes rearward the connecting-rod K until the bolt 34 reaches the forward end of the slot 33 in  
 35 such rod K, and at the same time the rearward movement of the upper portion of the frame G has pushed back the connecting-rod L until the lower end of the slot 42 comes against the bolt 43, when all the parts will be  
 40 in the position shown in Figs. 2 and 4. The rearward movement of the frame G being continued, the connecting-rod L forces rearward with it the lever 28, and this of course forces forward the upper end of the pivoted rear  
 45 apron holder or clamp I, of which the lever 28 is a part, and this movement of such holder I draws the rear end of the apron E down over the roller 17 in such manner as to stretch such apron in front of the advancing bunching-  
 50 roller and bight, and this same forward movement of the upper portion of the holder I also carries forward the forward holder or clamp H by the pressure exerted upon the connecting-rod K, and such movement of the holder or  
 55 clamp H draws upon the forward end of the apron E in such manner as to tighten and stretch the same from the rear at the same moment that the holder or clamp I is drawing and stretching the same from the front, and as the  
 60 bight and bunching-roller travel rearward over the rolling-table the filler-tobacco is rolled over and over in the bight and wrapped in the binder-leaf with a gradually-increasing pressure as the apron is tightened more and  
 65 more by the continued movement of the clamps or holders H and I as the frame G is pushed farther and farther rearward, and this stretch-

ing of the apron compels the same to conform to the shape of the filler-tobacco as it was when placed in the bight when it was first  
 70 closed, whereby a cigar-bunch equal in excellence to the best grade of hand-bunches will be quickly and easily formed.

The position assumed by the various working parts of the machine at the moment or just  
 75 before the moment that the maximum of strain upon the apron E is reached is shown in Fig. 3, and the rearward movement of the frame G and the bunching-roller carried thereby being continued a short distance beyond such  
 80 point the finished bunch will be deposited in the bunch-catcher formed by the fingers 16 in the manner well known in cigar-bunching machines of this class, and the moment the  
 85 frame G is released from pressure the spring 40 will of course force the same back into the position shown in Fig. 1, when the operation described may be at once repeated.

By allowing the forward end of the bunch-rolling apron to move rearward with the  
 90 bunching-roller upon the first rearward movement when the pocket is being closed to form the bight, as shown, I am enabled to use a pocket of such small size as to cause the apron to be closed tight around the bunch of filler-  
 95 tobacco the instant such pocket is closed, and this is in many ways of great advantage, as otherwise, the pocket being loose when first closed, the drawing upon the same in order  
 100 to tighten the apron so as to draw the bight tightly around the bunch will always, to a greater or less degree, disturb the shape of the filler-tobacco, and will usually twist the  
 105 same, as well as the binder-leaf; and when an elastic apron is used there is a tendency on the part of the machine to throw the filler-tobacco from the pocket upon the first rearward  
 110 movement of the bunching-roller to close the pocket; but all these difficulties are overcome simply by allowing the forward end of the apron to move rearward with the bunching-roller as the pocket is being closed.

It is evident that many changes in the construction, combination, and arrangement of the several parts of my improved cigar-bunching machine other than those mentioned may  
 115 be made without departing from the scope of my invention, and I do not intend to limit myself to any particular construction thereof; but,

Having now particularly described and ascertained the nature of my said invention, its construction and operation, what I claim, and desire to secure by Letters Patent, is—

1. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller carried by the frame, an elastic bunch-rolling-apron, a pivoted holder or clamp H secured to the forward end of the apron and adapted to be  
 125 rocked rearward during the closing of the bight by the friction of the apron upon the bunching-roller, a clamp or holder for the rear end of the apron, and means for actuating  
 130



both of the clamps or holders after the bight is closed, so as to draw upon both ends of the apron, so as to tighten and stretch the same, substantially as shown and described.

5 2. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller carried by the frame, an elastic bunch-rolling apron, a pivoted holder or clamp H secured to the forward end of the apron, a connecting-rod K secured to the clamp H and having a slot 33, a bolt or pin 34 located in the slot 33, and mechanism in actuating connection with the said frame for moving the pin 34, substantially as shown and described.

3. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller carried by the frame, an elastic bunch-rolling-apron, a pivoted holder or clamp I secured to the rear end of the apron, a connecting-rod L secured to the said frame, and a pin passing through an elongated slot in the rod L connecting such rod with the holder or clamp I, substantially as shown and described.

4. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller carried by the frame, an elastic bunch-rolling-apron, a pivoted holder or clamp H secured to the forward end of the apron, a connecting-rod K secured to the clamp H and having a slot 33, a pivoted holder or clamp I secured to the rear end of the apron, a bolt or pin 34 passing through the slot 33 secured to the clamp or holder I, a connecting-rod L secured to the said frame, and a bolt or pin passing through an elongated slot in the rod L connecting such rod with the holder or clamp I, substantially as shown and described.

5. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller carried by the frame, an elastic bunch-rolling apron, clamps or holders H and I secured to the ends of the apron, a connecting-rod K having a slot 33

connecting the holders or clamps H and I, and a slotted connecting-rod L forming connection between one of said clamps and the said frame, substantially as shown and described.

6. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller, an elastic bunch-rolling-apron, clamps or holders H and I secured to the two ends of the apron, a connecting-rod K having a slot 33 connecting the holders or clamps H and I, and mechanism for forming an actuating connection between the said frame and the clamps or holders, substantially as shown and described.

7. In a cigar-bunching-machine, the combination with a frame moving to and fro and having a slot 44, of an elastic bunch-rolling-apron, a clamp or holder secured to one end of the apron, a connecting-rod L secured to the clamp or holder by a sliding connection, and a bolt or pin 41 adjustably secured in the slot 44 in the said frame forming a pivot for the other end of the rod L, substantially as shown and described.

8. In a cigar-bunching-machine, the combination with a rolling-table, of a frame moving to and fro, a bunching-roller carried by the frame, an elastic bunch-rolling-apron, a pivoted holder or clamp H secured to the forward end of the apron and adapted to be rocked rearward during the closing of the bight by the friction of the apron upon the bunching-roller, and means for drawing upon the rear end of the apron so as to tighten and stretch the same in advance of the bight after the same is closed, substantially as shown and described.

Signed at the city and county of New York, in the State of New York, this 11th day of April, A. D. 1895.

JOSEPH DELA MAR.

Witnesses:

MARY H. FAIRCHILD,  
J. NUSSBLATT.