No. 772,503. PATENTED OCT. 18, 1904.

C. M. DODSON.

CIGAR HOLDER AND VENDER.

APPLICATION FILED FEB. 3, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

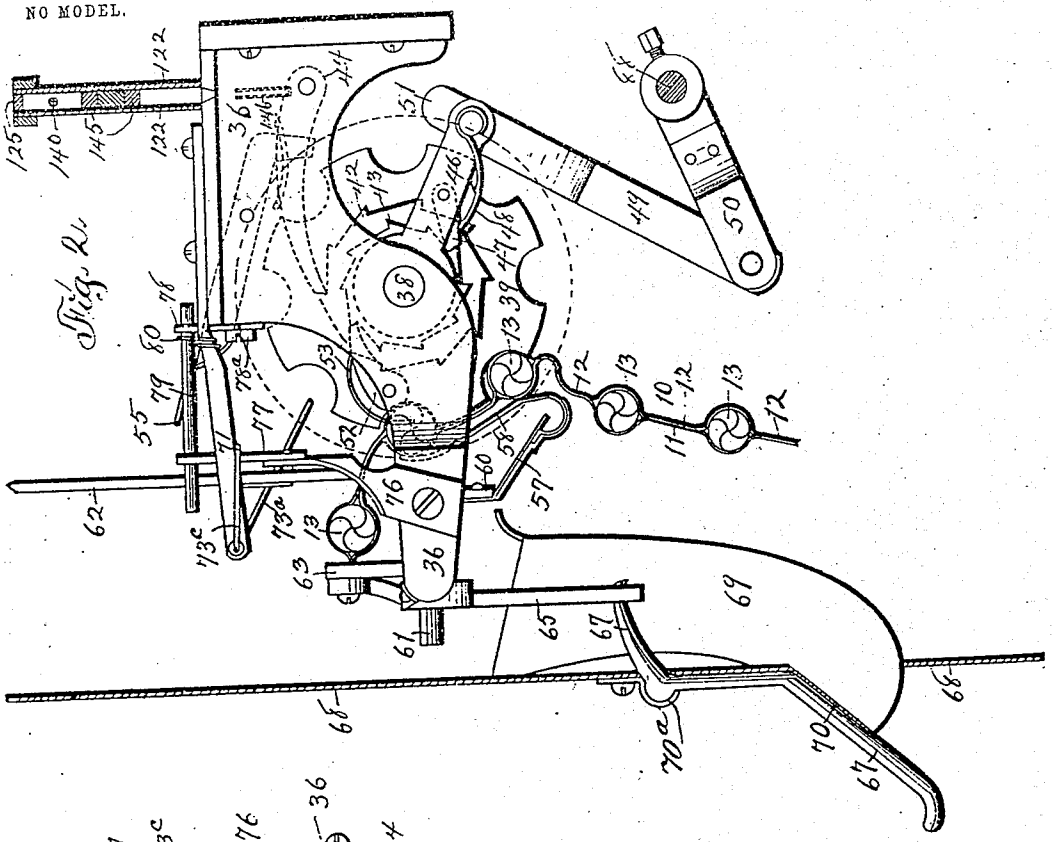

Fig. 2.

