(No Model.) 7 Sheets—Sheet 1.

DOMINGO PEREZ Y BUÑOL.

CIGARETTE MACHINE.

No. 568,273. Patented Sept. 22, 1896.

Fig. 1.

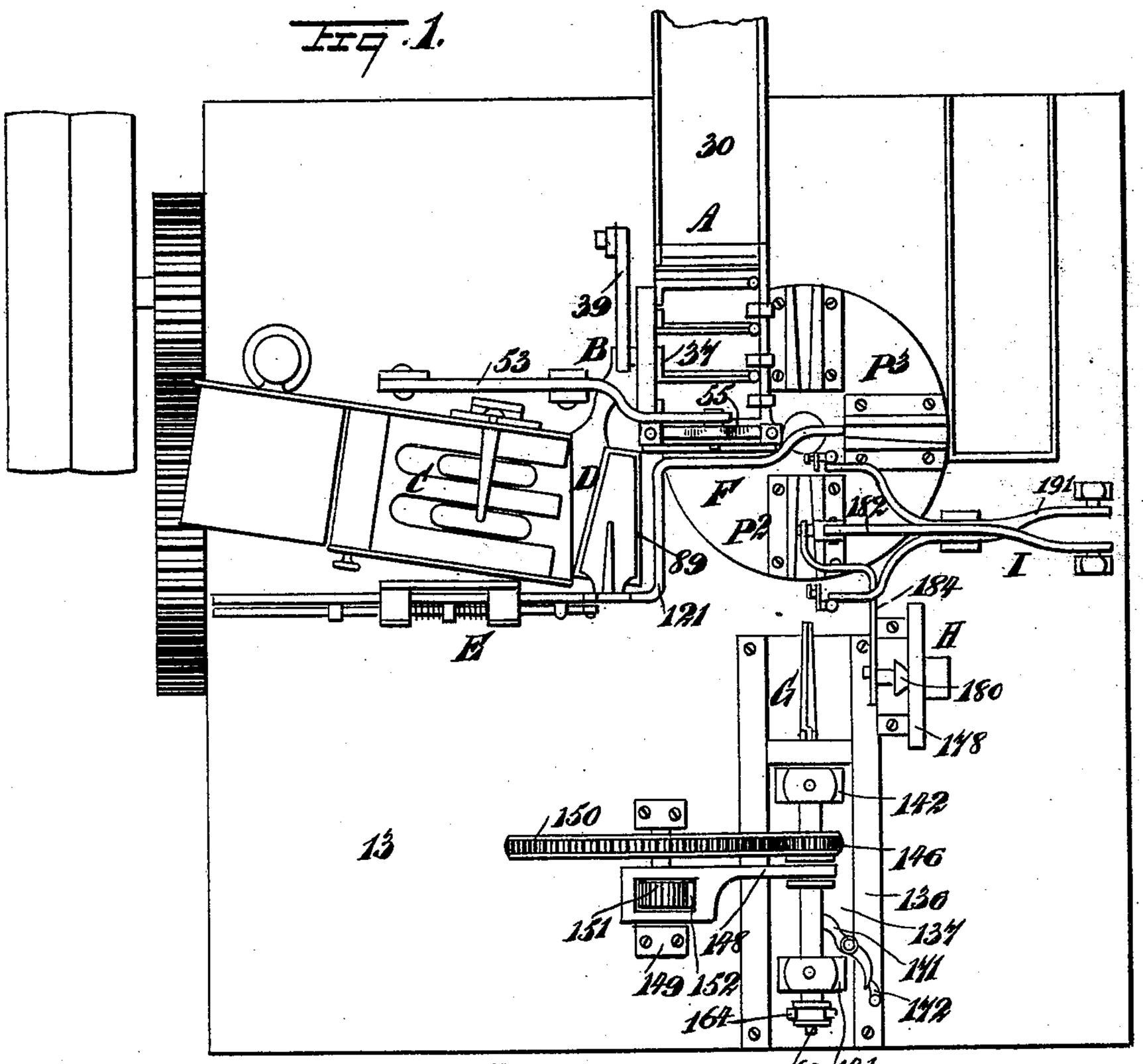


Fig. 8.

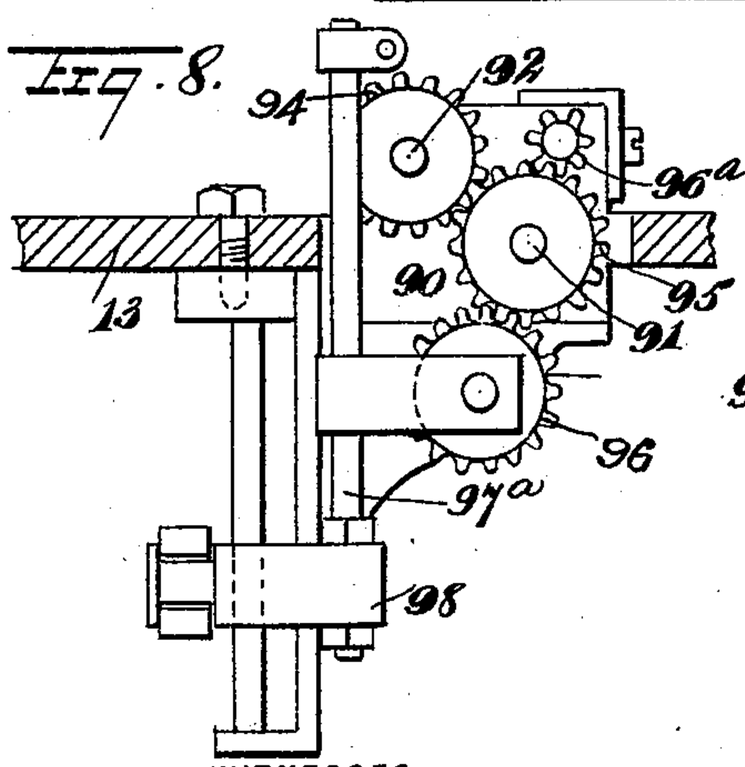


Fig. 9.

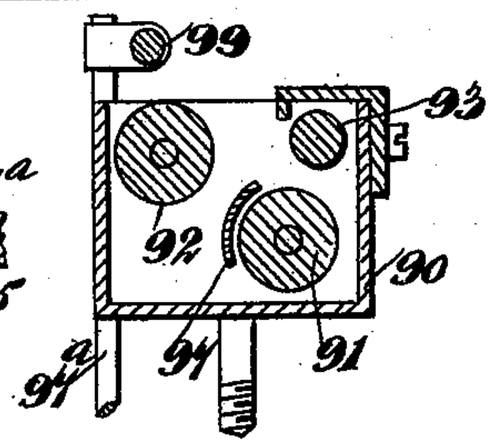
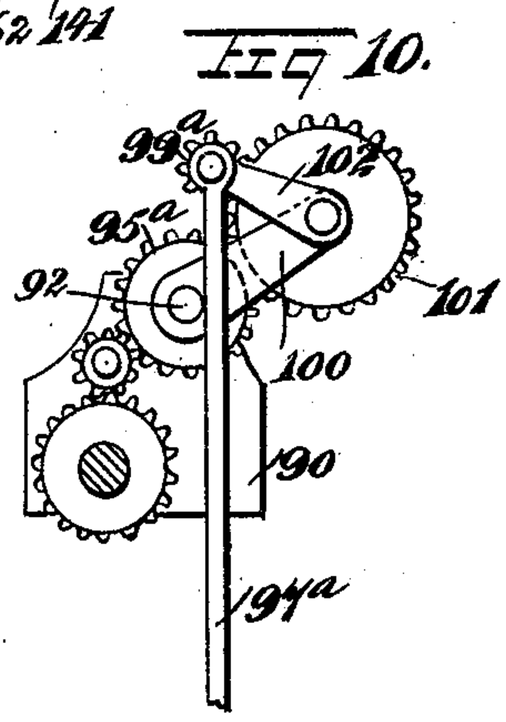


Fig. 10.



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(No Model.) 7 Sheets—Sheet 2.

DOMINGO PEREZ Y BUNOL.

CIGARETTE MACHINE.

