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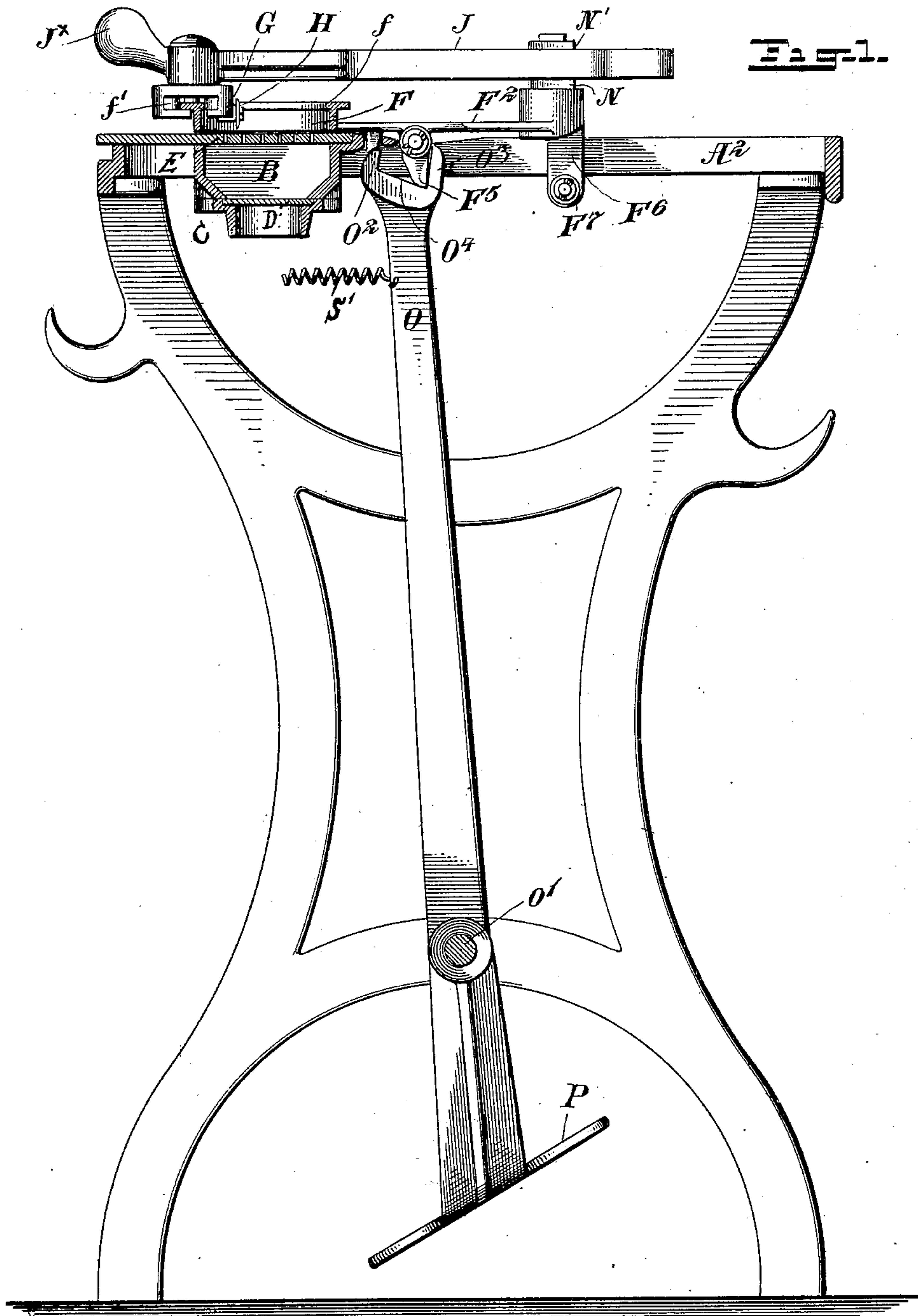
Patented Feb. 25, 1902.

C. & L. J. DU BRUL.
CIGAR WRAPPER CUTTER.

(Application filed July 25, 1901.)

