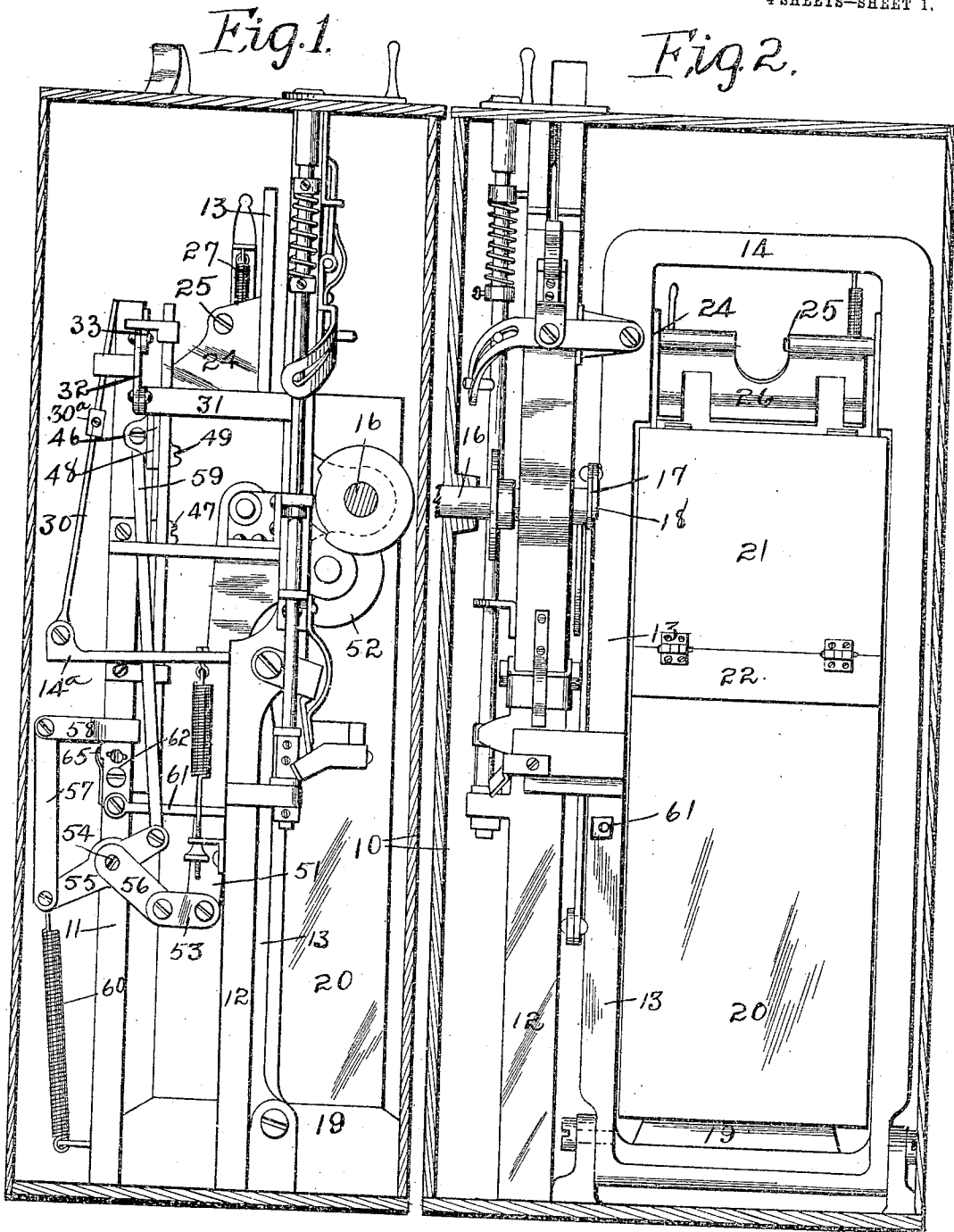


H. R. STOUDER.
CIGAR VENDING MACHINE.
APPLICATION FILED FEB. 8, 1909.

958,191.

Patented May 17, 1910.