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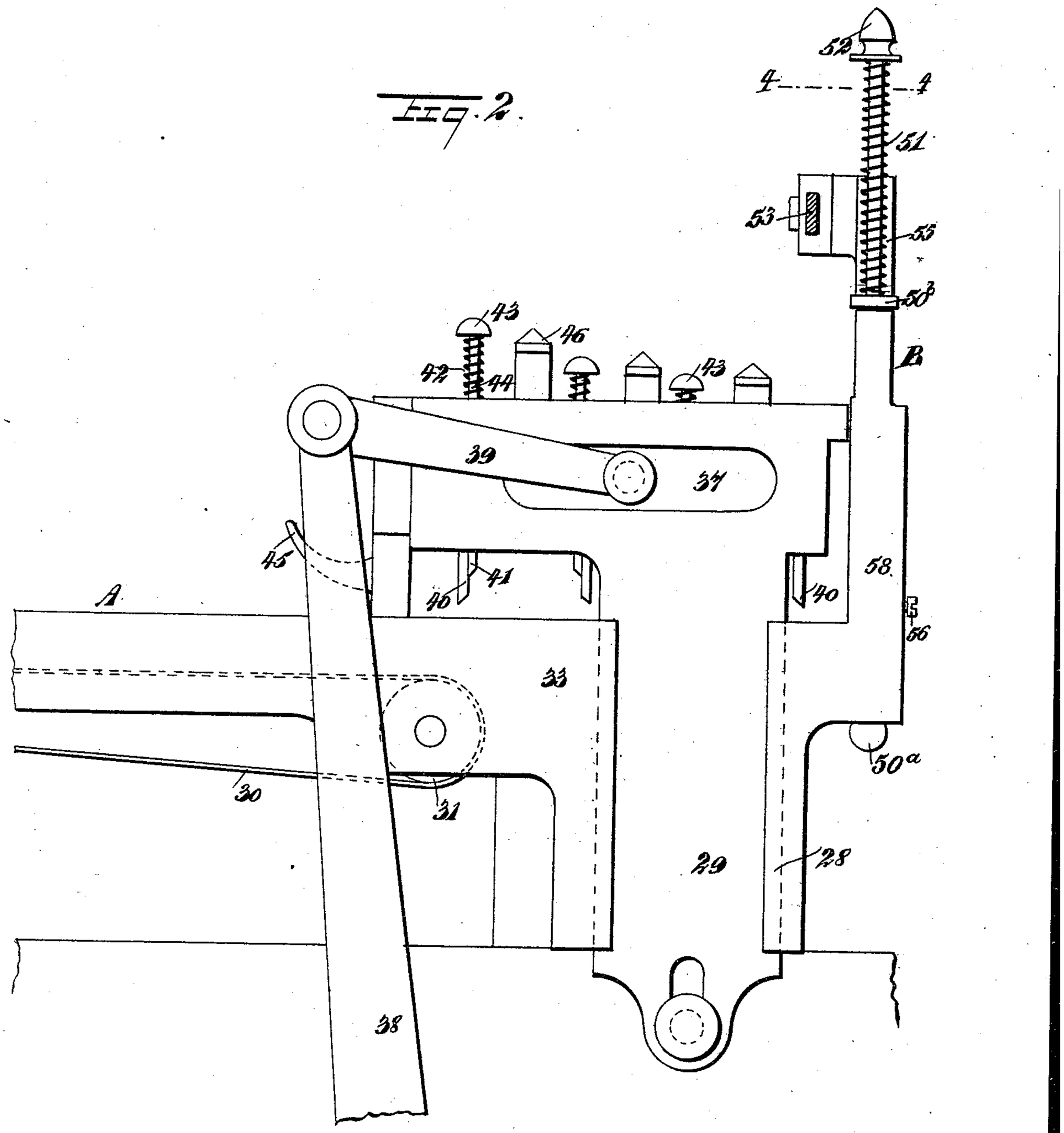
Fig. 2.



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DOMINGO PEREZ Y BUNOL.

CIGARETTE MACHINE.

No. 568,273. Patented Sept. 22, 1896.

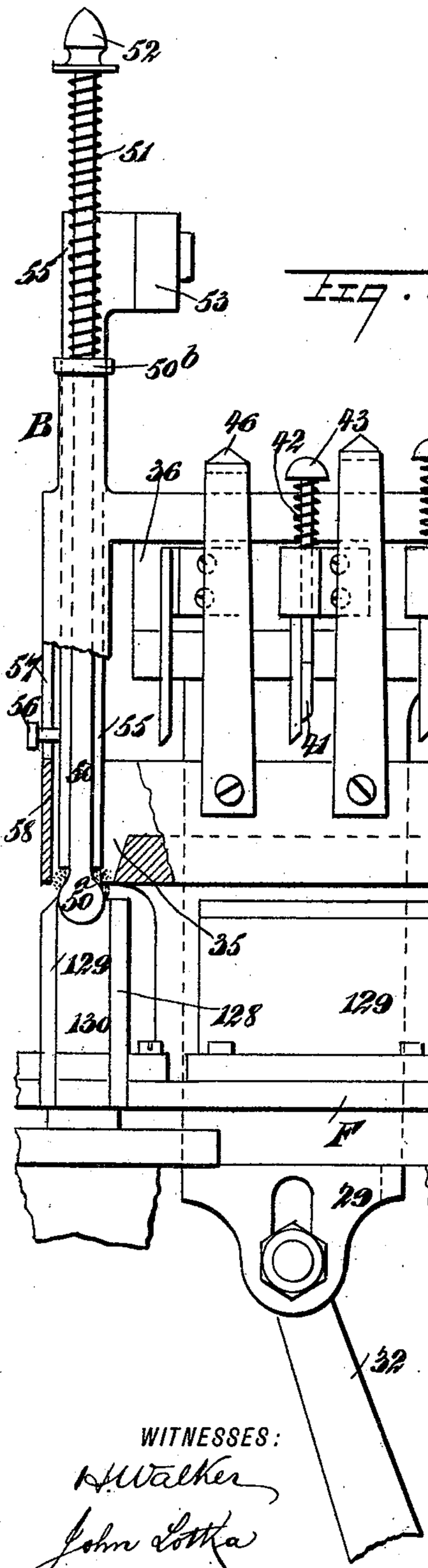


Fig. 3.

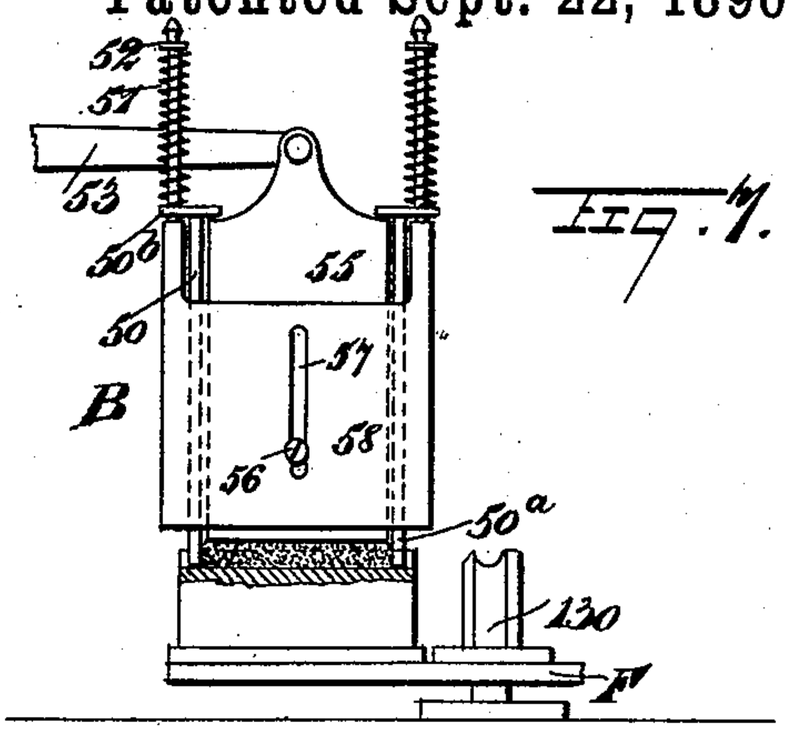
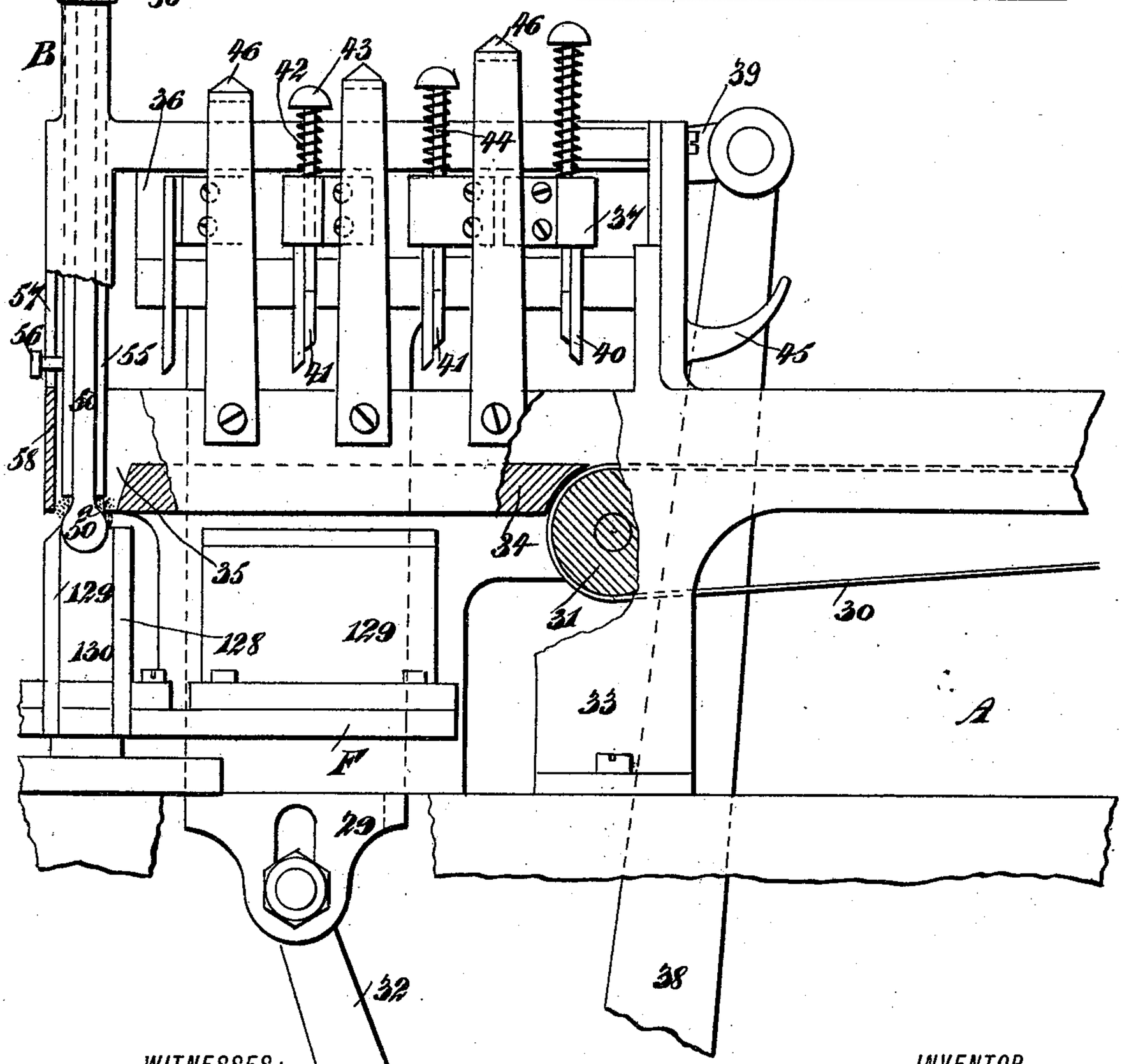


Fig. 4.