(No Model.)

4 Sheets—Sheet 1.



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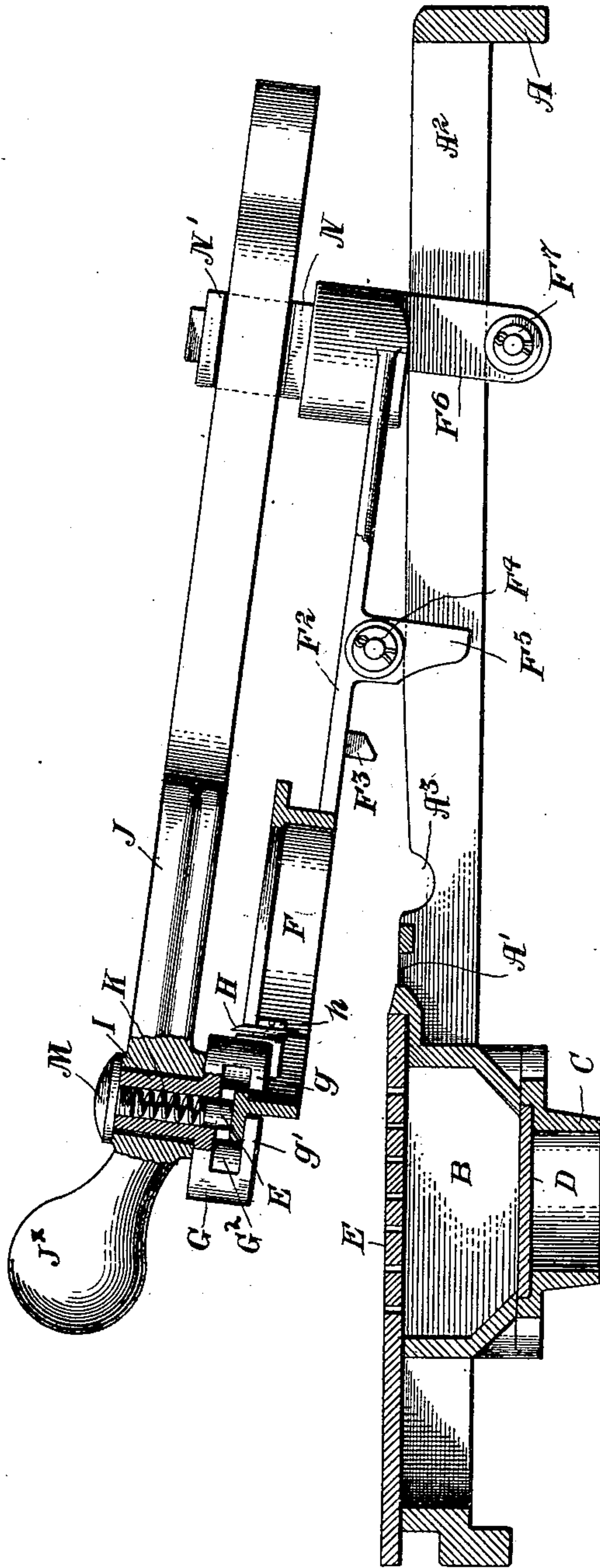
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4 Sheets—Sheet 3.

Fig. 3.