4 SHEETS—SHEET 1.



Witnesses
A. S. Hague
F. C. Dahlberg

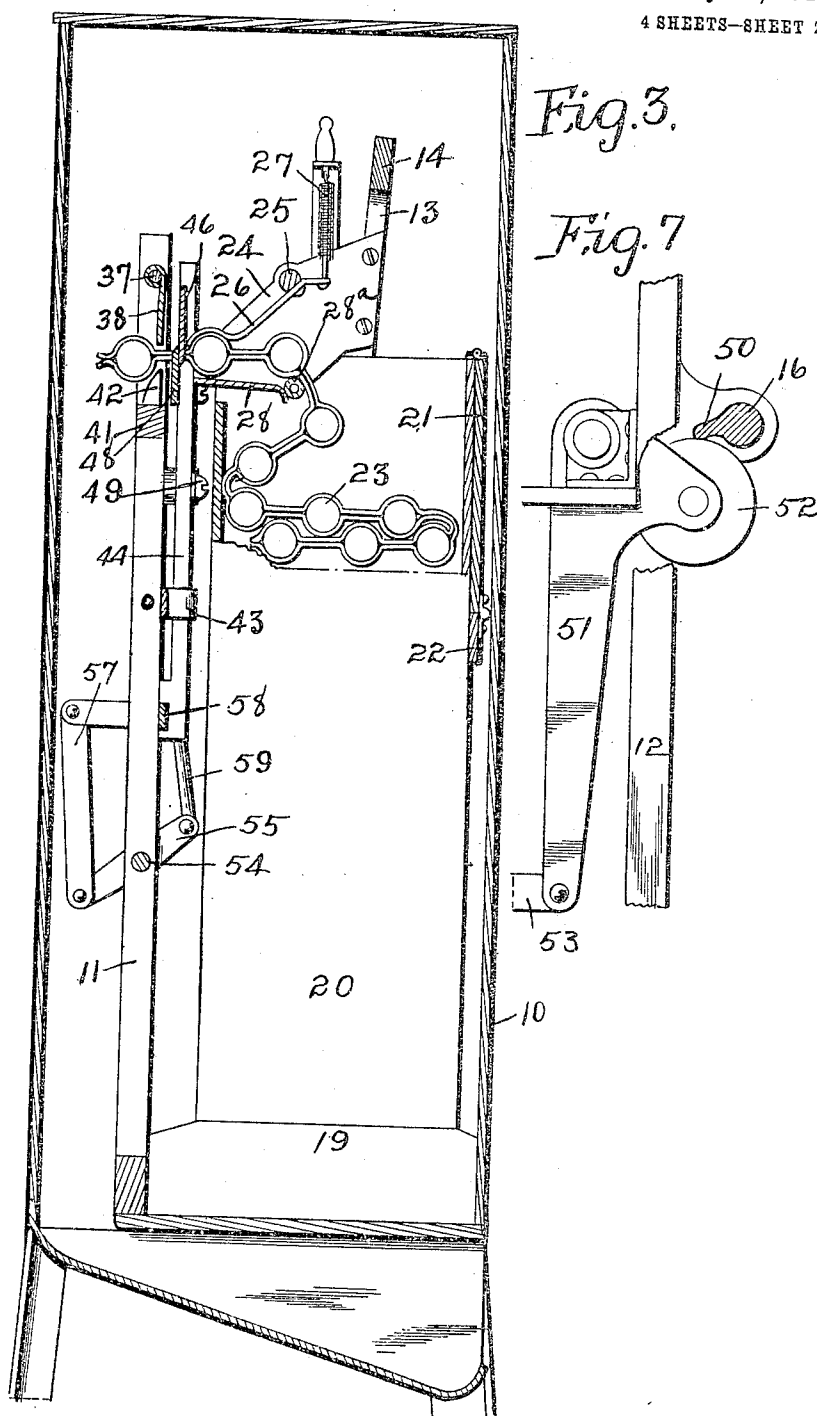
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4 SHEETS—SHEET 2.



Witnesses
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4 SHEETS—SHEET 3.

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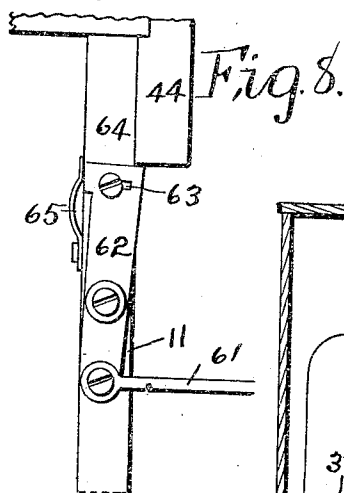


Fig. 4.