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(No Model.) 7 Sheets—Sheet 4.

DOMINGO PEREZ Y BUÑOL.

CIGARETTE MACHINE.

No. 568,273. Patented Sept. 22, 1896.

Fig. 4.

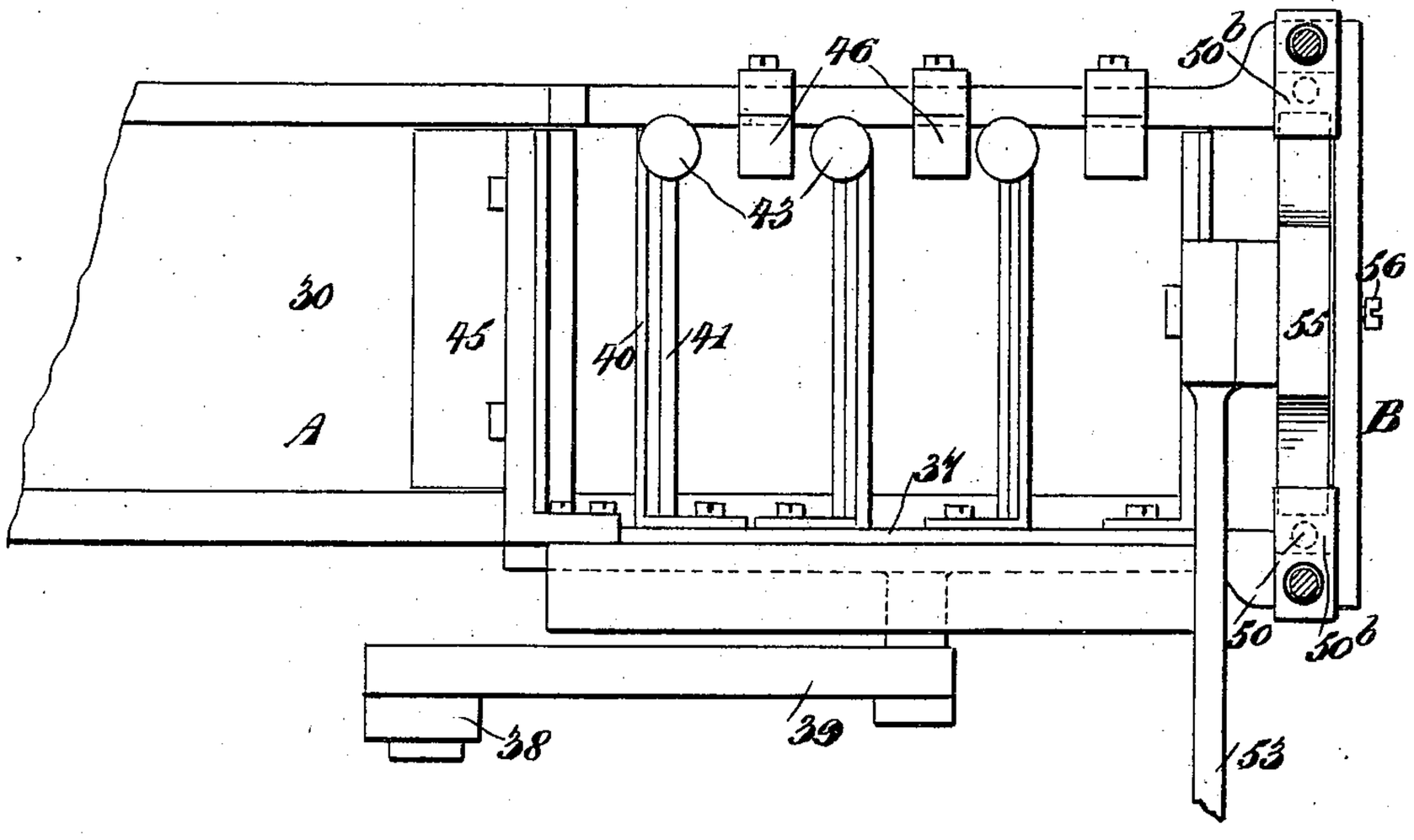

Fig. 5.

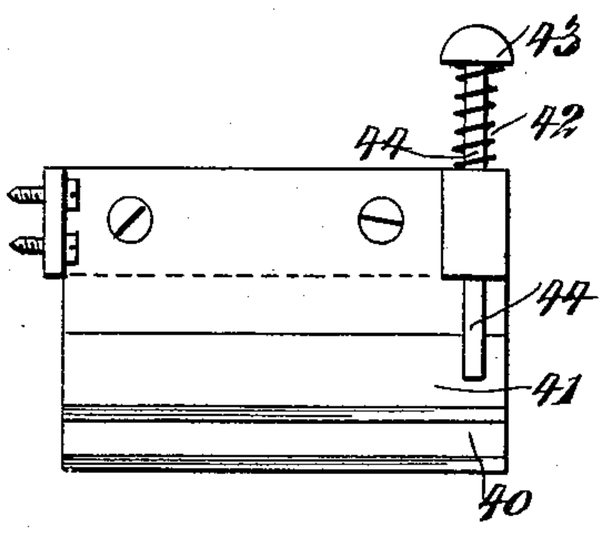

Fig. 6.

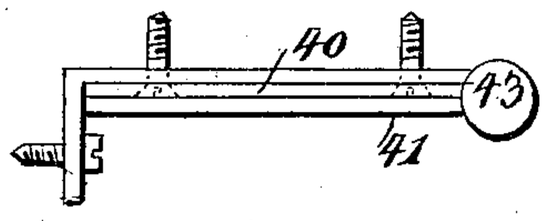

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Fig. 12.

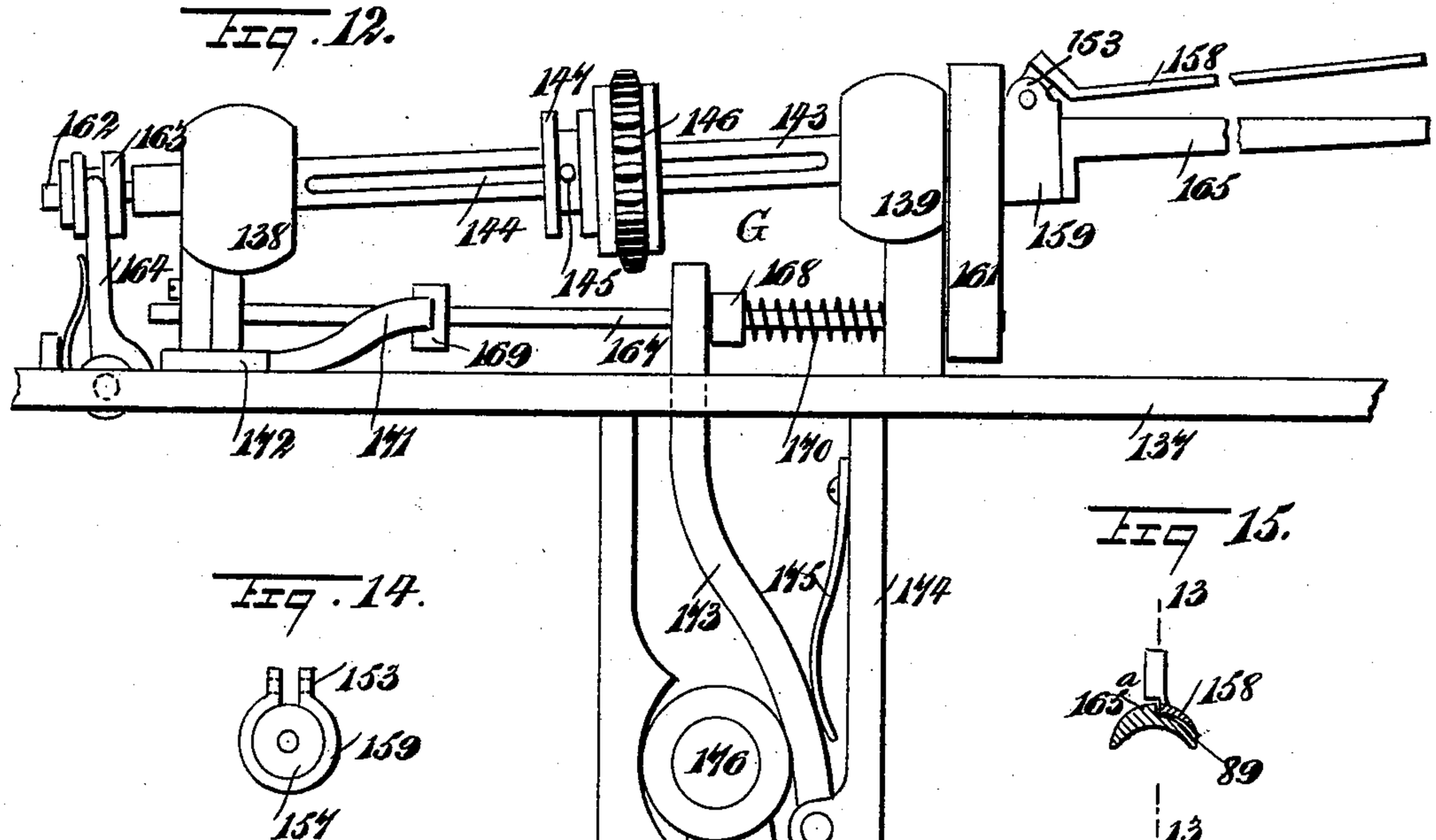


Fig. 14.

