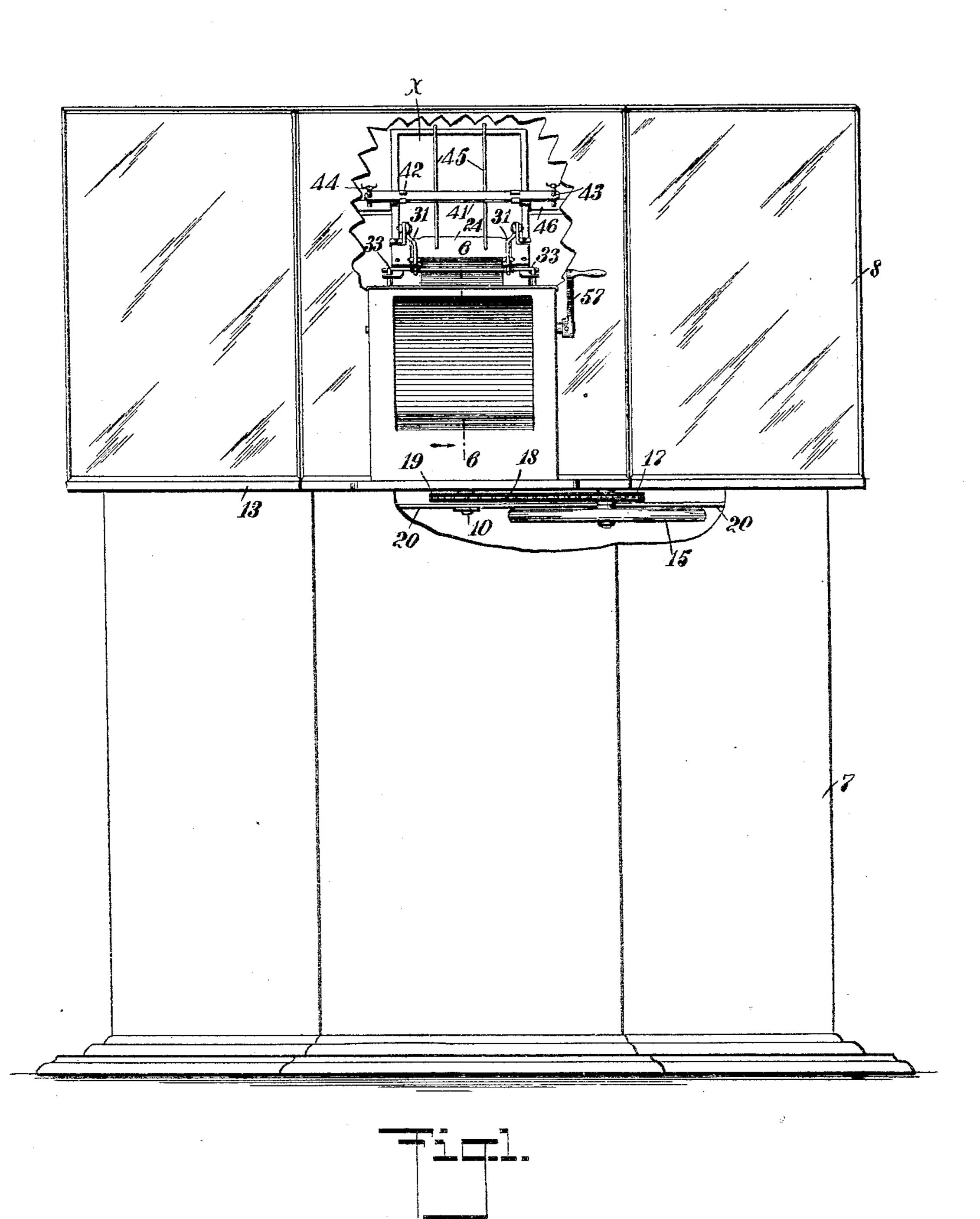
CIGAR VENDING MACHINE.

APPLICATION FILED JUNE 21, 1909.

962,825.

Patented June 28, 1910.