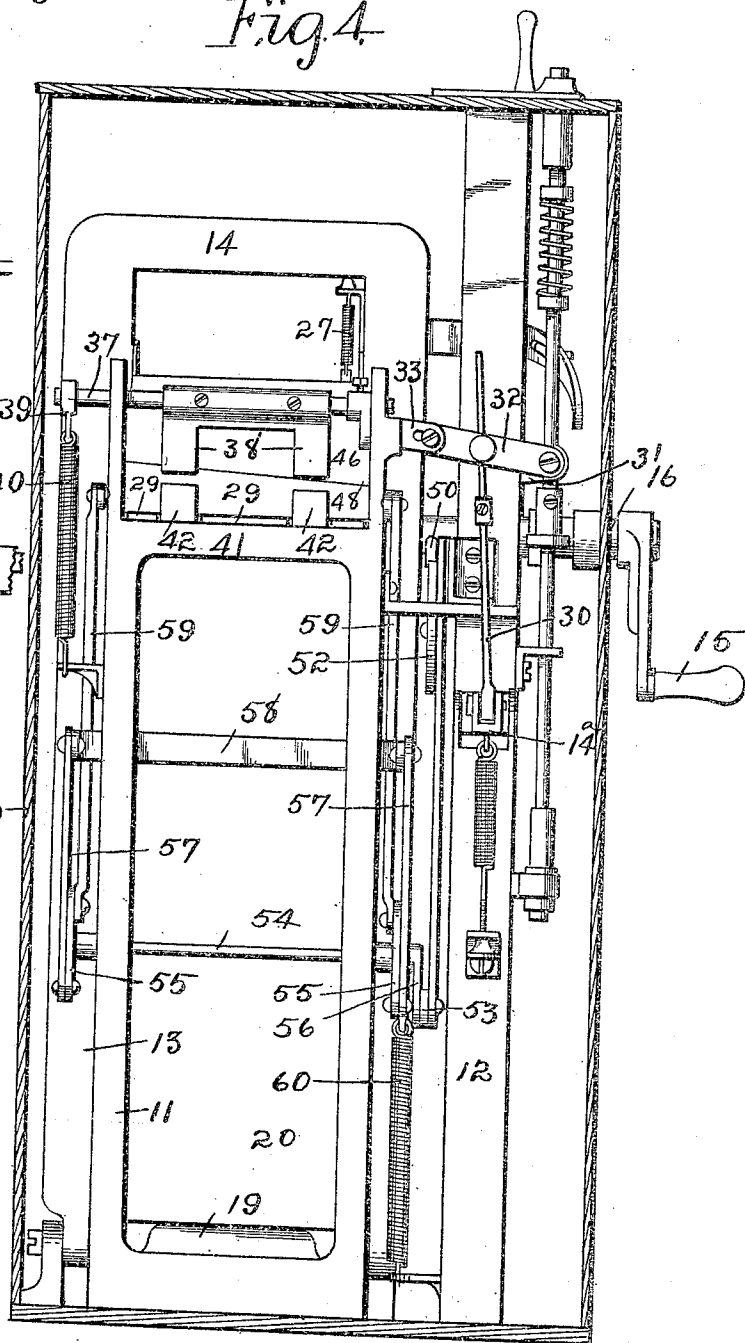


Fig. 9.

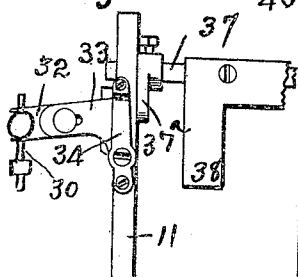
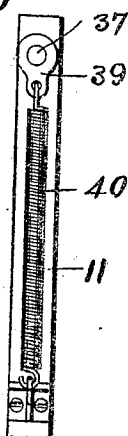


Fig. 10.



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4 SHEETS--SHEET 4.

Fig. 5.