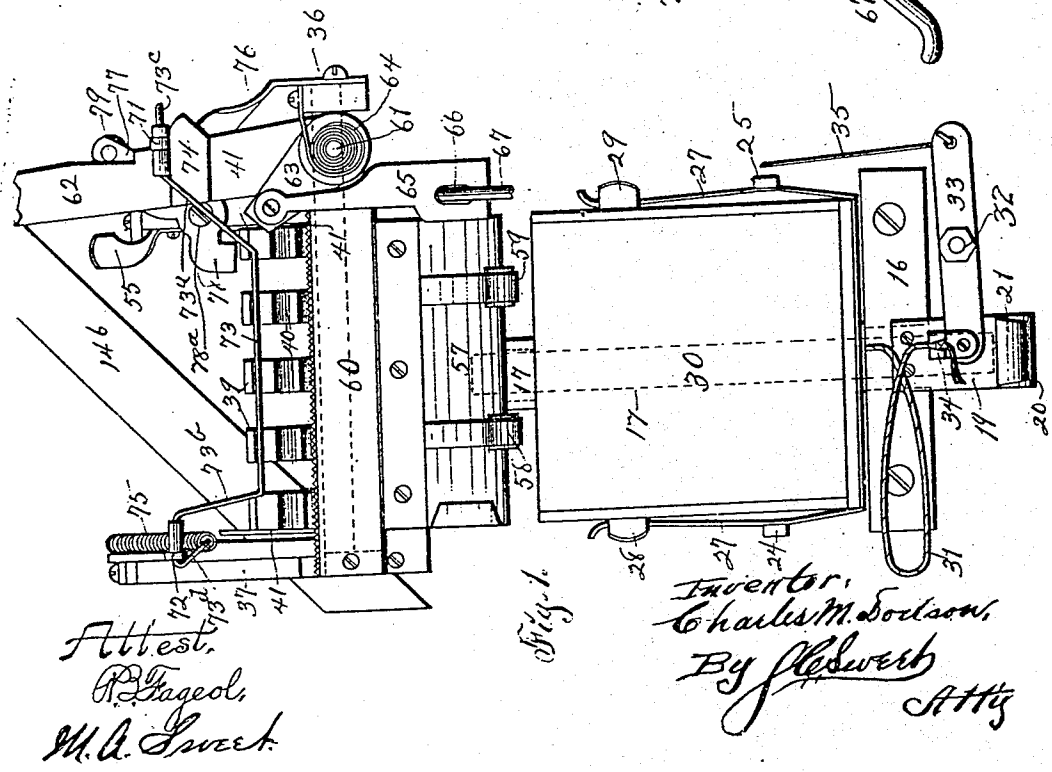

Fig. 1.

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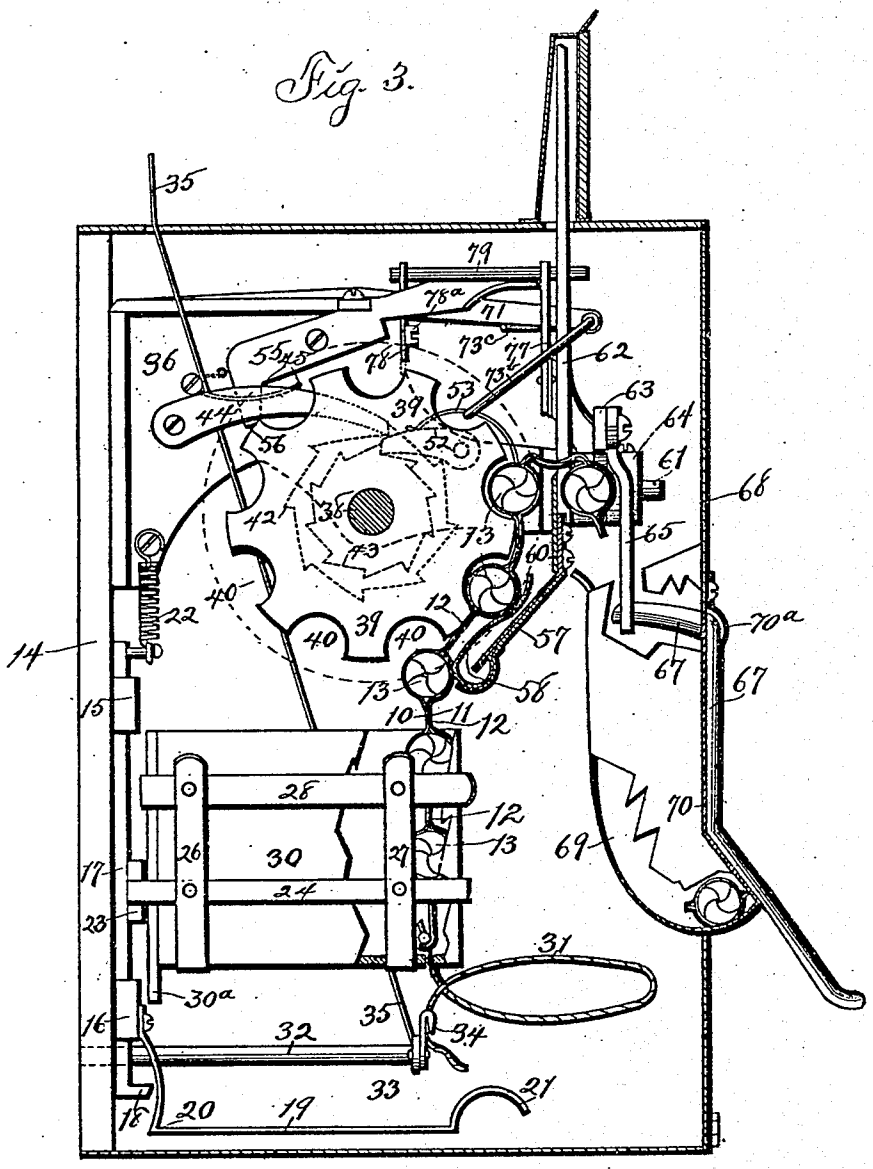
NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.



