

No. 819,393.

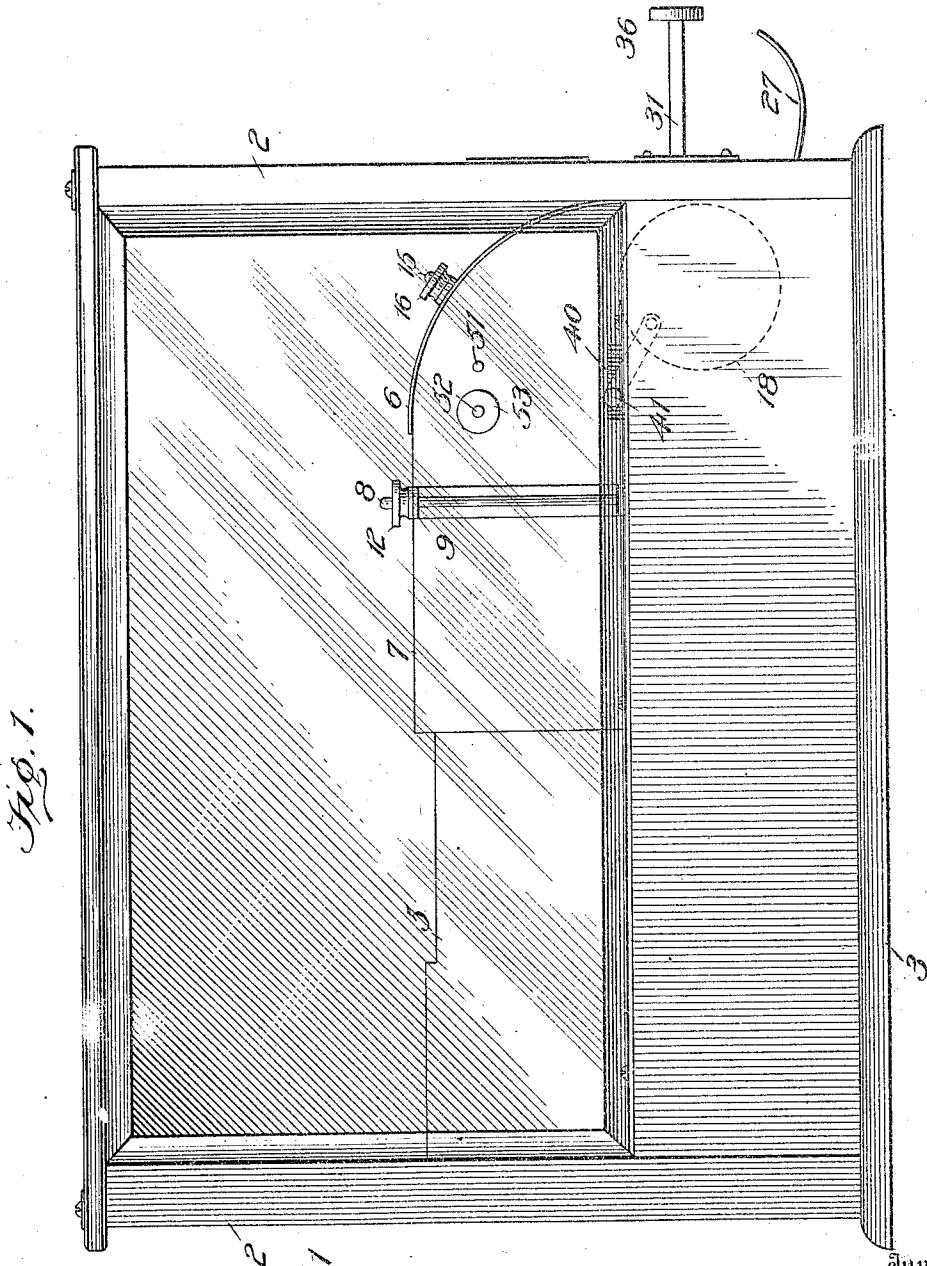
PATENTED MAY 1, 1906.

D. K. WENRICH.

DELIVERY DEVICE FOR VENDING MACHINES.

APPLICATION FILED DEC. 1, 1904.