Fig. 15.

Fig. 13.

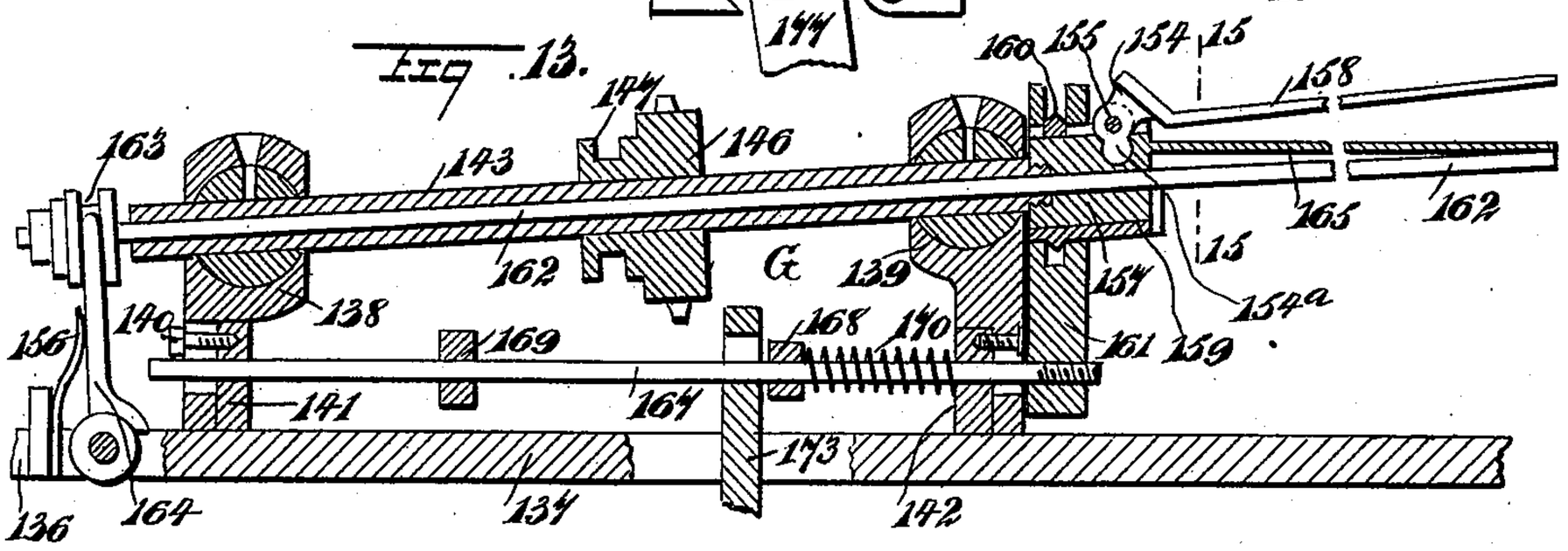
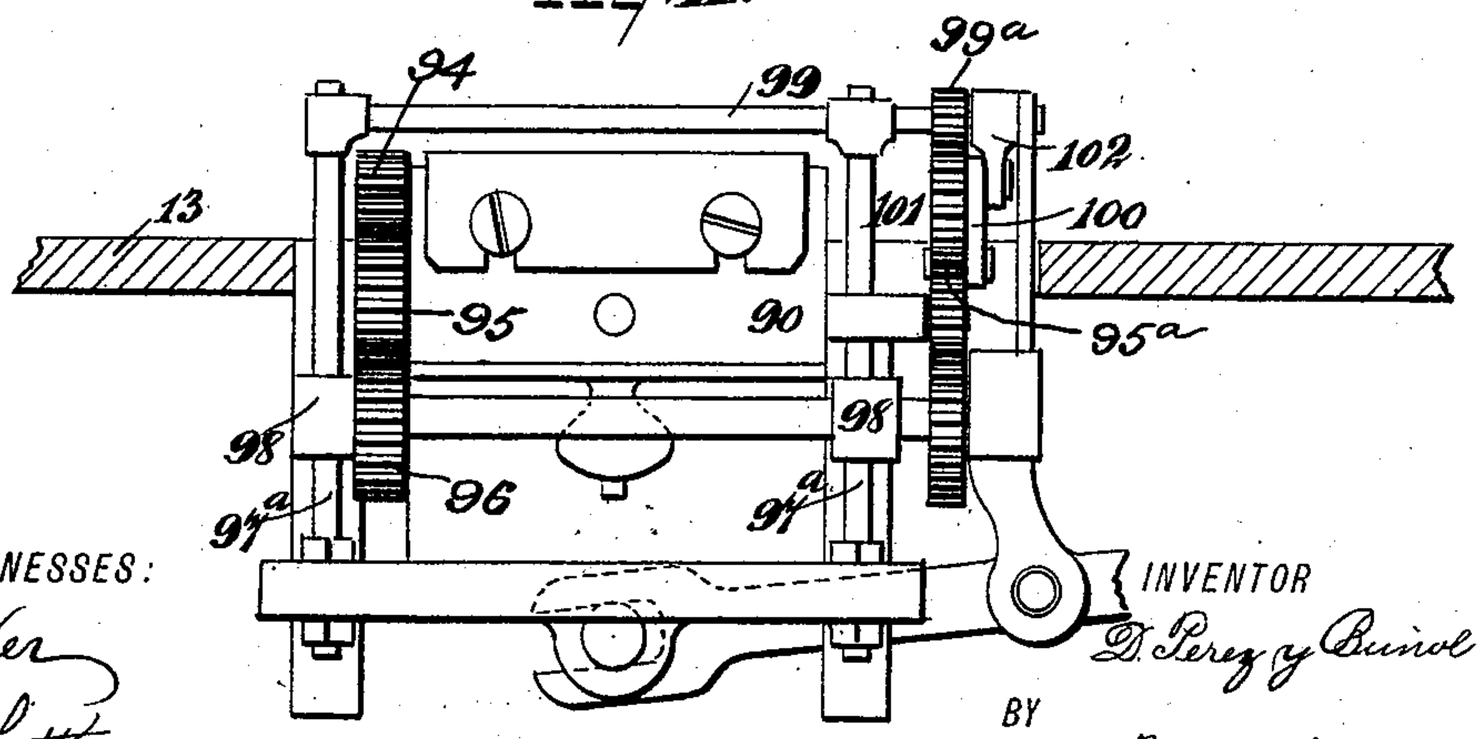


Fig. 11.



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DOMINGO PEREZ Y BUÑOL.

CIGARETTE MACHINE.

No. 568,273. Patented Sept. 22, 1896.

Fig 16.