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No. 772,503. Patented October 18, 1904.

UNITED STATES PATENT OFFICE.

CHARLES M. DODSON, OF DES MOINES, IOWA, ASSIGNOR TO AMERICAN MANUFACTURING COMPANY, OF DES MOINES, IOWA, A CORPORATION OF IOWA.

CIGAR HOLDER AND VENDER.

SPECIFICATION forming part of Letters Patent No. 772,503, dated October 18, 1904.

Application filed February 3, 1902. Serial No. 92,233. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. DODSON, a citizen of the United States of America, and a resident of Des Moines, Polk county, Iowa, have invented a new and useful Cigar Holder and Vender, of which the following is a specification.

The object of this invention is to provide means for holding and vending or dispensing cigars and similar articles of merchandise.

My invention consists in the construction of a cigar-cell series arranged to receive and contain a large number of cigars in series connected in web form and continuous throughout a bundle or package.

My invention consists, further, in the provision of a cigar-cell series, a holder or box therefor, intermittently-rotating mechanism arranged to engage and progressively remove said cigar-cell series from the holder or box and also arranged to carry said series to and through a cutting-off mechanism, whereby single cigars may be severed from the series and suitably delivered or discharged.

My invention consists, further, in the provision of means for connecting a cigar-cell series to trip mechanism acting on an indicator, the function of which is to show when the holder or box is empty.

My invention consists, further, in the provision of means for mounting and removably and replaceably securing the holder or box for the cigar-cell series in the machine.

My invention consists, further, in the provision of a cutting-off mechanism arranged in and transversely of the path of travel of the cigar-cell series and manually-operated delivery mechanism arranged to operate the cutting-off mechanism and cut the series between two cigars therein to the end that one cigar nd a cell therefor may be severed from the ries and deposited in a receptacle accessible the purchaser.

My invention consists, further, in the con- ction, arrangement, and combination of ients hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a front elevation of a holder or box arranged to receive a cigar-cell series, a feeding mechanism arranged to receive a cigar-cell series from the holder or box, and a cutting-off mechanism arranged to receive the cigar-cell series from the feeding mechanism and cut the same transversely. Fig. 2 is a right side elevation of the feeding mechanism and the cutting-off mechanism together with the means employed to actuate the cutting-off mechanism and a cigar-cell series, shown in proper position therein immediately antecedent to the actuation of the cutting-off mechanism. Fig. 3 is a left side elevation of the mechanisms shown in Fig. 1 together with a cigar-cell series mounted therein, certain elements 46 47 49 being omitted.

The mechanisms and elements illustrated, described, and claimed herein are designed to be employed in conjunction with other mechanisms and elements illustrated and described in companion applications for patents pending concurrently herewith, filed February 3, 1902, Serial No. 92,234, and filed February 4, 1902, and serially numbered 92,526.

In the construction of the cigar-cell series, as shown, the numerals 10 and 11 designate sheets of paper, cloth, or similar substance relatively long and narrow, the width thereof approximating closely to the length of the cigars employed therewith and the length of the sheets or web being sufficient to fill a box or holder when loaded with cigars. The sheets 10 and 11 are placed face to face and pasted together on transverse lines at intervals, as indicated by the numerals 12, thus forming a web of double thickness. The lines of paste are separated or spaced apart a distance sufficient to permit the separation of the sheets 10 and 11 between them and the introduction of a cigar 13 into the cell thus formed. Each cigar sh- gly the cell in which it is mo- the distance of separation may - in - to

the diameter of the cigars to be employed therewith. The lines of paste are relatively broad to the end that the cells may be separated a distance approximating to the diameter of the cigars the better to accommodate the series or web for use in connection with the feeding device, hereinafter described.