6 SHEETS—SHEET 1.



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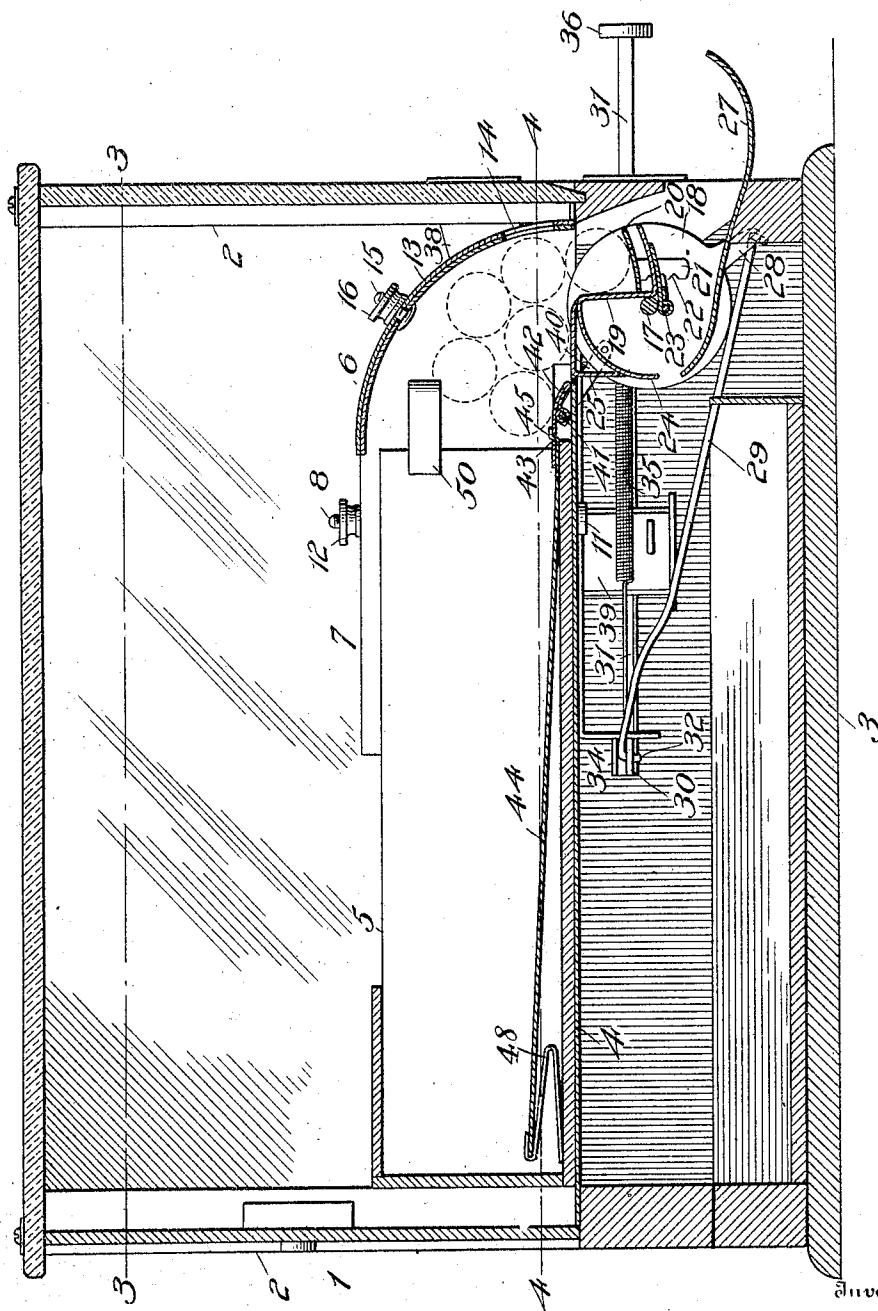
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Fig. 2.