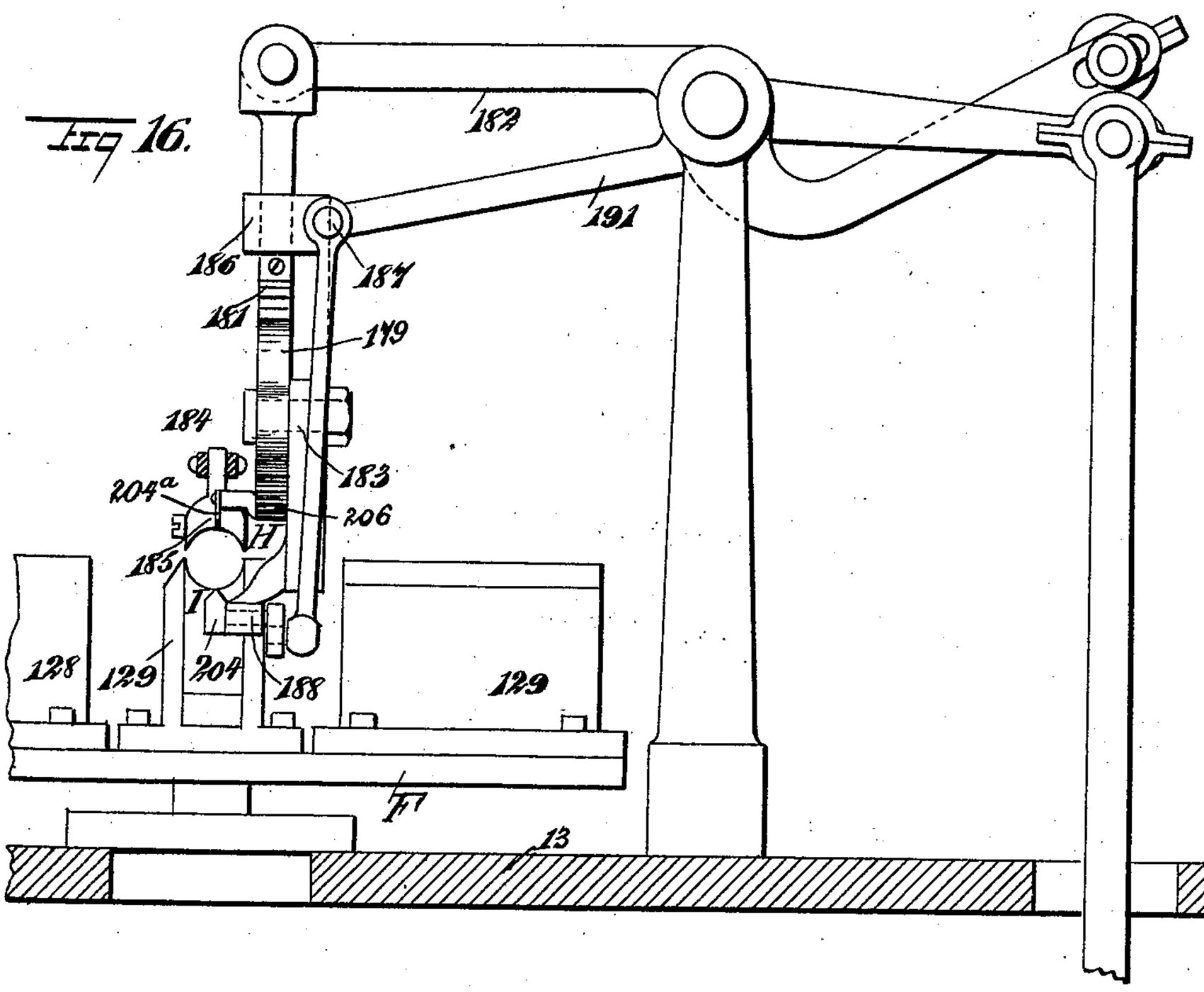


Fig 17.

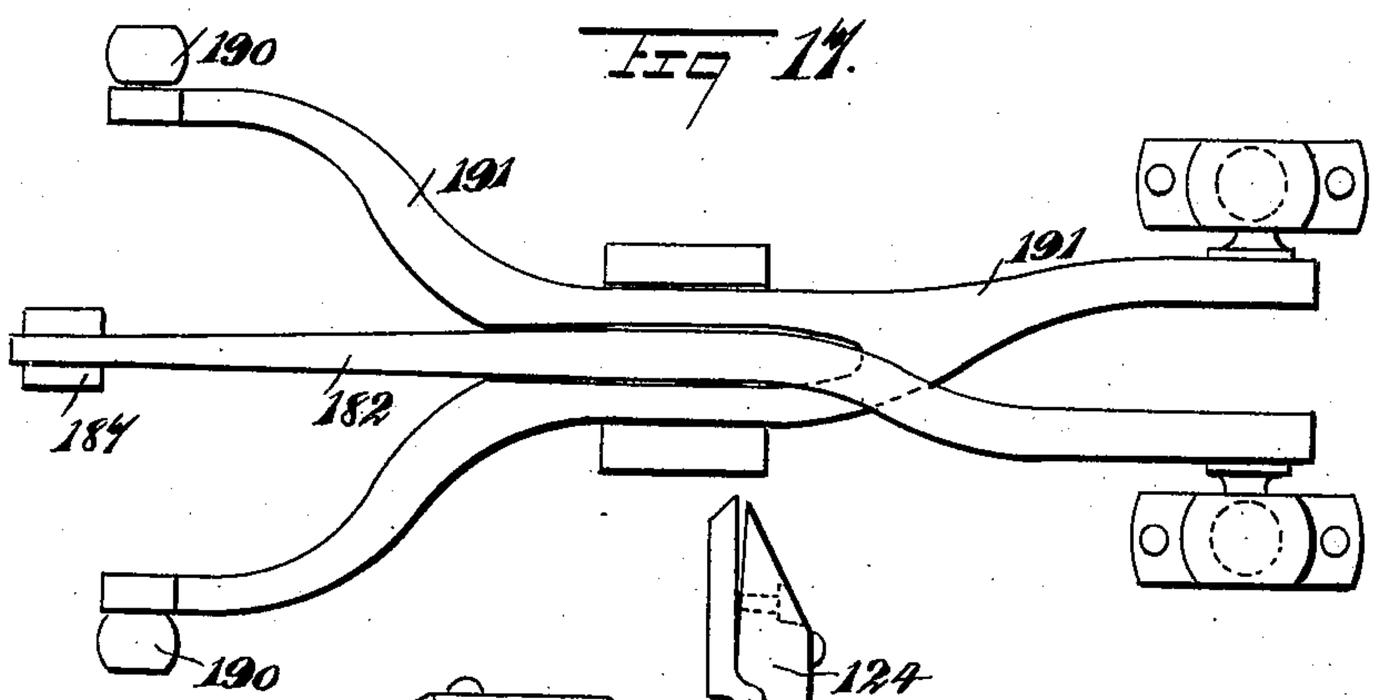
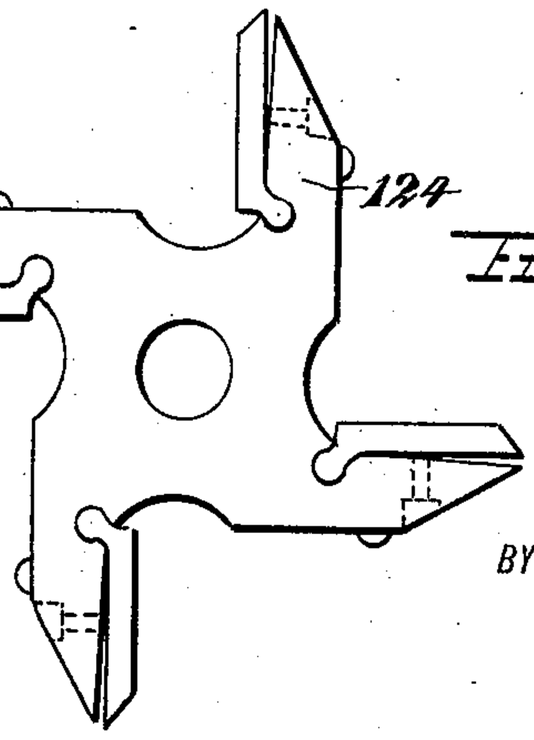


Fig. 19.



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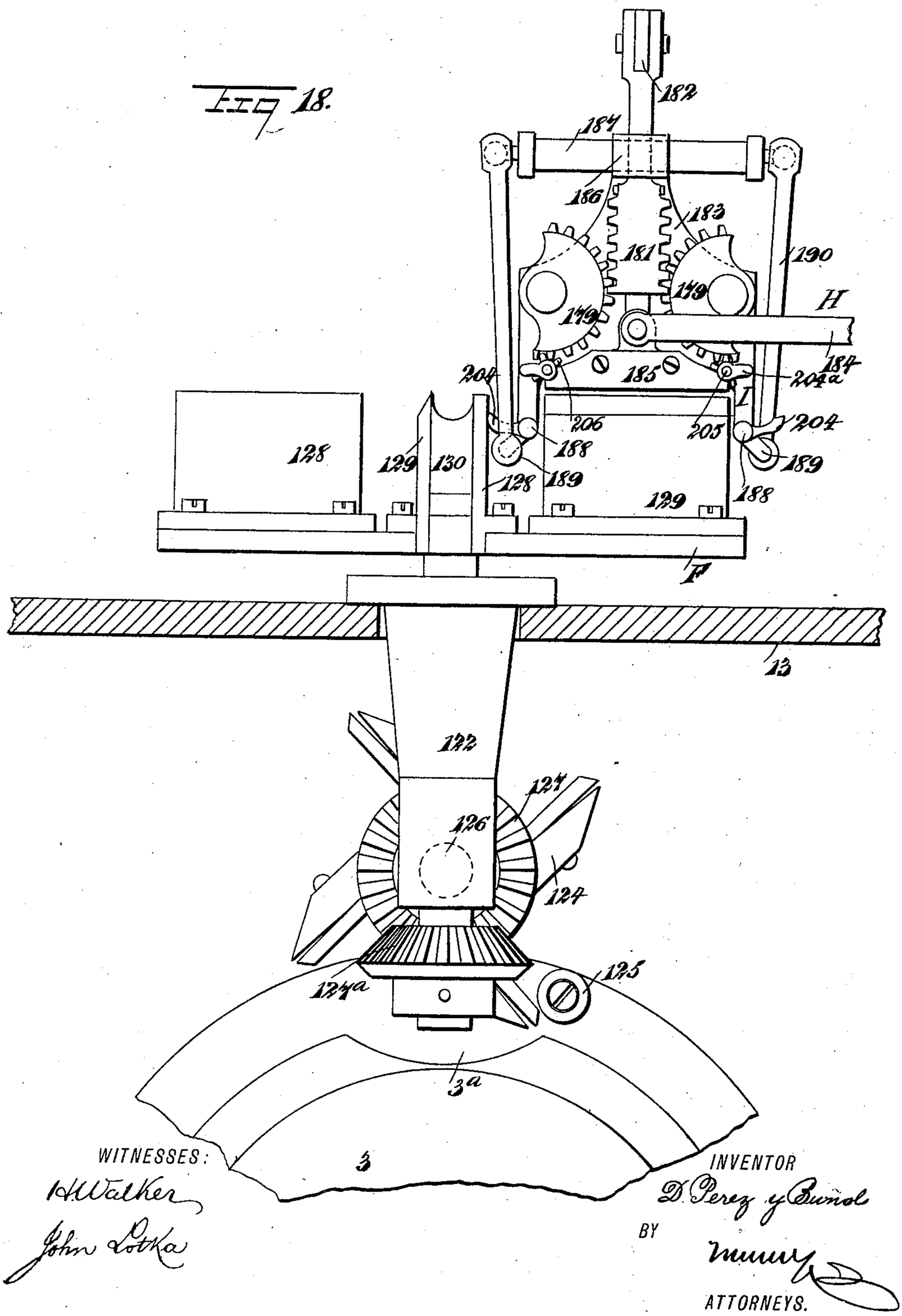
(No Model.) 7 Sheets—Sheet 7.