A back plate 14, preferably of cast metal or wood, is provided, and clips 15 16 are mounted horizontally parallel with each other thereon and formed with slide seats or openings vertically and transversely of their central portions. A bar 17 is mounted for vertical rectilinear reciprocation in the slide-seats between the clips 15 16 and the back plate 14, and a lug 18 is formed on and projects forwardly from the lower end of said bar. A leaf-spring latch 19 is fixed at one end to the central portion of the clip 16 and extends downwardly and forwardly therefrom. The latch 19 is formed with an abrupt bend at 20, thus producing a shoulder normally in the path of travel of the lug 18, and in the downward movement of the bar 17 said latch will yield forwardly under sliding engagement of the lug and permit the passage of said lug beyond the shoulder, and thereafter the latch will return and engage the upper face of the lug and retain the same against upward movement. The latch 19 also is formed with a lip 21 on its forward end, to which lip manual force may be applied to withdraw the latch from engagement with the lug 18. A retractile coil-spring 22 is fixed at one end to the upper end of the bar 17 and at the other end to the back plate 14 and tends to lift the bar and attached parts against the holding function of the latch 19. A cross-bar 23 is mounted transversely of and fixed at its center to the bar 17, parallel with and between the clips 15 and 16, and arms 24 25 are fixed to and extend forward at right angles from the extremities of said cross-bar. Frame-bars 26 27, each bent at right angles at two points, are fixed by their parallel arms to the arms 24 25, and the parallel upwardly-extending end portions or arms of said frame-bars are connected on either side by guide-strips 28 29, mounted horizontally on their inner faces, said guide-strips being integrally connected at their rear ends. The forward ends of the guide-strips 28 29 are bent outward, and a box 30 or holder is mounted by inward or rearward movement between said strips and rests on the central portions of the frame-bars 26 27. The holder 30 is mounted for vertical reciprocation with the supporting-bars and guide-strips for convenience in placing it in desired relations to the feeding mechanism. The holder 30 preferably is a cigar-box, in which the cigars mounted in the cell-web are packed by the manufacturer, closed [illegible]

holder in this machine the lid or cover 30ª thereof is folded back, and a cord 31, attached to one end of the web in the holder, is drawn through a hole in the bottom of the holder, as shown in Fig. 3. A stud 32 is fixed to and projects horizontally forward from the back plate 14 beneath the normal position of the holder 30 and its frame, and a lever 33, is fulcrumed at its center on the extremity of said stud. The outer end of the cord 31 is attached to a hook 34, pivoted on one end of the lever 33, and a draft-wire 35 is fixed to the opposite end of said lever and leads upwardly therefrom to a point of operation of a signal described in my application, Serial No. 92,234, filed February 3, 1902. Thus provision is made for oscillating the lever 33 and applying draft to the wire 35 when the web or cigar-cell series is entirely withdrawn from the holder 30 and strain is applied to the cord 31 thereby.