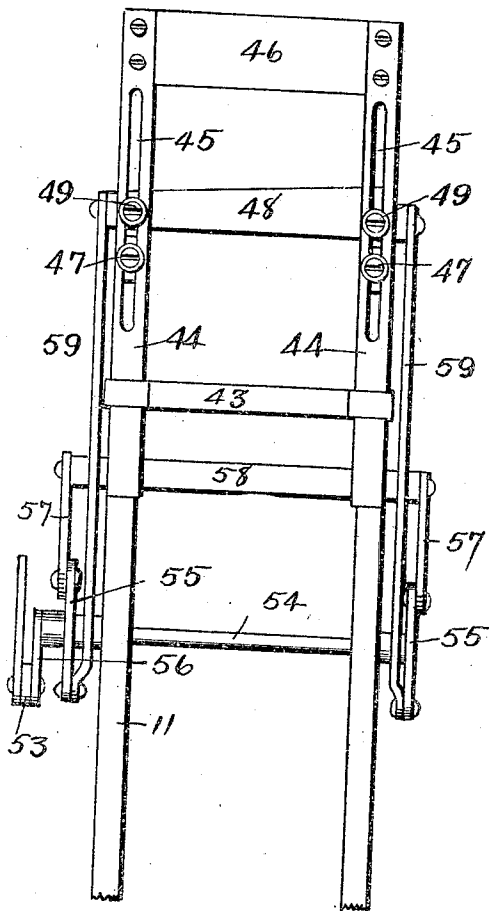
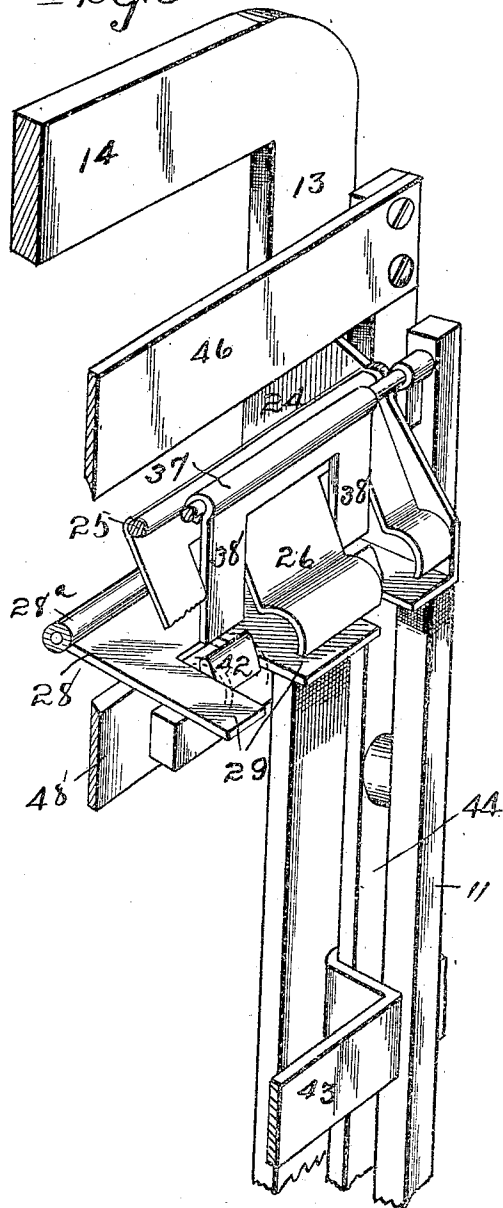


Fig. 6.



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UNITED STATES PATENT OFFICE.

HERMAN R. STOUDEUR, OF NEWTON, IOWA.

CIGAR-VENDING MACHINE.

958,191.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed February 8, 1909. Serial No. 476,686.

To all whom it may concern:

Be it known that I, HERMAN R. STOUDEUR, a citizen of the United States, residing at Newton, in the county of Jasper and State of Iowa, have invented a certain new and useful Cigar-Vending Machine, of which the following is a specification.

The object of my invention is to provide a device of simple, durable and inexpensive construction, designed to receive a cigar box containing cigars, which cigars are placed in the pockets of a continuous flexible container, and said vender being so arranged that when actuated, the flexible container will be withdrawn from the box and one cigar will be projected beyond the fingers which grasp the cigars and be cut off and delivered at the front of the machine.

More specifically it is my object to provide improved means for advancing the cigars toward the cut-off mechanism when the coin actuated mechanism is operated by the insertion of a proper coin.

A further object is to provide an improved cutting mechanism for the cigar container designed to be elevated by manually applied power, and released by a movement of the coin controlled mechanism, and moved downwardly by spring pressure when released.

A further object is to provide improved means of simple and inexpensive construction whereby, when the vender is manually operated without being actuated by the coin controlled mechanism, the cigars and container will be moved toward the delivery end of the apparatus and back without being held in position where the end cigar will be cut off until such time as the coin actuated mechanism is operated upon the insertion of a proper coin, whereupon the end cigar will be held at its rearward limit upon the return or forward movement of the cigar engaging jaws, so that upon the operation of the knife or cutter, one cigar will be cut off and delivered.

Other objects will appear in the following specifications and claims.