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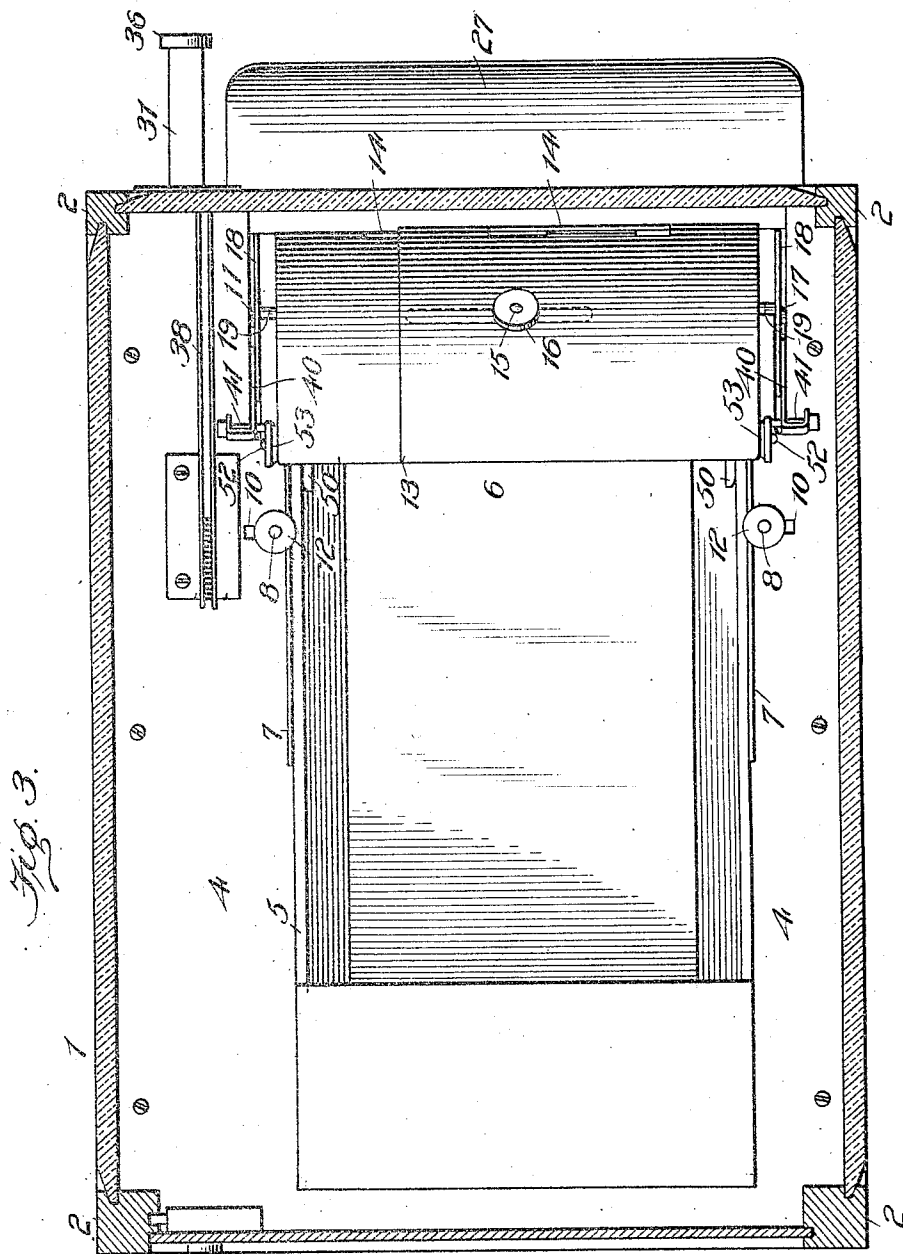
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6 SHEETS—SHEET 3.