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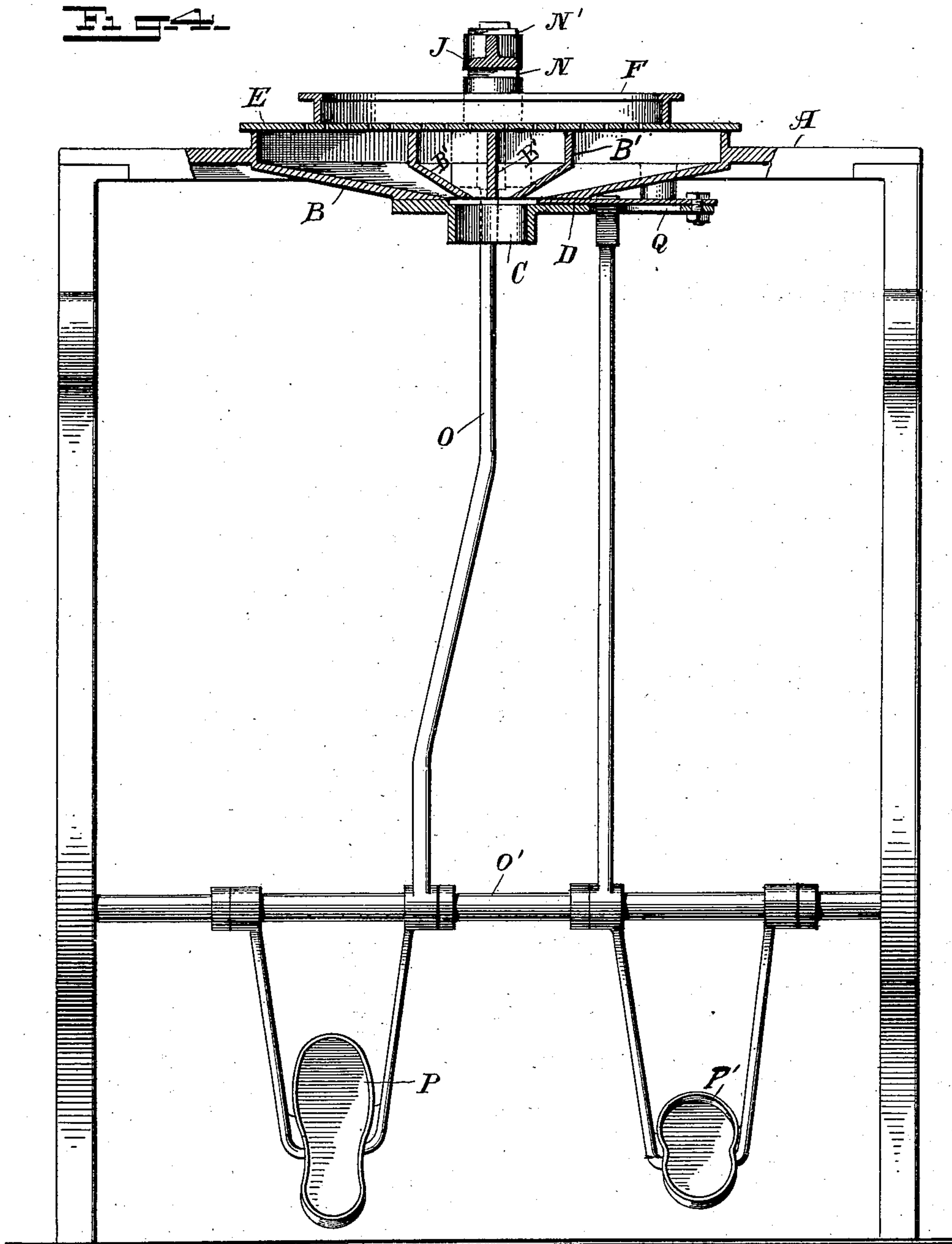
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UNITED STATES PATENT OFFICE.

CYRIAC DU BRUL AND LESTER J. DU BRUL, OF BROOKLYN, NEW YORK,
ASSIGNORS TO THE MILLER, DU BRUL AND PETERS MANUFACTURING
CO., OF CINCINNATI, OHIO, A CORPORATION.

CIGAR-WRAPPER CUTTER.

SPECIFICATION forming part of Letters Patent No. 694,259, dated February 25, 1902.

Application filed July 25, 1901. Serial No. 69,623. (No model.)

To all whom it may concern:

Be it known that we, CYRIAC DU BRUL and LESTER J. DU BRUL, citizens of the United States, residing in the borough of Brooklyn, city of New York, county of Kings, State of New York, have invented certain new and useful Improvements in Cigar-Wrapper Cutters, of which the following is a specification.

Our invention relates to machines for cutting cigar and cigarette wrappers from tobacco-leaves, and has for its object to provide a machine of this class which will be readily operated with comparatively small application of power and in which the cutter is positively guided during its movement, so as to obtain an absolutely certain operation.