My invention consists in the construction, arrangement and combination of the various parts of the cigar vender and also in the combination thereof with the coin controlled mechanism whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and

illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the cigar vender embodying my invention with a coin actuated mechanism combined therewith, the containing box being shown in section. Fig. 2 shows a front elevation of same with the containing box in section. Fig. 3 shows a vertical, transverse sectional view of the device embodying my invention with a box of cigars in position therein, the upper portion thereof being shown in section. Fig. 4 shows a rear elevation of a device embodying my invention, the containing box being shown in section. Fig. 5 shows a detail front elevation of the mechanism for cutting off the flexible cigar container. Fig. 6 shows a detail perspective view illustrating a portion of the cutting mechanism and also a portion of the cigar advancing and holding mechanism. Fig. 7 shows a detail view, partly in section, illustrating the means for imparting motion from the actuating shaft to the lever that operates the cutting blades. Fig. 8 shows a detail view illustrating the means for locking the knife-carrying frame in its elevated position. Fig. 9 shows a detail view illustrating the means for locking the device that prevents a rearward movement of the flexible cigar container, and—Fig. 10 shows a detail view illustrating the spring for yieldingly holding the shaft on which the device for preventing a return movement of the flexible cigar container is mounted.

In the accompanying drawings, I have illustrated a coin actuated mechanism especially designed for use in connection with my improved cigar vender. This coin actuated mechanism forms no part of the subject matter of this invention and it is fully illustrated and described in my companion application filed February 8, 1909, Serial Number 476,687. In view of the fact, therefore, that this coin actuated mechanism is fully disclosed in said application, I will in the present application describe only so much of it as is necessary for the understanding of the cigar vender and the connection between the cigar vender and said coin-controlled mechanism.

The reference numeral 10 indicates the box in which the coin controlled mechanism and cigar vender is contained, said box having one or more removable sides to provide

access to its interior. Arranged within the box is a stationary frame 11. Fixed to this frame is the stationary body portion 12 of the coin controlled mechanism. Pivoted
 5 near the bottom of the frame are two arms 13 extended to a point near the top of the frame and connected by the cross piece 14. These arms, when moved rearwardly, will act upon a proper coin in the coin-actuated
 10 mechanism in such a manner as to elevate the rear end of an arm 14^a which forms part of the coin actuated mechanism. This arm 14^a in turn controls the movements of the cigar vender as will hereinafter appear.
 15 The arms 13 are manually moved by means of a crank 15 on the exterior of the machine and fixed to a shaft 16, which shaft has a crank arm 17 on its inner end pivotally connected by a link 18 with one of the arms 13.
 20 By this means it is obvious that the said arms 13 may be moved forwardly and rearwardly by a manipulation of the crank 15, and the movement of the arms 13 is not in any way controlled by the coin actuated
 25 mechanism. However, the arm 14^a will not move in unison with the arms 13 unless a proper coin is first placed in the coin controlled mechanism.

For the purposes of this application, the
 30 foregoing is all that need be considered in connection with the coin controlled mechanism.

Arranged within the frame 10 is a platform 19 designed to receive a cigar box 20.
 35 The box is preferably provided with a hinged top 21 to which is hinged a part of the rear of the box 22. Prior to the insertion of the box in the frame 10, the cover of the box is thrown over forwardly and
 40 the part 22 then hangs down in front of the box, as clearly shown in Fig. 3, thus leaving the top and the upper portion of the rear of the box open.

My improved cigar vender is adapted for
 45 use only in connection with cigars placed in the pockets of a continuous cigar container, indicated by the numeral 23. Containers of this class are well known and are now in common use.

50 In order to hold the upper end of the container and to move it toward the cigar delivering fingers, I have fixed to each of the arms 13 a bracket 24. These brackets extend toward the rear of the device and
 55 have pivoted thereto, the cross-piece 25, which cross-piece has a series of rearwardly projecting fingers 26 thereon, with spaces between them, and said fingers have their under surfaces curved to fit against the top
 60 of a cigar. A spring 27 is attached to a projection on one of the arms 13 to normally hold their rear ends downwardly. Below the pivoted cross-piece 25 is a stationary cross-piece 28, fixed to the brackets 24 and
 65 spaced apart below the cross-piece 25 far

enough to admit a cigar between said cross-pieces. Fixed to the cross-piece 28 is a series of rearwardly projecting fingers 29 with spaces between them. By this arrangement of parts, it is obvious that when the end
 70 cigar in the container is placed between the fingers 26 and 29, it will be yieldingly held therein and the end portion of the container will move rearwardly and forwardly with said fingers and with the arms 13. If, however, the end cigar is held against forward
 75 movement, then the fingers 26 will slide over the cigar with which they are engaged and move to position in engagement with the next cigar in the container. In order
 80 to permit the flexible cigar container to slide freely over the part 28, I have provided a roller 28^a.