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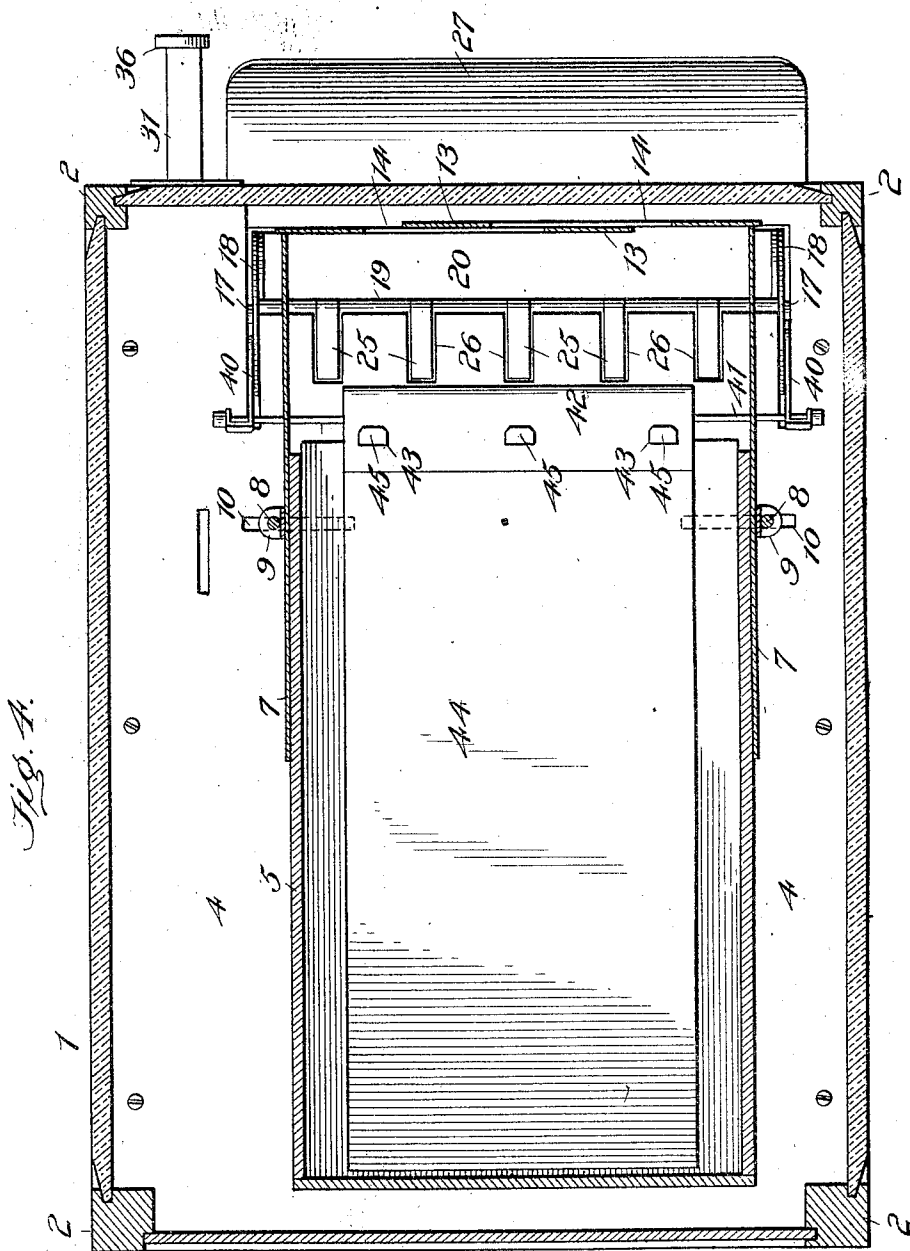
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6 SHEETS—SHEET 5.

Fig. 5.

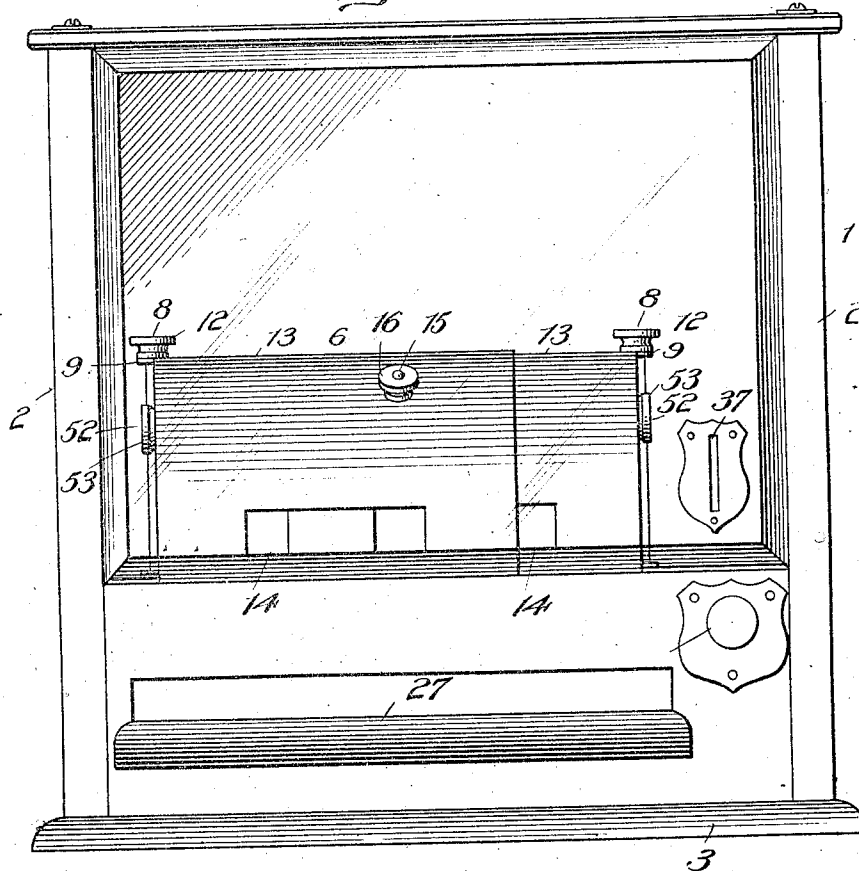
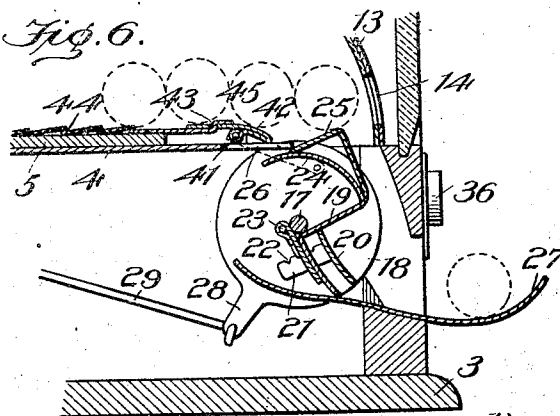