Brackets 36 37 are mounted on and extend forward from the back plate 14 above the holder 30, and a shaft 38 is mounted for rotation in and connects said brackets. Duplicate feed-wheels 39, in this instance five in number, are mounted rigidly on the shaft 38 and spaced apart on said shaft to encompass the major portion of the space between the brackets. The feed-wheels 39 are notched in their peripheries in registration or alinement parallel with the shaft 38. The notches 40 in the feed-wheels are semicircular in contour and of a diameter approximating the diameter of a cell containing a cigar. Shields 41 41 (shown by dotted circle in one view) are mounted on the shaft 38 against and fixed to each of the end wheels 39 and serve to prevent the web slipping sidewise out of the desired line of travel. The shields 41 also overlap the notches 40 in the end wheels and prevent longitudinal movement of the cigars in the cells contacted by the wheels. Ratchet-wheels 42 43 of different diameters are mounted rigidly on the shaft 38 adjacent the innermost feed-wheel 39, and the faces of the teeth of the respective ratchet-wheels are in opposite directions. A pawl 44 is pivoted at one end on the bracket 36 and extending forwardly is held by a spring 45 in engagement with the ratchet-wheel 42 in such a manner as to prevent forward movement of the feed-wheels 39. An arm 46 is pivoted at one end on the shaft 38 adjacent the ratchet-wheel 43, and a pawl 47, pivoted on said arm, is held by a spring 48 in engagement with the ratchet-wheel 43 in such a manner as to move said wheel and the feed-wheels 39 forwardly when the engagement of the pawl 44 is released and the arm is moved downwardly at its rear end. A link 49 is pivotally connected near its upper end to the rear end of the arm 46 and is pivoted at its lower end to the outer end of a crank on the main shaft 88 of the coin-control

mechanism employed therewith and described in my application, Serial No. 92,234, filed February 3, 1902. A lip 51, formed by an extension of the upper end of the link 49, projects above the link 46 and will engage and lift the pawl 44 from the ratchet-wheel 42 at times. A pawl 52 is pivoted at one end on the bracket 36 and engages the ratchet-wheel 43 under pressure of a spring 53, mounted in the bracket 36, and prevents backward or reverse movement of the feed-wheels. A lever 55 is fulcrumed on the bracket 36 and extends forwardly therefrom above the ratchet-wheels, terminating in a thumb-piece, whereby manual pressure may be applied. The rear end portion of the lever 55 extends downwardly at one side of the pawl 44, and the extremity thereof is bent laterally to form a lug or hook 56 beneath said pawl, Fig. 3. The lever 55 is employed to lift the pawl 44 and release the ratchet-wheel 42 when it is desired to mount the cigar-cell series in the feed-wheels in the first instance or at successive times to replenish the supply.

An apron or breast 57, formed of sheet metal, is mounted on and connects the brackets 36 37 in front of and below the feed-wheels 39. The lower edge of the breast 57 is curved out of the plane of the body thereof, and leaf-springs 58 59 are mounted therein and extend rearward and upward toward and in front of the feed-wheels. It is the function of the leaf-springs 58 59 to press and impel the cigar-cell series against the feed-wheels yieldingly and cause the cells with cigars therein to enter the notches 40 successively and in proper manner. A cutter-blade 60 is mounted on and fixed at its ends to the brackets 36 37 in a horizontal plane immediately above the breast or apron 57. The upper edge of the cutting-blade 60 is beveled rearwardly and may be either smooth, serrated, or saw-toothed. A stud 61 is mounted in and projects forward from the bracket 36 adjacent one end of the cutter-blade 60, and a knife 62 is mounted rigidly at one end on said stud and is arranged to swing through an arc therefrom parallel with the cutter-blade 60. A hub is formed on or fixed to the pivoted end portion of the knife 62, and a crank-arm 63 is fixed at one end to said hub and projects radially therefrom at an oblique angle to the knife. A convolute spring 64 is fixed at one end to the bracket 36 and at the other end to the stud 61 and exerts its resilience in the direction of lifting and holding up the knife and crank-arm 63. A link 65 is pivoted at its upper end to the outer end portion of the crank-arm 63 and depends therefrom. A slot 66 is formed in the lower end portion of the link 65 and is arranged to receive one end of a bell-crank lever 67, which bell-crank lever is fulcrumed in the door 68 of the casing in which the mechanisms are mounted. A slot is formed in and transversely of the door 68, and a cup or pocket 69 is mounted on the inner face of the door and extends through the slot. A lid or cover 70 is fixed to the bell-crank lever 67 and hinged thereby in clips 70^a on the door 68 over the mouth of the cup or pocket outside the door. The inner edge of the cup or pocket 69 is adjacent, below, and in front of the upper edge of the breast or apron 57 when the door is closed. Arms 71 72 are formed on and project forwardly from the brackets 36 37, Figs. 2 and 3, and a crank-bail 73 is fulcrumed in the extremities of said arms. The central portion of the crank-bail is straight and normally occupies a position over the feed-wheels 39, at the rear of and above the cutter-blade 60. The journals of the crank-bail are straight and parallel with the central portion thereof. The central portion of the bail is connected to the journals by oblique portions 73^a 73^b, the planes of which in normal position cross the path of travel of the knife 62. A wear-plate 74 is mounted on the knife 62 in such manner that when the knife is moved downwardly said wear-plate will engage the oblique portion 73^a and force the bail forward across the plane of the cutter-blade 60. A stop-arm 73^c is formed on the crank-bail 73 and extends rearward therefrom and is bent beneath the arm 71 of the bracket 36. It is the function of the stop-arm 73^c to limit and determine the rearward movement of the crank-bail 73. An arm 73^d is formed on the end portion of the bail 73 opposite the arm 73^c, and the extremity thereof is connected to one end of a retractile coil-spring 75, the opposite end of which spring is attached to the bracket 37. It is the function of the arm 73^d and spring 75 to return the crank-bail 73 to its normal position after a movement thereof by the knife 62 and wear-plate 74. It is the function of the crank-bail 73 to engage at the rear of and move a cell of the cigar-cell series containing a cigar forward across the plane of the cutter-blade 60 (into the position shown in Figs. 2 and 3) in advance of the engagement of the knife with the web and coincident with the movement of the knife. It is desirable to lock the feed-wheels positively in one position during the operation of the bail and knife, and to this end I provide a bracket-arm 76 on the bracket 36 and pivot a link 77 at one end thereon. A latch 78 is pivoted on the bracket 36 by means of a screw 78^a, parallel with the link 77, and a rod 79 is mounted in and connects the outer upper ends of the link and latch. One end portion of the rod 79 extends beyond the link 77 and crosses the path of travel of the knife 62 and is arranged to be engaged and moved back by the return of said knife from a cutting operation. The re