To provide for automatically holding the end cigar of the series against forward
 85 movement after a proper coin has been inserted in the coin-actuated mechanism, I have provided the following devices: In this connection, it is to be remembered that the rear end of the arm 14^a will be elevated
 90 upon a rearward movement of the arms 13 when a proper coin is in the coin-actuated mechanism. Pivoted to the rear end of the arm 14^a is an upright rod 30. This rod has a block 30^a adjustably fixed to it. Fixed
 95 to the main frame is a stationary arm 31 and pivoted to this arm 31 is a lever 32. This lever has an opening in it through which the rod 30 may freely slide, and when said block 30^a strikes upon the lever 32 it
 100 will elevate it. Pivotally and slidably connected with the lever 32 is a bell-crank lever 33 which is also pivoted to the main frame. By this arrangement it is obvious that when the rod 30 is elevated, the bell-
 105 crank lever 33 will be extended inwardly and will then stand in the path of a lug hereinafter described which will prevent a return movement of the flexible cigar container. The said bell-crank lever 33 is
 110 firmly held in position adjacent to the frame member 11 by the bracket 34. Pivoted to the top of the main frame is a cross-piece 37 having attached to it the downwardly projected cigar delivering fingers 38, said
 115 fingers being designed to enter between the fingers 26. At one end of the pivoted cross piece 37 is a crank arm 39 having a spring 40 attached to it to normally hold the cross piece in position with the fingers 39 extended
 120 straight downwardly. Fixed to the cross piece 37 is a lug 37^a normally extended downwardly and so arranged that it cannot move forwardly when the bell-crank lever 33 is tilted inwardly, hence, the fingers 38
 125 will be locked against forward movement when the rod 30 is elevated. Arranged below the cross-piece 37 is a stationary cross-piece 41 having stationary cigar delivering fingers 42 at its upper edge. Said fingers
 130

42 are so arranged as to permit the fingers 29 to enter between them and the parts 38 and 42 have their adjacent ends spaced apart somewhat less than the diameter of a cigar. The bell-crank lever 33 is so arranged, as clearly shown in Fig. 9, that when in one position it will prevent the forward movement of the fingers 38. In practical use with this portion of the device, it is obvious that when the carrying fingers 26 and 29, with a cigar between them, move to their rearward limit, they will pass between the fingers 38 and 42 and the cigar will engage the fingers 38 and force them rearwardly and upwardly until the cigar passes beyond them, whereupon they will spring back to position in front of the cigar. Then when the fingers 26 and 29 move forwardly, the cigar will strike upon the fingers 38 and carry them forwardly against the pressure of the spring until the cigar again passes to position in front of the fingers 38, and this motion would be continued indefinitely unless the fingers 38 were held against forward movement, and said fingers are thus held only when the coin actuated mechanism is so operated as to raise the rod 31, and thus move the bell-crank lever 33 to its inner limit, whereupon, when the cigar is moved forwardly, the fingers 38 will be held stationary so that the cigar is held between said fingers 38 and the fingers 42, whereupon, when the fingers 26 and 29 move forwardly, they will spread apart and move to position in engagement with the next cigar in the container.

The means for cutting off the container at the proper period in the operation of the machine is as follows: In order to properly cut a flexible cigar container in connection with a machine of this kind, it is necessary that there be a cutting blade below the container and one above the container, and that both of these blades move toward the container at the period in the operation of the machine in which the jaws 26 and 29 are at their forward limit, otherwise it would be probable that the flexible cigar container would be torn rather than cut.

Fixed to the stationary frame 11 is a guide 43 and in this guide I have slidably mounted two upright bars 44 having slots 45 therein and having at their upper ends a cutting blade 46, the lower edge of which is sharpened. This cutting blade normally stands above the path of the flexible cigar container and it may be moved downwardly to position below the path of the flexible cigar container. These bars 44 are connected with the frame 11 by means of screws 47 passed through the slots 45 and seated in the frame 11, said screws together with the guide 43 being sufficient to slidably support the bars 44 of the cutting blade 46. Arranged below the cutting blade 46 is a co-

acting cutting blade 48, the upper edge of which is sharpened and it is also inclined from one end to the other so that when the blades 46 and 48 come together one end of said blades will first engage the cigar container to thereby facilitate the cutting. This blade 48 is slidably supported by means of set-screws 49 passed through the slots 45 and seated in said blade. This blade 48 normally stands below the path of travel of the cigar container and is moved upwardly when the device is operated.