Fig. 6.



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6 SHEETS—SHEET 6.

Fig. 7.

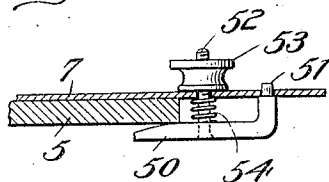


Fig. 8.

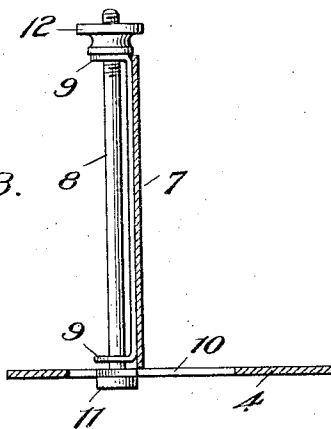


Fig. 9.

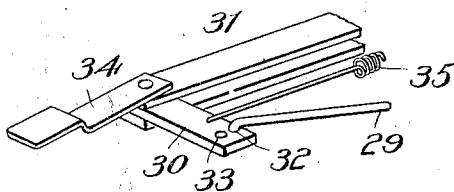


Fig. 10.

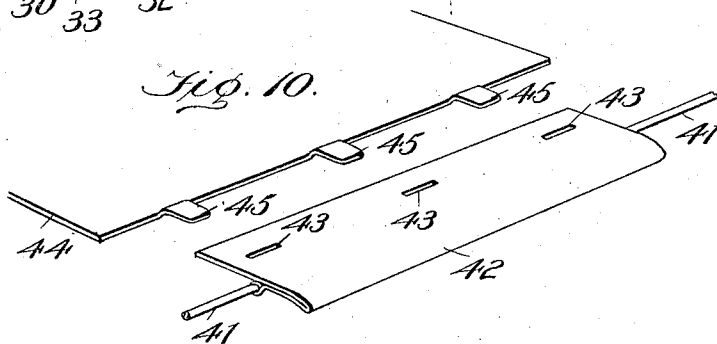


Fig. 11.

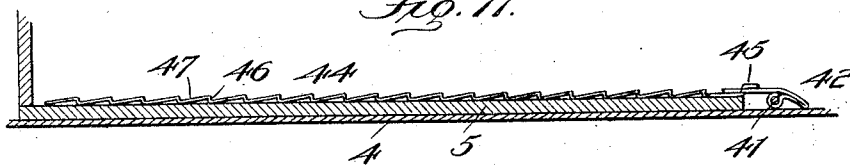
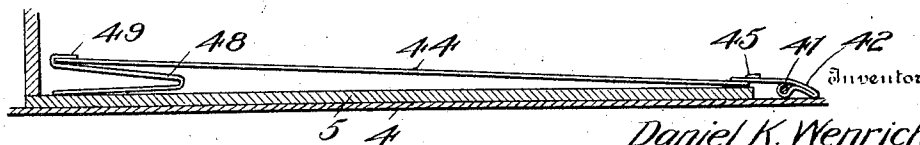


Fig. 12.