DOMINGO PEREZ Y BUNOL.

CIGARETTE MACHINE.

No. 568,273. Patented Sept. 22, 1896.

Fig 18.



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UNITED STATES PATENT OFFICE.

DOMINGO PEREZ Y BUÑOL, OF HAVANA, CUBA.

CIGARETTE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 568,273, dated September 22, 1896.

Application filed February 5, 1896. Serial No. 578,124. (No model.)

To all whom it may concern:

Be it known that I, DOMINGO PEREZ Y BUÑOL, a subject of the King of Spain, and a resident of Havana, Cuba, have invented certain new and useful Improvements in Cigarette-Machines, of which the following is a full, clear, and exact description.

My invention relates to an improved cigarette-machine of the character described in the Letters Patent of the United States granted to me October 8, 1895, No. 547,709, and has for its object to simplify and render more reliable the operation of certain parts of the said patented machine.

As described in my said patent, the machine comprises a series of mechanisms or devices which are constructed to act successively (and in part simultaneously) to finally produce a complete cigarette.

A conveying device brings the tobacco into the path of an appliance whereby a predetermined quantity of tobacco is separated and fed forward to a receiver-section. A plunger compresses the tobacco within the said receiver-section. Another mechanism carries the receiver from its receiving position toward a wrapping device. A paper-feeding device serves to convey the wrapper-paper to a wrapper-cutter and a gumming device. A wrapper-conveyer brings the cut wrapper into the wrapping device. The latter is connected to mechanism for closing it to hold the wrapper, turning it to wind the wrapper around the filling, and moving it (*i. e.*, the wrapping device) into and out of the receiver, and an additional device serves to close the receiver while the filling is wrapped in the paper. A finishing device is employed to tuck the wrapper ends inward.

The improvements to be described in the specification following hereinafter refer to the tobacco-conveying device, to the tobacco-compressing device, the gumming device, the mechanism for carrying the receiver-sections from one position to another, the wrapping device, and finishing device or tucker.

It will be understood that the general operation of the machine is the same as in the patent, and I therefore will describe the parts which have remained unchanged only so far as it is necessary for the explanation of the improved construction.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improved machine. Fig. 2 is a broken side elevation of the tobacco-feed device and tobacco-compressing device. Fig. 3 is a broken longitudinal section of the said device as seen on the opposite side to that illustrated in Fig. 2. Fig. 4 is a plan view of the same parts on the line 4 4 of Fig. 2. Figs. 5 and 6 are a front elevation and a plan view, respectively, of the knives and scrapers forming all of the tobacco-feed device. Fig. 7 is a broken end elevation of the tobacco-compressing device. Fig. 8 is a side elevation, with parts in section, of the gumming device. Fig. 9 is a sectional elevation thereof. Fig. 10 is a side elevation from the opposite side to that shown in Fig. 8. Fig. 11 is an end view of the said gumming device. Fig. 12 is a side elevation of the wrapping device. Fig. 13 is a longitudinal section thereof on the line 13 13 of Fig. 15. Fig. 14 is a detail view of the sleeve which carries one of the wrapping-jaws. Fig. 15 is a cross-section of the wrapping-jaws, taken in the plane of the line 15 15 in Fig. 13, but showing the jaws closed. Fig. 16 is a side elevation of the tucker and its connections. Fig. 17 is a plan view of the levers operating the tucker. Fig. 18 is a front elevation of the tucker and the revoluble platform carrying the lower receiver-sections, and Fig. 19 is a detail view of the wheel for intermittently rotating the said platform.

The relative arrangement of the various instrumentalities of which the machine is composed is shown best in Fig. 1, in which the several devices are designated as follows: A is the tobacco-feed device; B, the device for compressing the tobacco in the lower receiver-section; C, the paper-feed device; D, the wrapper cutting and gumming device; E, the wrapper-conveyer; F, the rotating platform carrying the lower receiver-sections; G, the wrapping device; H, the receiver-closing device, and I the tucker.

I will now give a detailed description of each of the above devices so far as they have been modified, and in regard to the other devices I will refer the reader to the description given in my patent.

The tobacco-feed device A, as shown in

Figs. 2 to 6, comprises the traveling apron 30, whose function and operation is the same as described in my above-mentioned patent, said apron being intermittently rotated toward the roller 31, so as to carry the tobacco which rests on said apron toward the table 34, at the forward end of which is the inclined chute 35, through which the tobacco may pass from the table into one of the lower receiver-sections formed by the guides 128 and 129 and the blocks 130.

The frame 33 of the tobacco-feed device is provided with a vertical slideway 28, in which is adapted to move the slide 29, operated by a lever 32, which receives a rocking motion from a cam or by any other suitable means. The slide 29 is provided with a horizontal slideway 36, in which is adapted to move a slide 37, engaged by a link 39, receiving its motion from a lever 38, actuated in any suitable manner. The slide 37 carries a series of transversely-arranged knives or separators 40, which are disposed vertically, and sundry of the knives are provided with scrapers 41, slidable vertically thereon and normally held in an upper position by springs 42, engaging buttons or knobs 43 on the shanks 44 of the scrapers. The slide 37 is also provided at its forward end with a curved shoe or presser-foot 45, whose purpose is to compress the tobacco on the apron 30. The knobs 43 are adapted to collide with stationary abutments 46, secured to the frame 33, and, for a purpose that will appear hereinafter, the said abutments, as well as the knobs 43, are located at different levels.

The operation of this device is as follows: The tobacco is placed on the apron 30 and is thereby intermittently carried toward the table 34 and under the knives 40. The knives are carried rearward by the slide 37 above the tobacco and are then lowered on the table 34 and apron 30, when they have reached their rearmost position, the shoe 45 compressing the tobacco before it comes under the knives.

It will be seen that the knives will divide off from the tobacco on the apron predetermined quantities corresponding to the distance between the said knives, and then while still in their lower position (which is controlled by proper movement of the lever 32) the knives move forwardly, so as to carry the separate quantities or charges of tobacco toward the chute 35. The charge which is in front of the forward knife 40 (this being the charge which during the preceding forward movement of the slide 47 was held between the two foremost knives) is thus pushed into the chute and delivered to the lower receiver-section. The knives then are carried upward and thereupon rearward, and during this rearward movement the knobs 43 engage the abutments 46, thereby depressing the scrapers 41 and cleaning the knives from any particles of tobacco that may adhere thereto.

Fig. 3 illustrates the position of the knives immediately after the knobs 43 have cleared the abutments 46 during the rearward travel of the slide 37. During the further rearward movement of the said slide 37 the knobs 43 will clear the abutments, which were engaged by the knobs in the rear of them, this action being due to the stepwise arrangement of the said abutments.

It will be obvious that by the arrangement described the tobacco will be divided into equal charges of a predetermined quantity, the charges being successively delivered into the lower receiver-section and each charge serving as a filling for one cigarette.

It will be understood that the number of the separating-knives may be selected arbitrarily.

The tobacco compressing or molding device B, as shown in Figs. 2, 3, 4, and 7, comprises a plunger 55, operated by a lever 53, and having a screw 56 projecting through the slot 57 of the guide-frame 58. The latter, as shown in Fig. 3, is located, essentially, in vertical alinement with the chute 35, which the plunger 55 is adapted to enter when it moves downward to compresss the tobacco filling which has been previously pushed into the chute and allowed to fall into the lower receiver-section by the dividing-knives 40.

In order to prevent the escape of the tobacco at the ends of the said receiver-section at the time the plunger compresses the tobacco, I provide guard-plates 50, the lower ends of which, as shown at 50^a, are of such shape as to close the ends of the block 130, the said guards having sliding movement in the frame 58 and being pressed downward by springs 51, the upper ends of which have bearing against stationary abutments 52. The upper ends of the guards are provided with projections 50^b, adapted to engage the plunger 55. When the plunger is in its elevated position, the projections 50^b are in engagement with the plunger and the lower ends of the guards project beyond the plunger, substantially as shown in Fig. 7. When the plunger travels downward, the guards remain in the same relative position thereto until they strike the block 130 before the plunger engages the tobacco therein. During the further downward movement of plunger the latter moves along and independently of the guards 50, thereby compressing the tobacco, which, however, cannot escape at the ends of the lower receiver-section owing to the guards 50 50^a closing the ends of the said section, as will be clear from Fig. 7. The tobacco, being thus compressed, is carried around in the receiver to a second position P^2 in Fig. 1, in which it receives the wrapper in the manner described in my above-mentioned patent. The manner of cutting and conveying the wrapper is exactly the same as in the patent. The gumming device has been somewhat altered, and, as illustrated by Figs. 8 to 11, comprises a stationary mucilage-box 90, secured to the under side of

the table 13 and having journaled in its interior rolls 91, 92, and 93, the rolls being connected to move in unison by means of gear-wheels 94, 95, and 96. Adjacent to the roll 91 is located a shield 97, the purpose of which is to crush any large particles of mucilage that may be present in the box. The rolls 92 and 93 agitate the mucilage, while the roll 92 takes up the mucilage and delivers it to the gumming-roll 99, which is journaled in bars 97ª, having sliding movement in guides 98, secured to the table 13.