A further object of our invention is to improve the mechanism for carrying the cutter toward and from the work and to control the air-suction which is employed to hold the leaf-blank on its perforated supporting-table in such manner as to gradually discontinue the suction as the wrapper is rolled around the filling.

Other features of improvement will appear from the description following hereinafter and from the appended claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a side elevation of our improved machine, with parts in section, on the line 1 1 of Fig. 2. Fig. 2 is a plan thereof. Fig. 3 is a detail view, upon an enlarged scale, of the perforated table or platen, the cutter-carrier, and the parts connected therewith; and Fig. 4 is a front elevation showing the platen and the adjacent parts in section on the line 4 4 of Fig. 2.

The machine comprises a suitable frame A, at the front end of which is located a suction-box B, divided by partitions B' into a series of juxtaposed compartments, the lower ends of which communicate with a pipe or tube C, from which connection is made to any suitable air-exhausting device. In order to control the withdrawal of air from the several compartments, we provide a cut-off device which, as shown, is constituted by a slide D, working in suitable guides at the upper end of the tube C adjacent to the lower ends of the

partitions B'. Thus in the position illustrated by Fig. 4 suction is exerted only in the three compartments at the left, while in the one compartment at the right, which is disconnected from the tube C, no suction is exerted.

The top of the suction-box B is formed by a perforated table or platen E. This platen is adapted to support the wrapper to be cut. On the table or platen E is adapted to rest a cutterguide or track F. This track, as shown, may consist of a continuous curved rim of the proper shape, the said rim being provided at the top with flanges *f f'*, projecting horizontally inward and outward. On this track F is arranged to slide a traveler G, which is formed with lips *g g'*, adapted to take under the flanges *f* and *f'* of the track F. In order that the traveler G may be readily removed from the track F, we make the upper portion or flange of the latter with a removable section F', (see Fig. 2,) said section being of a width at least equal to that of the lip *g'*. On the said traveler is carried a rotary knife or cutter H, similar to those used by paper-hangers, journaled upon the screw *h*. The screw also allows of the ready removal of the cutter. The traveler G is provided with a tubular journal I, extending upwardly and pivotally received within a corresponding socket of a lever J, which is provided with a handle J^x for the purpose of pressing the traveler downward and of moving it along the track F. Normally the cutter is held with its cutting edge above the lower edge of the track F through the medium of a spring K, which is located within the tubular journal I and bears at its lower end against a plunger E, mounted to slide in said tubular journal and engaging the upper portion of the track-flange. The upper end of the spring K bears against a cap M, fitting onto the upper end of the tubular journal I and serving at the same time for keeping the traveler G in proper position relatively to the lever J.

The track F is carried by the three arms F², a central arm and two converging arms, all of said arms meeting one another at the pin N, forming a pivot for a guide-head N', capa-

ble of sliding engagement with the walls of a slot J', formed at the rear end of the lever J. The head N' laps over the members of the lever at each side of the slot J', thus keeping the lever J against upward movement. At the rear end of the slot J' is located an enlarged recess J² of a shape and size sufficient to admit of the passage of the head N' there-through as to allow the lever to be removed from the machine when desired, it being understood that the traveler G must first be removed from the lever J. The central arm F² extends in a vertical plane between the forked end of the lever J and is provided with a lug F³, adapted to enter an aperture or recess A' of the frame, and rollers F⁴, arranged to travel on parallel spaced guides A², formed upon the frame. These guides are provided at their front portion with depressions A³, adapted to receive the rollers F⁴ at the same time the lug F³ fits into the recess or socket A'. Between the two rollers F⁴ extends downwardly a toe F⁵, which is adapted to move between the guides A² and to be engaged by the operating-lever O, more fully described hereinafter. Furthermore, at its rear end the central arm F² has a bracket F⁶ depending therefrom, and said bracket carries at its lower end at each side a roller F⁷, arranged to travel on the lower surface of one of the guides A². The head N' is swiveled to the arms F², so that the lever J may be swung to make the cutter H follow the path determined by the track F.