79 is acted upon by a spring 80, tending to move said rod, so that the latch 78 is moved into a position that its left end will engage in a notch 40 of the adjacent wheel 39 and retain said wheel and its companions against forward movement while the knife 62 is moving forward and back out of engagement with said rod. Inasmuch as the notches 40 have curved walls, the latch 78 will wedge thereon and crowd the wheel back until stopped by positive engagement of the pawl 52 with a tooth of the ratchet-wheel 43.

In the practical use of this machine the operator first introduces a coin into and operates the coin-controlled mechanism, (not described herein,) to the end of rotating the shaft and raising the arm 50. In the upward movement of the arm 50 the link 49 is raised sufficiently to bring the pawl 47 into engagement with the next succeeding tooth of the ratchet-wheel 43 and release the pawl 44 from the ratchet-wheel 42. Then the shaft is rotated oppositely, causing a downward movement of the arm 50, link 49, and arm 46, during which the pawl 47 moves the ratchet-wheel 43 rotatably and turns the feed-wheels forward. In the forward movement of the feed-wheels the cigar-cell series is lifted and fed one cell upward. Then the operator lifts the outer end portion or handle of the bell-crank lever 67 and with it the lid or cover 70 and in so doing depresses the inner end of said lever and applies a downward pull on the link 65. In the downward movement of the link 65 the arm 63, and consequently the knife 62, are pulled downward. In the downward movement of the knife 62 the crank-bail 73 is engaged and moved across the cutter-blade 60 and in such movement engages and moves a cell across said blade. In the further downward movement of the knife the latch 78 is permitted to engage and lock the feed-wheel, and the knife passes the serrated edge of the cutting-blade 60 and cuts through the pasted portion of the web of the cigar-cell series, thus severing one cell and the cigar therein from the series. The severed cell and cigar therein falls from the knife and cutting-blade into the cup or pocket 69 and follows the curved back thereof through the slot of the door and into reach of the operator. The operator then removes the cell and cigar from the cup or pocket 69 and drops the handle of the bell-crank lever, whereupon the several parts or elements of the feeding and cut-off mechanisms reassume their normal positions, as shown.

I claim as my invention—

1. A cigar-cell series, a removable and replaceable holder for said cigar-cell series mounted for vertical adjustment and open at its top, and feeding mechanism arranged to engage and feed said cigar-cell series from said holder.