On the shaft of the roller 92 is loosely mounted an arm 100, on the free end of which is journaled a wheel 101, engaging the wheel 95ª. Another arm 102 is pivotally connected with the shafts of the wheels 101 and 99ª, the latter engaging the wheel 101, so as to impart a rotary motion to the gumming-roll 99. The operation of this device will be readily understood. The train of gear-wheels 94, 95, 96, 101, and 99ª is continuously rotated by means of a transmission-cord applied to a pulley on the end of the shaft of one of the rollers, (such as shown in Fig. 18 of my above-mentioned patent,) and while thus continuously rotating the gumming-roll 99 is periodically lifted from its mucilage-receiving position, that is, from engagement with the roll 92 into contact with the wrapper.

I will here observe that the mucilage-roll 99 of my former patent does not rotate except by contact with the roll 92 thereof.

The rotating platform F, to which are secured the lower receiver-sections, receives an intermittent movement, as described in my former patent. I have, however, somewhat improved the means for effecting such periodical rotation. This improvement is illustrated in Figs. 18 and 19.

3 is one of the disks for operating the various levers which impart motion to the several devices, said disk carrying a friction-sleeve 125, which is carried around by the disk and at each revolution thereof engages one of the teeth of a wheel 124, mounted on a horizontal shaft 126. Preferably the faces of said teeth which are engaged by the sleeve or pin 125 are adjustable by means of said screws, as will be understood by reference to Fig. 19, so that the extent of the rotary motion of the platform may be accurately adjusted. On the shaft 126 is also mounted a beveled wheel 127, engaging a similar wheel 127ª on the vertical shaft 122, which carries the platform F. The disk 3 has a suitable recess 3ª, allowing the teeth or arms of the wheel 124 to move therein. The operation of this mechanism will be clear without further explanation.

While in the position indicated at P^2 the receiver, as before stated, has a wrapper conveyed to it, and the said wrapper is taken hold of by the wrapping-jaws, which turn the wrapper around the filling, while at the same time the receiver-closing device H comes into operation to complete the mold in which the cigarette is finished. The wrapping device G, as illustrated in Figs. 1 and 12 to 15, comprises guides 136, secured to the table 13, and a slide 137, having longitudinal movement in said guides in a direction which essentially coincides with the axis of one of the lower receiver-sections when the platform is stationary. On said slide are secured the bearings 138 and 139, which may be vertically adjustable, for instance, by means of set-screws 140, working in suitable slots of the bearings, the screws screwing into standards 141 and 142, which are rigidly secured to the slide 137. In said bearings is journaled a tubular shaft 143, having a longitudinal groove 144 working in conjunction with a pin 145 or equivalent means, whereby the pinion 146, mounted on said shaft, will be caused to rotate it, yet allowed to be held against longitudinal movement when the shaft is advanced or retracted with the slide 137.

The pinion is rigidly connected with a grooved collar 147, adapted to be engaged by a fork or arm 148, which is secured to a bracket 149, located upon the table 13. (See Fig. 1.) By this means the pinion 146 is held in transverse alinement with a gear-wheel 150, journaled in the bracket 149 and carrying on its shaft a pinion 151, which is adapted to be intermittently rotated through the medium of a rack 152, as fully described in my former patent. One or more complete revolutions are imparted to the shaft at each operation of the rack.

At the front end of the shaft 143 is secured a sleeve-like portion 157, forming the rear end of the lower clamping or wrapping jaw 165, it being understood that this jaw is stationary relatively to the shaft. The part 157 is surrounded by a sleeve 159, having projecting spaced lugs 153, (see Fig. 14,) receiving the pivot end 154 of the upper movable jaw 158, supported on the pivot-pin 155. The lower end of the pivot extension 154 is rounded, as shown at 154ª, and takes into a corresponding recess in the upper surface of the sleeve 157.

The sleeve 159 is loosely mounted on the inner sleeve 157, so as to be capable of longitudinal sliding movement in relation thereto. The sleeve 159 is provided at its rear end with a flange 160, that takes into an annular groove formed in the plate 161, so that the sleeve can rotate in said groove. The plate 161 is secured to the front end of a rod 167, arranged below the shaft 143 and having guiding movement in the standards 141 and 142. Upon said rod are secured by means of set-screws or in any other suitable manner two collars 168 and 169, respectively.

Between the front collar 168 and the standard 142 a spring 170 is coiled on the rod 167. The rear collar 169 is adapted to be engaged by a spring-pressed pawl 171, pivoted to the slide 137 and so arranged that in the outer position of the said slide, Fig. 1, it will engage a stop 172, secured to one of the guides

136, and swing the pawl laterally out of the path of the collar 169. The collar 168 is adapted to be actuated by a lever 173, pivoted to a frame 174, extending downward from the slide 137. A spring 175 exerts rearward pressure upon the said lever. The latter is adapted for engagement with the head 176 of a lever 177, which receives a rocking motion from a suitable cam or other operating mechanism.

In the tubular shaft 143 is held a stationary rod 162, capable of sliding in the said shaft and in the sleeve 157 and extending forwardly so that its end is approximately in line with the ends of the jaws 158 and 165 when the latter are withdrawn from the receiver, as shown in Fig. 13. The rod 162, though normally stationary, may have a slight longitudinal motion, being for this purpose provided with a grooved collar 163, engaged by a spring-pressed pivoted arm 164. The purpose of the rod 162 is to engage the end of the filling in the receiver during the wrapping operation and to prevent the cigarette from being withdrawn from the receiver during the rearward or outward movement of the wrapping-jaws.

The operation of the wrapping device is as follows: When one of the lower receiver-sections 130 has been filled with tobacco and carried adjacent to the wrapping device by a partial rotation of the platform F, the head 176 of the lever 177 swings forward and moves the lever 173, at the same time actuating the frame 174 of the slide 137, so that the latter advances toward the platform. The lever 173 engages the collar 168 and thus causes the rod 167 to slide forward in the standards 141 and 142. In consequence thereof the plate 161 and the sleeve 159 are carried forward, while the sleeve 157 remains stationary. The rod 162 also remains in its original position, engaging the end of the filling which is in the said lower receiver-section. Owing to the forward movement of the sleeve 159 relatively to the sleeve 157, and owing to the particular connection of the said sleeves with the end 154 of the movable upper jaw 158, the said jaw will be gradually moved toward the lower jaw 165. The movement is so adjusted that the jaws do not fully close (see Fig. 15) before the slide has reached its innermost position. During the forward movement of the slide the jaws pass approximately centrally above the guides 128 and 129 of the adjacent lower receiver-section. At the same time the wrapper 89 is fed forward by the wrapper-conveying device E, and the edge of the wrapper enters above the guide 129 and between the jaws 158 and 165 of the wrapping device. The upper edge of the guide 129 is beveled, (see Fig. 3,) so as to direct the edge of the wrapper upward, and the lower jaw 165 is formed with a shoulder 165^a, constituting a stop for the edge of the wrapper, while the upper jaw 158 is only about half the width of the lower jaw, as will be readily understood by reference to Fig. 15. By this improved construction of the jaws a positive stop for the wrapper is afforded.

When the edge of the wrapper has been inserted between the jaws, the latter close, so as to hold the wrapper while the wrapper-conveying device recedes, releasing the wrapper at the same time. By means of the receiver-closing device H, more fully referred to hereinafter, the receiver formed of the lower receiver-section, hereinbefore described, in conjunction with an upper receiver-section 185, to be described hereinafter, is closed to form a chamber or cavity of essentially the shape of the finished cigarette. (See Fig. 16.) During their forward movement the jaws 158 and 165 do not rotate. When, however, the jaws are fully within the receiver and the wrapper 89 is clamped between them, the pinion 146 is turned and the jaws then rotate around the filling in the receiver containing the same, thereby winding the wrapper on the tobacco filling. The gummed edge of the wrapper will come in contact with the opposite edge, and the cigarette is then substantially finished and may be removed from the receiver without undergoing any further treatment. When the jaws 158 and 165 recede with the slide 137 upon the return movement of the lever 177, they will separate to release the wrapper as the spring 170 retracts the rod 167 and plate 161 with the sleeve 159. If the jaws were allowed to open at once to the full extent, they would crush the cigarette within the receiver. During the forward movement of the wrapping device, however, the spring-controlled pawl 171, as soon as it clears the stop 172, swings against the rod 167 in the rear of the collar 169, and thus limits the rearward movement of the rod 167 under the influence of the spring 170, and thereby also limits the opening movement of the jaws. When the slide again approaches its outer position, the pawl 171 will collide with the stop 172 and swing clear of the collar 169, thus allowing the spring 170 to act to fully open the jaws 158 and 165.

It will be obvious that when the shaft 143 is inclined, as illustrated in the drawings, the jaws will describe a conical surface during the rotation of the shaft, so that the wrapper will be properly placed around the filling. By adjusting the bearings 138 and 139 the inclination of the shaft 143 can be changed to suit various degrees of conicity of the cigarette, or when it is desired to make cylindrical cigarettes the bearings will be so adjusted that the shaft will be horizontal. In each of these cases I attach to the shaft a different set of jaws 158 165, having the proper angular position relative thereto.

It will be understood that the jaws are in an essentially horizontal position both when they enter and when they leave the receiver.

The rod 162 remains stationary during the rearward movement of the slide 137, but at the end of the said rearward movement the

collar 163 is engaged by the slide, so that the rod is moved slightly rearward against the tension of the spring 156, engaging the arm 164, and the front end of the rod is removed from contact with the block 130, so as to leave said block free to rotate with the platform F.