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UNITED STATES PATENT OFFICE.

DANIEL K. WENRICH, OF JOPLIN, MISSOURI.

DELIVERY DEVICE FOR VENDING-MACHINES.

No. 819,393.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed December 1, 1904. Serial No. 235,098.

To all whom it may concern:

Be it known that I, DANIEL K. WENRICH, a citizen of the United States, residing at Joplin, in the county of Jasper and State of Missouri, have invented new and useful Improvements in Delivery Devices for Vending-Machines, of which the following is a specification.

This invention has relation to a delivery device for vending-machines; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a delivery device especially adapted to deliver cigars; but it may be used for the delivery of other articles, such as cigarettes, and goods in packages of cylindrical and other form.

The device is so constructed that the box containing the cigars may be placed in a horizontal position, the said box having previously had its top or a portion of its top and one of its ends removed. The delivery device is provided with a flap, which passes along the bottom of the cigar-box under the cigars and which reciprocates and has a tendency to work the cigars from the box toward the delivery device. The delivery device proper consists of a hood which receives one end of the box, and under the said hood a pan is mounted which is adapted to oscillate. Said pan is provided with a false bottom which may be so adjusted to compensate for the diameter of the cigar or article being delivered. The said pan is operated by a push-rod, which is normally held in a locked position, but which may be operated when unlocked by suitable means. The said hood is so constructed that it may be adjusted to fit any size of box, and the flap which extends along the bottom of the box may be so constructed as to facilitate the working forward of the cigars, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of the vending-machine employing my delivery device. Fig. 2 is a longitudinal sectional view of a vending-machine, showing my delivery device. Fig. 3 is a horizontal sectional view cut on the line 3 3 of Fig. 2. Fig. 4 is a horizontal sectional view of the machine, cut on the line 4 4 of Fig. 2. Fig. 5 is a front elevation of the machine. Fig. 6 is a sectional view showing the delivery device in the act of delivering a cigar.

Fig. 7 is a top plan view of a lug attached to the hood for receiving the edge of the box. Fig. 8 is a vertical sectional view of one of the sides of the wall of the hood, showing a means for adjusting the position of the same. Fig. 9 is a detail perspective view of the inner end of the push-rod, showing its connection with the pan-operating pitman. Fig. 10 is a perspective view of the forward end of the flap which enters the box, showing a means for securing the same to its operating adjustment. Fig. 11 is a longitudinal sectional view of a modified form of flap. Fig. 12 is a longitudinal sectional view of a flap, showing a means for elevating the free end thereof.

The vertical side walls of the casing 1, and also the top of the same are made of glass, preferably having at the corners the metallic standards 2 2 and a metallic base 3. In form or pattern of case any may be used, it being preferred to construct the top and side walls of glass in order that the article being dispensed may be exhibited and also the operating of the various parts may be observed by the purchaser. The horizontal plate 4 is located in the casing 1, and upon the said plate the box 5 rests. As shown in Fig. 2, the said box may have a portion of its top and also one of its ends removed. One end of the said box fits under or comes adjacent to the hood 6. The said hood is made in two sections, which are adapted to slide or telescope toward or away from each other, so as to accommodate boxes of different sizes. The side walls 7 of the said hood are held in position by the pins 8, which pass through perforated lugs 9 9 at the upper and lower edges of the said side walls (see Fig. 8) and pass at their lower ends through the elongated slots 10 cut in the plate 4. The head 11 of the said pin 8 bears against the under surface of the plate 4, and the upper end of said pin is provided with a threaded nut 12. It will thus be seen that by loosening the nut 12 the said side walls 7 may be shifted to one side or the other, and when in a proper position the nut 12 is tightened and the said walls are held in such position. Both of the said walls 7 7 of the hood 6 are provided with the securing and adjusting means above described. The forward end of the said hood is provided with the concave aprons 13, which fit one within the other and are adapted to telescope laterally. Just above their