To operate the "cutter-carrier," which term is intended to include any construction which carries a cutter, (in this instance it comprises the track F, its supporting-arms F², the traveler G, the cutter H, the lever J, and their connecting parts,) we provide the lever O, fulcrumed at O' and provided with a treadle P at its lower end, said lever being provided at its upper end with a front finger O², a rear finger O³, and an inclined lifting-surface O⁴ between said fingers. The lever is so arranged that the toe F⁵ of the central arm F² will be located between the two fingers O² O³. In order to operate the slide D, we provide a spring-pressed lever Q, operated from a shaft R and a pedal P'. Springs S may be employed to facilitate the movement of the tool-carrier, said springs having one end attached to the frame A and the other end to a suitable portion of the tool-carrier. A spring S' serves to hold the lever O forward. When the lever O is thrown fully forward, the rollers F⁴ drop into the depressions A³, thus bringing the track F down upon the platen E. It will be understood that previously to this a wrapper or tobacco-leaf is deposited on the platen, the slide D being wide open, so that the entire leaf will be held down by suction on the platen. After the track F has been brought down the operator presses the handle J^x, and thereby moves the traveler G, with the cutter H, down against the tension of the spring K into operative contact with the leaf

to be cut. Then while still pressing down on the handle J^x the traveler is swung around along the track F, the two swivel-joints at the head N' and at the journal I allowing of such movement. In order to reduce the friction upon the movement of the traveler G along the track F, we prefer to provide the traveler with antifriction-rollers G², arranged to bear against the edges of the flanges *ff'*. It will of course be understood that none of the perforations of the platen E is located in the path of the cutter, which path is indicated in Fig. 2 by a dotted line *a*. While the cutter-carrier is in its forward position, it is locked therein by the lug F³ entering the recess or socket A'. After the cut has been completed the operator presses the treadle P on lever O, thereby moving the cutter-carrier backward, and in such movement the inclined surface O⁴ of the lever O acts on the toe F⁵ to raise the cutter-carrier, so as to cause the rollers F⁴ to be lifted out of the recesses A³ and the lug F³ out of the socket A'. As soon as this has been accomplished the cutter-carrier is free to move rearward, which it does owing to the engagement of the front finger O² of the lever O with the toe F⁵, it being understood that the rollers F⁴ F⁷, in conjunction with the guides A², keep the cutter-carrier steady during such movement. When the lever O is moved forward, the finger O³ engages the toe F⁵, and thus pushes the cutter-carrier forward in the raised position (illustrated by Fig. 3) until the rollers F⁴ drop into the depressions A³. While the cutter-carrier is in its rearmost position, the operator proceeds to wind the wrapper around the filling, as illustrated by Fig. 4, and in doing this he presses the pedal P' in such a manner as to gradually cut off the suction from the several compartments formed by the partitions B'. Thus, as shown in Fig. 4, while rolling the cigar or cigarette over that portion of the platen E which is above the compartment at the extreme right the slide D is moved inward far enough to cut off the said compartment from communication with the tube C, while leaving the other compartments in connection with said tube, so that suction will be exerted over the entire cut leaf except that portion thereof which is being rolled. We thus facilitate the forming of the cigar or cigarette by removing the resistance to the taking up of the wrapper at the point where it is rolled around the filling, and at the same time we reduce the suction-power necessary to hold the remaining portion of the wrapper on the table or platen E and prevent waste of air through unused portions of the platen E.

We desire to call particular attention in connection with the track employed by us for the traveler to the fact that the said track and traveler are so connected as to positively guide the traveler in its movement—that is, an inward or outward movement of the traveler at a right angle to the track is impossible, and the operator has therefore only to

press the handle J^x down, as described, to bring the cutter H to the operative position and then to sweep with the handle along the track, so as to cause the cutter to positively follow its prescribed path. The particular means for moving the cutter-carrier forward and backward and for locking it in its forward position are simple and effective. Also on account of having the guide or track adjacent to the platen there is little danger of the cutter's deviating from its course.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

15 1. The combination with a perforated platen, of means for holding the leaf thereto by suction, and means for successively cutting off the suction upon the leaf at successive portions thereof.