The receiver-closing device H is substantially the same as shown in my former patent, said device comprising the upper receiver-section 185, carried by the arm 184, which receives a reciprocating rotary motion from a slide 180, moving in guides 178, (see Fig. 1,) the slide being operated in the same manner as illustrated by Fig. 25 in my former patent. The upper receiver-section 185 carries a frame 183, in which are journaled segmental gear-wheels 179 to operate tucking-points 204ª, pivoted at 205 and carrying pinions 206, engaging the teeth of the gear-wheels 179. Said gear-wheels are further engaged by a rack 181, receiving its movement in any suitable manner from a lever 182 and having guided movement in a bearing 186, secured to the frame 183. On the frame 183 are also pivoted the lower tucking-points 204, adapted to swing about pivots 188 and having angularly-projected arms 189, which are connected by means of links 190 to a transverse bar 187, adapted to be operated by the lever 191, actuated in any suitable manner.

It will be seen that the tucker I is directly connected to the receiver-closing device H, and the two devices operate in unison as follows: The parts being in the elevated position substantially as in Figs. 16 and 18, the jaws 158 and 165 of the wrapping device enter under the upper receiver-section 185. Then the jaws close upon the wrapper and the lever 184 moves downward to close the receiver. Thereupon the wrapping-jaws are rotated to lay the wrapper around the filling. At the end of their rotation the wrapping-jaws are in the upper part of the receiver, that is, close to the upper receiver-section 185. At this time the lever 191 moves upward to swing the tucking-points 204 in a like direction, so as to tuck the protruding ends of the wrapper upward. Then the receiver-section 185 rises and the wrapping-jaws are retracted from the receiver, as before described. Finally, the rack 181 moves downward to turn the upper tucking-points 240ª in a like direction, thereby giving the wrapper ends a second tuck from above and completing the cigarette.

The completed cigarette may be removed from the lower receiver-section by means of the arm 121 when said receiver-section is in the position indicated by the letter P³ in Fig. 1, this operation being fully described in my above-mentioned patent.

I desire it will be understood that various modifications may be made in the construction shown in the drawings without departing from the nature of my invention.

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

1. In a cigarette-machine, a tobacco-feed device, comprising a traveling apron, a slide arranged to move longitudinally of the apron and also toward and from the same, means for imparting motion to the slide, knives carried by the said slide, and a presser-foot at the forward end of the slide, substantially as described.

2. In a cigarette-machine, a tobacco-feed device, comprising a traveling apron, a slide arranged to move toward and from the apron and provided with a longitudinal slideway approximately parallel to the apron, another slide held to move in said slideway and carrying knives, a presser-foot at the forward end of the second-named slide, and means for imparting motion to the slides, substantially as described.

3. In a cigarette-machine, a tobacco-feed device, comprising a traveling apron, a series of movable knives, means for causing said knives to first approach the apron, then move longitudinally thereof, thereupon recede from the apron and finally move back longitudinally thereof to their original position, and scrapers movable relatively to the knives and carried thereby, the scrapers which engage different knives being movable independently of each other, substantially as described.

4. The combination of the traveling apron, the knives adapted to move longitudinally thereof, the scrapers held on the knives and movable thereupon, stationary abutments adapted to engage the scrapers and move them over the knives and means for operating the knives in a rectilinear manner to move the scrapers against the abutments, substantially as described.

5. The combination of the traveling apron, the knives arranged to move longitudinally thereof during their forward movement and then to move upward and backward, the movable scrapers on the knives, and stationary abutments arranged stepwise and adapted to engage the scrapers during the backward movement of the knives, substantially as described.

6. The combination, with the receiver, the chute above the same, and a tobacco-feed device having movement toward the chute, of a guide-frame above the chute, a plunger having vertical movement in said frame and chute, and guards located at the sides of the plunger and arranged to project beyond the lower end thereof to close the ends of the receiver as and for the purpose set forth.

7. The combination with the receiver, the chute above the same and a tobacco-feed device having movement toward the chute, of a plunger having vertical movement in said frame and chute, and spring-pressed guards located at the sides of the plunger and adapted to project beyond the lower end thereof to close the ends of the receiver, said guards

having projections adapted to engage the plunger, and be raised thereby, substantially as described.

8. The combination, with the receiver, means for feeding tobacco thereto, a device for conveying a wrapper to the receiver, and a wrapping device, of a gumming device comprising a mucilage-box, a mucilage-roll therein, a movable gumming-roll adapted to be carried from contact with the mucilage-roll to contact with the wrapper, and a driving mechanism located on the shaft of the gumming-roll, to rotate the same while it is out of contact with the mucilage-roll, substantially as described.

9. The combination with the receiver, means for feeding tobacco thereto, a device for conveying the wrapper to the receiver, and a wrapping device, of a gumming device, comprising a mucilage-box, a mucilage-roll therein, a rotatable gumming-roll adapted to be carried from contact with the mucilage-roll to contact with the wrapper, and a train of gear-wheels connecting the shaft of the gumming-roll to the shaft of the mucilage-roll, so that the gumming-roll may be rotated while it is out of contact with the mucilage-roll, substantially as described.

10. The combination with the receiver, means for feeding the tobacco thereto, a device for conveying the wrapper to the receiver, and a wrapping device, of a gumming device, comprising a mucilage-box, a mucilage-roll therein a rotatable gumming-roll adapted to be carried from contact with the mucilage-roll to contact with the wrapper, an arm pivoted on the mucilage-box and having loose gear-wheels at each end, the gear-wheels at the pivoted end having a driving connection with the mucilage-roll, a gear-wheel on the shaft of the gumming-roll, another gear-wheel at the free end of the pivoted arm, to transmit motion from the gear-wheel at the pivot end of the said arm to the gear-wheel on the shaft of the gumming-roll, and an arm loosely connected to the shaft of the gumming-roll and to the free end of the arm pivoted to the mucilage-box, substantially as described.

11. The combination with the receiver, the chute above the same, and a tobacco-feed device having movement toward the chute, of a guide-frame above the chute, a plunger having a vertical movement in said frame and chute, guards located at the sides of the plunger and movable relatively thereto, said guards being adapted to project beyond the lower end of the plunger to close the ends of the receiver, and means for raising and lowering the guards, as and for the purpose set forth.

12. In a cigarette-machine, the combination of a revoluble platform, receivers mounted thereon, means for feeding tobacco to the receivers and for applying wrappers, a rotating disk carrying a projection, a shaft carrying a series of arms adapted to extend into the path of travel of the said projection, each of the arms having a member adjustable toward and from its top, to regulate the extent of the angular motion imparted to the shaft by said projection, and an operative connection between said shaft and the rotatable platform, as and for the purpose set forth.

13. A wrapping device, comprising rotatable jaws, having movement relatively to each other to clasp the wrapper between them, one of said jaws being made with a shoulder against which fits the other jaw, and means for rotating the jaws, substantially as described.

14. A wrapping device, comprising a shaft or sleeve, a jaw fixed thereto, an outer sleeve surrounding the shaft, and movable longitudinally thereof yet held to rotate therewith, a movable jaw pivoted on said outer sleeve and having a projection engaging the shaft, to move said jaw toward or from the fixed jaw upon longitudinal movement of the sleeve upon the shaft, means for moving the sleeve on the shaft to open or close the jaws, and means for rotating the jaws, substantially as described.

15. A wrapping device, comprising a slide carrying a tubular rotating shaft, wrapping-jaws held to rotate on said shaft, means for opening and closing the jaws, and a normally-stationary rod extending through the tubular shaft and adapted to engage the end of the cigarette, to prevent the latter from being carried along with the wrapping-jaws when the latter are retracted with the slide, substantially as described.

16. A wrapping device, comprising a slide carrying a tubular rotating shaft, wrapping-jaws held to rotate on said shaft, means for opening and closing the jaws, a rod extending through the tubular shaft, and capable of a yielding longitudinal movement, but normally stationary during the movement of the shaft and slide, said rod being adapted for engagement with the cigarette to prevent the latter from being carried along with the wrapping-jaws when the latter are retracted with the slide, substantially as described.

17. The combination with the rotating platform, the lower receiver-sections carried thereby, means for feeding tobacco to the lower receiver-sections, a wrapping device adapted to enter the receiver, an upper receiver-section movable toward and from the lower receiver-sections to complete the receiver, upper and lower tucking-points pivoted to the said upper receiver-sections, and means for turning said points on their pivots, substantially as described.

18. The combination with the rotating platform, the lower receiver-sections carried thereby, means for feeding tobacco to the lower receiver-sections, a wrapping device adapted to enter the receiver, an upper receiver-section movable toward and from the lower receiver-sections to complete the receiver, upper and lower tucking-points pivoted to the said upper receiver-sections, gear-

wheels pivoted on the upper receiver-section and operatively connected to the upper tucking-points to turn the same, a rack engaging said gear-wheels, and separate means for turning the lower tucking-points, substantially as described.

19. The combination of a cigarette-support, a vertically-movable frame, upper and lower tucking-points pivoted to said frame means for moving the frame vertically, and independent means for turning the tucking-points on their pivots, substantially as described.

20. The combination of a cigarette-support, a frame movable vertically above the same, tucking-points pivoted to said frame above and below the support, gear-wheels operatively connected to the upper tucking-points, a rack mounted to slide on said vertically-movable frame and engaging said gear-wheels means for moving the frame vertically, independent means for actuating the rack, and means for turning the lower tucking-points, substantially as described.

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