lower edges the said aprons are provided with the openings 14, through which the cigar about to be passed into the delivery device may be seen. A pin 15 passes through a perforation in one of the aprons 13 and through an elongated slot in the other apron. Said pin is provided with the threaded nut 16, which when screwed down clamps the two said aprons together. A shaft 17 is journaled under the hood 6 and at points near the end thereof is provided with the disks 18. The pan 19 is supported at its ends by the said disks 18. A false bottom 20 is located in said pan and may be adjusted up or down and held in such adjusted position. The said bottom is provided with the downwardly-extending lugs 21, the rear edges of which are provided with the notches 22. The said lug 21 passes down through openings in the bottom proper of the said pan 19, and the spring 23 is attached to the shaft 17 in such manner that its ends may enter the notches 22 of the lugs 21 and hold the false bottom 20 in its adjusted position. The curved portion 24 extends back from the upper edge of the pan 19, and the angular strips 25 are secured to said curved portions and extend substantially from the said pan 19 back to a point opposite the rear portion of the curved portion 24 and then extend to the said curved portions and are secured to the same at a tangent. The angular strips 25 are adapted to work up through the recesses 26, cut in the forward edge of the plate 4, and as the pan 9 descends or oscillates the said strips elevate or carry forward another cigar to be deposited into the said pan to take the place of the one dumped out when the pan descended. The tray 27 is located below the forward edge of the pan 19 and is adapted to receive the cigar from the said pan. One of the end disks 18 is provided with a lug 28, to which is attached one end of the pitman 29. Said pitman extends back and is attached at its other end to the lug 30 of the push-rod 31. The rear end of the pitman 29 is bent down at an angle, as at 32, and is adapted to enter one of the perforations 33 of the said lug 30. By providing the said lug 30 with several perforations the movement of the pitman 29 may be regulated in order to regulate the movement of the pan 19 for the delivery of articles of different diameter. By such means an adjustment is provided whereby the movement of the pan may be regulated to deliver cigars that vary in transverse dimensions. The strip 34 is pivoted at its inner end to the push-rod 30 and is adapted to pass over the rear end of the pitman 29 and hold the rear end down in engagement with the walls of the perforation through which it passes. One end of the coil-spring 35 is attached to the lug 30 and its other end is secured to a stationary portion of the casing. The tension of said coil-

spring 35 is such that it has a tendency to draw the lug 30 toward the delivery-pan 19. The rod 31 extends forward and is provided with a key 36, which is pushed back when the article is delivered.

The links 40 are pivoted at their lower ends to the outer sides of the disks 18. The horizontal rod 41 is pivoted in the upper ends of said links. Said rod extends across the machine above the plate 4 and has attached to it a metallic apron 42, the forward edge of which is inclined down. (See Fig. 10.) The rear portion of the said apron is provided with openings 43 43, and the forward edge of the flap 44 is provided with the tongues 45, which are adapted to enter the openings 43. The said tongues 45 are formed as shown in Fig. 10, and when inserted in the manner as indicated in Fig. 6 lock the flap 44 to the apron 42. The said flap 44 is adapted to rest upon the bottom of the box 5 and slips under the cigars contained therein. By the construction above described as the disks 18 describe a partial rotation the said flap 44 reciprocates within the box 5 and has a tendency to carry the cigars toward the hood 6. The particular means herein shown and described for securing the forward edge of the flap 44 to the apron 42 is advantageous, for the reason that one flap may be easily and readily removed and another of a different length substituted in its stead. By making such a connection no screws or bolts are necessary.

Fig. 11 shows a modified form of flap 44. Said flap is provided with transversely-extending ridges having the short precipitous sides 46 and the long inclined sides 47. This form of flap is advantageous in working cigars forward which approach a perfect cylindrical form, as the precipitous sides 46 prevent the cigars from rolling back toward the closed end of the box. Fig. 12 shows a means for elevating or tilting the free end of the flap 44, which consists of a spring 48, secured at one end by means of the bent-back portion 49, to the rear edge of the flap 44. Said spring lies under the flap 44, and as the weight of the cigars is reduced by reason of the fact that they are dispensed the tension of the spring 48 has a tendency to lift the free end of the flap 44 and throw the few remaining cigars toward the hood 6. The inner faces of the side walls 7 of the hood are provided with the lugs 50, which are adapted to receive the forward edges of the sides of the box 5. (See Fig. 7.) The rear ends of the lugs 50 pass through the side wall 7, as at 51. The pin 52 is secured to the lug 50 and also extends through the side wall 7. The nut 53 is screwed upon the pin 52 against the outer surface of the side wall 7, and the coil-spring 54 surrounds the pin 52 and extends from the inner surface of the side wall 7 to the inner surface of the lug 50. It will thus be seen

that by adjusting the nut 53 the lug 50 may be so moved as to accommodate boxes of varying thickness of sides.