I have provided for operating said knife blades at the proper period in the operation of the machine as follows: It is to be understood that the shaft 16 is locked against a rotary movement at all times except when it is released by the coin actuated mechanism. Therefore, when said shaft 16 is free to rotate, it is the proper time to permit the knife blades to cut off the cigar container. Fixed to the shaft 16 is an arm 50. Pivoted to the stationary part of the frame is a bell-crank lever 51 having a roller 52 on its shorter end designed to be engaged by the arm 50. The long end of said bell-crank lever extends downwardly and has attached to it a link 53. Mounted in the frame 11 is a shaft 54, which shaft has a lever 55 fixed to each end. On one end of this shaft 54 is a crank arm 56 pivoted to the link 53. Therefore when the bell-crank lever 51 is operated, the shaft 54 will be rocked. On one end of each of the levers 55, I have pivoted a link 57 extended upwardly and attached to a cross bar 58, which cross bar is fixed to the supporting bars 44. Hence, when the lever 55 is moved in one direction, the bars 44 and the cutting blade 46 will be elevated and when moved in the other direction, they will be lowered. On the other end of each of the levers 55 is a link 59 and said links 59 are pivoted at their upper ends to the blade 48. A contractible coil spring is provided and attached to one of the levers 55, which spring is indicated by the numeral 60 and is for the purpose of rapidly forcing the blades toward each other when the movement is permitted. The knife blades normally stand in position in engagement with or adjacent to each other and are held in this position by the spring 60. When the shaft 16 is operated, the movement of the bell-crank lever 51 causes the knife blades to be separated to thereby permit the flexible cigar container to pass through between the blades and the cutting is done by means of the spring 60 which acts on both of the knife blades to move them toward each other rapidly.

In order to hold the blades in their separated positions until the proper period in the operation of the machine, I have provided the following mechanism: Fixed to the tilting lever 13 is an arm 61 and pivoted

to the frame 11 is a trip lever 62 having the arm 61 pivoted to its lower end. The upper end of the trip lever 62 is arranged in position where it will project under the lower end of the adjacent slide-bar 44 when the knife blades are at their limit of movement away from each other. This position of the lever 62 is shown in Fig. 8. The upper end of the lever 62 is provided with a slot 63 through which a screw 64 is passed and which is seated in the frame 11. In this way the movement of the lever 62 is limited. A spring 65 is provided for normally holding the lever 62 to the position shown in Fig. 8 where it will prevent a downward movement of the bars 44.

The operation of the cutting mechanism is as follows: The normal position of the knife blades is that shown in Fig. 3. When the shaft 16 is operated, which movement is necessary before the cigar delivering mechanism can operate, the first effect is to move the bell-crank lever 51. This has the effect of moving both of the knife blades to their limits of movement away from each other, and when this is done, the spring 65 throws the trip lever 62 to position for locking the bars 44 at their upper limit of movement. Then, when the tilting lever 13 is moved to the proper position and the flexible cigar container has been projected through between the knives, the arm 61 will be moved to position to withdraw the trip lever 62 far enough to permit the spring 60 to forcibly draw the bars 44 downwardly and to force the lower cutting blade upwardly.

In practical operation, cigars are first placed in a continuous cigar container of the kind described, and then placed in a box of the kind set forth. Then the top and part of the rear of the cigar box are moved to their open position, as shown in the drawings, and the cigar box is inserted in the machine. The operator grasps the end cigar of the container and places it between the fingers 26 and 29, as shown in Fig. 3, after which the operation of the machine so far as advancing and delivering the cigars is concerned is entirely automatic. Each time that the crank 16 is turned a complete revolution, the jaws 26 and 29 will move rearwardly between the jaws 38 and 42. Then, if said jaws 38 and 42 retain the end cigar, the jaws 26 and 29 will release from the end cigar and the container will slide through until the said jaws 26 and 29 engage the next cigar. This operation of moving the end cigar rearwardly between the cutting blades is accomplished each time that the shaft 16 is rotated. However, unless a proper coin is placed in the coin actuating mechanism, the fingers 38 and 42 will not grasp and retain the end cigar, and hence, no cutting or delivering of cigars will be accomplished. The mechanism by which the

above results are accomplished has been herein specifically described in detail and it is obviously of simple, durable and inexpensive construction.