2. A cigar-cell series, a removable and replaceable holder for said cigar-cell series mounted for vertical adjustment and open at its top, rotating step-by-step feeding mechanism arranged to engage and feed said cigar-cell series from said holder, manually-operated cut-off mechanism arranged to sever the cigar-cell series between the cells and locking mechanism acting on the feeding mechanism during the operation of the cut-off mechanism.

3. A cigar-cell series, a removable and replaceable holder for said cigar-cell series mounted for vertical adjustment and open at its top, rotating step-by-step feeding mechanism arranged to engage and feed said cigar-cell series from said holder, manually-operated cut-off mechanism arranged to sever the cigar-cell series between the cells and locking mechanism acting on the feeding mechanism to prevent rotation in either direction during the operation of the cut-off mechanism.

4. A cigar-cell series, a holder for said cigar-cell series, rotating step-by-step feeding mechanism arranged to engage and feed said cigar-cell series from said holder, manually-operated cut-off mechanism arranged to sever the cigar-cell series between the cells, locking mechanism acting on the feeding mechanism to prevent rotation in either direction during the operation of the cut-off mechanism and a lever arranged for manual operation to suspend the locking mechanism as to the forward movement of the feeding mechanism.

5. A cigar-cell series, a holder for said cigar-cell series between the cells, locking mechanism acting on the feeding mechanism to prevent rotation in either direction and a lever arranged for manual operation to suspend the locking mechanism as to the forward movement of the feeding mechanism.

6. A cigar-cell series, a holder for said cigar-cell series, feeding mechanism arranged to engage and feed said cigar-cell series from said holder, a web flexing device arranged to engage the foremost cell of the cigar-cell series and move it away from the feeding mechanism, and cut-off mechanism arranged to sever the cigar-cell series between the cells.

7. A cigar-cell series, a holder for said cigar-cell series, feeding mechanism arranged to engage and feed said cigar-cell series from said holder, a web flexing device arranged to engage the foremost cell of the cigar-cell series and move it away from the feeding mechanism into the path of travel of cut-off mechanism and cut-off mechanism arranged to sever the cigar-cell series between the cells.

8. A cigar-cell series, a box therefor, a frame receiving said box and arranged for vertical adjustment, feed-wheels formed with peripheral notches, means for pressing the cells of the cigar-cell series into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and

swing the foremost cell across said cutter-blade, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series.

9. A cigar-cell series, a box therefor, feed-wheels formed with peripheral notches, means for pressing the cells of the cigar-cell series into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and swing the foremost cell across said cutter-blade, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series.

10. A cigar-cell series, a box therefor, feed-wheels formed with peripheral notches and mounted for intermittent rotation, means for pressing the cells of the cigar-cell series into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and swing the foremost cell across said cutter-blade, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series.

11. A cigar-cell series, a box therefor, feed-wheels formed with peripheral notches and mounted for intermittent rotation, means for pressing the cells of the cigar-cell series successively into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and swing the foremost cell across said cutter-blade, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series.

12. A cigar-cell series, a box therefor, feed-wheels formed with peripheral notches and mounted for intermittent rotation, a lock therefor, means for pressing the cells of the cigar-cell series into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and swing the foremost cell across said cutter-blade, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series.

13. A cigar-cell series, a box therefor, feed-wheels formed with peripheral notches and mounted for intermittent rotation, means for pressing the cells of the cigar-cell series into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and swing the foremost cell across said cutter-blade and arranged for engagement with and operation of said crank-bail, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series.

14. A cigar-cell series, a box therefor, feed-wheels formed with peripheral notches and mounted for intermittent rotation, a lock therefor, means for pressing the cells of the cigar-cell series into the notches of the feed-wheels, a cutter-blade, a crank-bail arranged to engage said cigar-cell series and swing the foremost cell across said cutter-blade, a knife mounted for oscillation through said cigar-cell series parallel with and in shearing relation to said cutter-blade and manually-operated delivery mechanism arranged to operate the knife and receive a severed cell from the series, the knife in its return movement arranged to act on and release said lock.

Signed by me at Des Moines, Iowa, this 1st day of January, 1902.

CHARLES M. DODSON.

Witnesses:
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WM. WILKINSON.