The operation of the device is as follows:

- 5 The push-rod 31 having been unlocked, the push-button 36 is pushed toward the casing 1 of the machine. As the rod 31 moves back it carries with it the pitman 29, the forward end of which is attached to the lug 28. The
10 said lug describes a partial rotation, and the cigar in the pan 19 is lowered and is deposited in the tray 27. As soon as the pressure is removed from the key 36 the coil-spring 35 moves the rod 31 out and causes the several
15 parts to assume their normal positions.

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

1. In a delivery device, an article-support
20 mounted to reciprocate therein and constructed to feed articles forward and off the same, an oscillatory pan, means for actuating said pan and means pivotally connecting the pan to the support, such that upon operation of
25 the pan the support is operated to deliver articles into the pan, substantially as described.

2. A delivery device consisting of an oscillating pan and a reciprocating flap operatively
30 connected to said pan, article-elevators attached to said pan and operating between the pan and flap and a means for operating said pan.

3. A delivery device consisting of an oscillating pan, a hood located above the pan, a
35 reciprocating flap operatively connected to said pan and a means for oscillating said pan.

4. A delivery device consisting of an oscillating pan, a hood located above the pan, a
40 reciprocating flap operatively connected to said pan, article-elevators attached to said pan and operating between the pan and flap and a means for operating said pan.

5. A delivery device consisting of a movable pan, a hood located above said pan and
45 having adjustable side walls, a means for bringing the article to be delivered to the pan and a means for operating said pan.

6. A delivery device consisting of a movable pan, a means for operating the same, an
50 adjustable false bottom, located in said pan having lugs provided with notches which extend through openings in the bottom proper, a spring located under said pan and adapted
55 to enter the notches of said lugs, and a means for bringing the article to be delivered to the pan.

7. A delivery device consisting of a movable pan, a means for operating the same, a
60 plate extending to said pan, article-elevators attached to said pan, and operating through recesses cut in the edge of said plate, and a means for bringing the article to be delivered to said elevators and pan.

8. A delivery device consisting of a movable pan, a means for moving said pan, links
65 pivoted at their forward ends to said pan, a rod connecting the rear ends of said links together and a flap attached to said rod.

9. A delivery device consisting of a movable pan, a means for moving said pan, an
70 apron connected with said pan and a flap detachably attached to said apron.

10. A delivery device consisting of a movable pan, a means for moving said pan, a flap
75 connected with said pan, and having transversely-extending ridges.

11. A delivery device consisting of a movable pan, a means for moving said pan, a flap
80 connected with said pan and having transversely-extending ridges provided with precipitous and slanting sides.

12. A delivery device consisting of a movable pan, a means for moving said pan, a flap
85 connected with said pan and a means for automatically elevating the rear end of said flap.

13. A delivery device consisting of a movable pan, a means for moving said pan, a flap
90 connected with said pan and a spring attached to said flap for automatically elevating the rear end thereof.

14. A delivery device consisting of a movable pan, a means for moving said pan, an
95 apron attached to and operated by said pan, said apron having its forward edge extending downward toward the pan and a flap attached to said apron.

15. A delivery device consisting of a pan, disks located at the ends of said pan, a shaft
100 supporting said disks, a pitman attached at one end to one disk, a push-rod attached at its inner end to the other end of said pitman.

16. A delivery device consisting of a movable pan, a pitman connected at one end with
105 said pan, a push-rod, the rear end of said pitman being adjustably connected to the rear end of said push-rod.

17. A delivery device consisting of a movable pan, a pitman connected at one end with
110 said pan and having at its other end a bent portion, a push-rod having at its inner end a lug provided with several perforations adapted to receive the bent portion of the pitman.

18. A delivery device consisting of a movable pan, a pitman connected at one end with
115 said pan, and having at its other end a bent portion, a push-rod having at its inner end a perforated lug adapted to receive the bent portion of the pitman and a plate pivoted to
120 said rod and adapted to be swung over the said bent portion of the pitman.

19. A delivery device consisting of a movable pan, a means for moving the same, a hood
125 located over said pan and having concaved telescoping aprons, said hood adapted to receive a box containing the article to be delivered.

20. A delivery device consisting of a movable pan, a means for moving the same, a hood located over said pan, and having adjustable side walls, adjustable lugs located upon the inner faces of said walls and adapted to receive the edges of a box containing the article to be delivered.

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

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