20 2. In a wrapper-cutter, a perforated platen, a comparted suction-box located on one side of said platen, and a controlling device for shutting off the suction from the compartments of the box successively.

25 3. In a wrapper-cutter, a perforated platen, a comparted suction-box located on one side of said platen, and a controlling-slide for shutting off the suction from the compartments of the box successively.

30 4. In a wrapper-cutter, the combination of a perforated platen, a cutter coöperating with said platen, a comparted suction-box located on one side of said platen, a controlling device for shutting off the suction from the compartments of the box successively, and means for imparting successive movements to the controlling device in one direction, while rolling, and for completely opening it when cutting.

40 5. In a wrapper-cutter, the combination with a platen, of a cutter, a carrier by which said cutter is supported over the platen from a point outside the platen, and means by which said carrier is supported on the machine, adapted to slide in a horizontal direction to bring the carrier longitudinally to and from a position over said platen.

50 6. In a wrapper-cutter, the combination with a platen, of a cutter, a carrier by which said cutter is supported over the platen from a point outside the platen, and means by which said carrier is supported on the machine, adapted to slide in a horizontal direction to move the carrier longitudinally to and from a position over said platen, and means for imparting said horizontal movement to the cutter-carrier.

60 7. In a wrapper-cutter, a platen, a cutter-carrier movable vertically relatively to the platen and also slidable bodily forward and rearward, and means for successively lifting the carrier and then sliding it rearwardly from the platen.

65 8. In a wrapper-cutting machine, the combination of a platen, a track and a cutter; said track having a horizontally-sliding connection with the machine and moving hori-

zontally into and out of position above the platen.

9. In a machine for cutting wrappers from tobacco-leaf, the combination of a platen, a cutter traveling over said platen, a track directing said cutter, and means supporting said cutter and track above the platen, from a point outside of said platen, and having a horizontally-moving connection with the machine.

10. In a machine for cutting wrappers from tobacco-leaf, the combination of a platen, a cutter traveling over said platen, a track directing said cutter, and means supporting said cutter and track above the platen, from a point outside of said platen, and having a common horizontally-moving connection with the machine, for both the cutter and track.

11. In a wrapper-cutting machine, the combination of a platen, a cutter, a lever connected with said cutter, extending over the platen from a point outside thereof, a track by which said cutter is directed, and a bracket by which both said lever and track are supported, and with which said lever has both swiveling and sliding connection in a horizontal direction, whereby the cutter may follow the outline of a wrapper.

12. In a wrapper-cutting machine, the combination of a platen, a cutter, a lever connected with said cutter, extending over the platen from a point outside thereof, a track by which said cutter is directed, and a bracket by which both said lever and track are supported, and with which said lever has both swiveling and sliding connection in a horizontal direction, whereby the cutter may follow the outline of a wrapper, and said bracket having horizontal sliding connection with the machine.

13. The combination with a platen of a cutter-carrier bodily movable horizontally to and from said platen, and means for locking the cutter-carrier in position over the platen.

14. The combination with a platen, of a cutter-carrier movable to and from said platen, means for locking the cutter-carrier in position over the platen, and mechanism for unlocking and moving the carrier.

15. The combination with a platen, of a guide outside the platen, and a cutter-carrier comprising a track and a traveler movable bodily upon the guide to and away from the platen.

16. The combination with a platen, of a guide outside of the platen, a cutter-carrier movable bodily upon the guide to and away from the platen, and means for locking the carrier relatively to the guide consisting of a projection on one of said parts and a recess on the other.

17. In a wrapper-cutter, the combination of a platen, a guide located outside thereof, a cutter-carrier extending from said guide outside the platen and provided with engaging means in contact with the upper and lower faces of the guide respectively, and mechan-

ism for moving the carrier along said guide to and from the platen.

18. In a wrapper-cutter, the combination of a platen, a guide located outside thereof, and a cutter-carrier extending from said guide outside the platen movable longitudinally thereof and provided with rollers located one in advance of the other and engaging the upper and lower faces of the guide, respectively.