I claim as my invention.

1. In a device of the class described, the combination of two sets of fingers mounted in a stationary support, one of them being yieldingly held toward the other, and two sets of fingers mounted in a manually movable support, one of them being yieldingly held toward the other and being designed to grasp a cigar between them, and a latch device for preventing movement of the yielding fingers on the stationary support, said fingers on the movable support being arranged to carry a cigar through and beyond the fingers on the stationary support and then to withdraw from between the fingers on the stationary support and carry the cigar with them except when the latch device is in position for preventing movement of the fingers on the stationary support.

2. In a device of the class described, the combination of a tilting frame, a stationary frame, cigar gripping fingers carried by the tilting frame, cigar gripping fingers carried by the stationary frame, the fingers on the tilting frame being capable of movement through and beyond the fingers on the stationary frame and of returning to position away from the fingers on the stationary frame, and means for causing the fingers on the stationary frame to grasp and retain a cigar, said means comprising an arm capable of being moved by the coin actuated mechanism, a rod pivoted thereto, a block carried by the rod, a lever pivotally supported and having said rod extended through it and designed to be engaged by said block, a bell-crank lever pivoted to the stationary frame and having a limited sliding connection with said lever, one of the sets of gripping fingers on the stationary frame being capable of tilting movements, and an arm connected with said tilting fingers so arranged that when the bell-crank lever is moved to one position it will be engaged by said arm on the tilting fingers of the stationary frame to thereby hold said fingers in position for gripping a cigar.

3. In a device of the class described, the combination of a tilting frame, a stationary frame, cigar gripping fingers carried by the tilting frame, cigar gripping fingers carried by the stationary frame, the fingers on the tilting frame being capable of movement through and beyond the fingers on the stationary frame and of returning to position away from the fingers on the stationary frame, and means for causing the fingers on the stationary frame to grasp and retain a cigar, said means comprising an arm capable of being moved by the coin actuated mechanism.

ism, a rod pivoted thereto, a block carried by the rod, a lever pivotally supported and having said rod extended through it and designed to be engaged by said block, a bell-crank lever pivoted to the stationary frame and having a limited sliding connection with said lever, one of the sets of gripping fingers on the stationary frame being capable of tilting movements, and an arm connected with said tilting fingers so arranged that when the bell-crank lever is moved to one position it will be engaged by said arm on the tilting fingers of the stationary frame to thereby hold said fingers in position for gripping a cigar, said block on the rod being adjustably supported, and said arm connected with the tilting fingers on the stationary frame being adjustable relative to said tilting fingers.

4. In a device of the class described, the combination of a stationary frame, a tilting frame, a shaft capable of manual rotation gripping fingers carried by the tilting frame, a slidingly supported knife blade above the gripping fingers, a slidingly supported knife blade below the gripping fingers, means actuated by the said shaft for moving the knife blades away from each other, spring actuated means for moving them toward each other, a pivoted trip lever arranged to prevent downward movement of the upper knife blade, and a rod connecting said pivoted trip lever with the tilting frame to remove the trip lever from the path of the upper knife blade when the tilting frame has reached a certain point in its movement.

5. In a device of the class described, the combination of a stationary frame, a tilting frame, a shaft capable of manual rotation,

gripping fingers carried by the tilting frame, a slidingly supported knife blade above the gripping fingers, a slidingly supported knife blade below the gripping fingers, means for operating said knife blades comprising an arm fixed to the said shaft, a bell-crank lever pivoted to a stationary support, a roller carried by the bell-crank lever to be engaged by said arm, a link pivoted to the other end of the bell-crank lever, a shaft mounted in the stationary frame, a lever fixed to each end of the shaft, an arm fixed to one end of the shaft and connected to said link, means for connecting one end of both levers with the upper knife blade, means for connecting the other end of both levers with the lower knife blade, a spring for normally holding the said levers in position with the knife blades adjacent to each other, and a trip device for holding the knife blades at their limit of movement away from each other, and means for releasing said trip device actuated by the tilting frame.

6. In a device of the class described, the combination of a tilting frame, brackets fixed to the opposite sides of said tilting frame, a pivoted cross-piece in said brackets, cigar gripping fingers fixed to said cross-piece, a spring connected with the said cigar gripping fingers, stationary cigar gripping fingers below the pivoted ones, and a roller above the stationary cigar gripping fingers.

Des Moines, Iowa, Dec. 18, 1908.

HERMAN R. STOUTER.

Witnesses:

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