19. In a wrapper-cutter, the combination of a platen, a guide located outside thereof, a cutter-carrier extending from said guide inwardly over the platen and provided with rollers located one in advance of the other and engaging the upper and lower faces of the guide respectively, the guide being provided with a depression or recess to receive one of said rollers in its forward position and to allow the front portion of the carrier to drop over the platen, and means for moving the carrier along the guide.

20. In a wrapper-cutter, the combination of a frame having a platen, a guide located outside thereof, a cutter-carrier provided with engaging portions in contact with the upper and lower faces of the guide respectively, the guide having a recess or depression to receive one of said engaging portions in its forward position, interlocking parts on the frame and carrier to lock the latter in its forward position, and means for unlocking the carrier and moving it along the guide.

21. In a wrapper-cutter, the combination of a platen, a cutter-carrier extending inward from a point outside the platen, movable vertically and also movable horizontally, an operating-lever, said carrier and operating-lever being provided, the one with a toe or projection, the other with two fingers between which said toe is received with play, and an inclined surface arranged to engage the toe and to effect the lifting and lowering of the cutter-carrier.

22. In the wrapper-cutter, the combination of a platen, a track located adjacent thereto and provided with a flange, a traveler mounted to run along the track and engaging the flange upon each of its edges and upon its upper and lower faces, and a cutter on the traveler.

23. In a wrapper-cutter, the combination of a platen, a track located adjacent thereto and provided with a horizontal flange, a traveler mounted to run along the track and provided with rollers engaging both edges of said flange and holding the traveler thereto, and having means engaging the upper and lower faces of said flange and a cutter on the traveler.

24. In a wrapper-cutter, the combination of a platen, a track located adjacent thereto and provided with a flange, a traveler embracing both edges and the upper face of the flange provided with a lip taking under said flange, said traveler being mounted to run along the track and a cutter on the traveler.

25. In a wrapper-cutter, the combination of

a platen, a track located adjacent thereto and provided with a flange, and a traveler running along the track embracing and holding itself to the flange, provided with a lip taking under said flange, and having rollers engaging the edges of said flange and a cutter on the traveler.

26. In a wrapper-cutter, the combination of a platen, a track located adjacent thereto and having a flanged portion with a removable section, a traveler mounted to run along the track and removable upon taking off the removable track-section and a cutter on the traveler.

27. In a wrapper-cutter, the combination of a platen, a track located adjacent thereto, a traveler directed by the track, a cutter on said traveler and a spring interposed between the track and the traveler to hold the traveler normally in a raised position.

28. In a wrapper-cutter, the combination of a platen, a track located adjacent thereto and provided with a flange, a traveler arranged to run along the track and embracing said flange, a cutter on said traveler and a spring-pressed plunger carried by the traveler, movable vertically in relation thereto and impinging the track.

29. In a wrapper-cutter, the combination of a platen, a track located adjacent thereto, a traveler directed by the track, a cutter on said traveler, a spring to hold the traveler normally in a raised position, a lever having a swivel connection with the traveler and a cap carried by the traveler and holding the lever in position thereon, said cap also engaging the spring.

30. In a wrapper-cutter, the combination of a platen, a track adjacent thereto, a traveler arranged to run along the track, a cutter carried by said traveler, an operating-lever having a swivel connection with the traveler and a swiveled head or guide with which said lever has sliding engagement.

31. In a wrapper-cutter, the combination of a platen, a cutter-carrier movable bodily to and from the platen, said cutter-carrier comprising a track, an arm connected therewith a guide-head having a swivel connection with said arm, a lever mounted to slide on the said head, and a traveler swiveled to the lever and mounted to run along the track.

32. In a wrapper-cutter, the combination of a platen, a cutter-carrier movable to and from the platen, said carrier comprising a track, a lever movable vertically relatively to the track, a traveler mounted to run along the track, connected with said lever, and a cutter on said traveler depressible relatively to the track into cutting relation to the platen by the vertical movement of the lever.

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