5 SHEETS—SHEET 1.



Ben. Loffe
Commenced

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ATTORNEYS

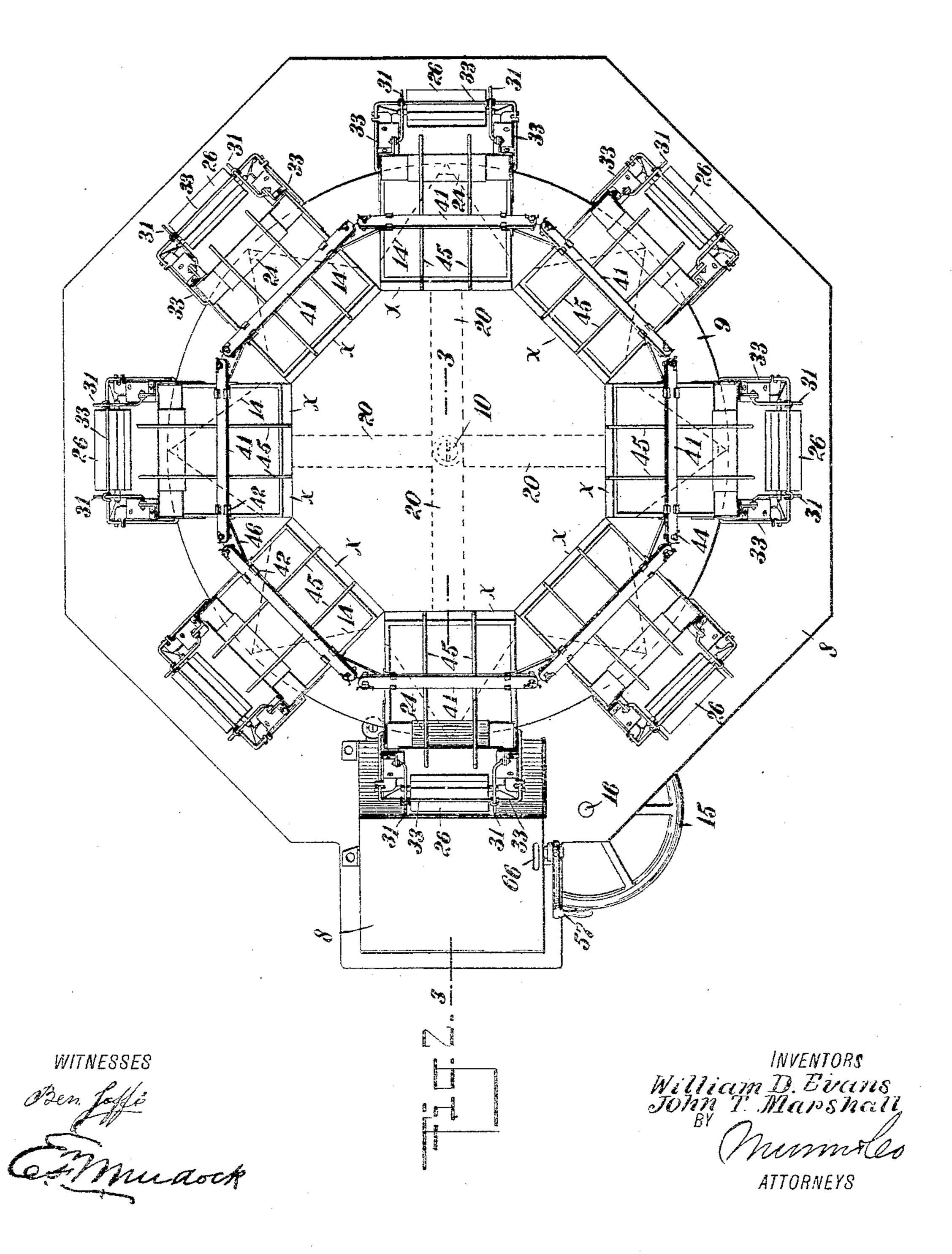
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5 SHEETS-SHEET 2.

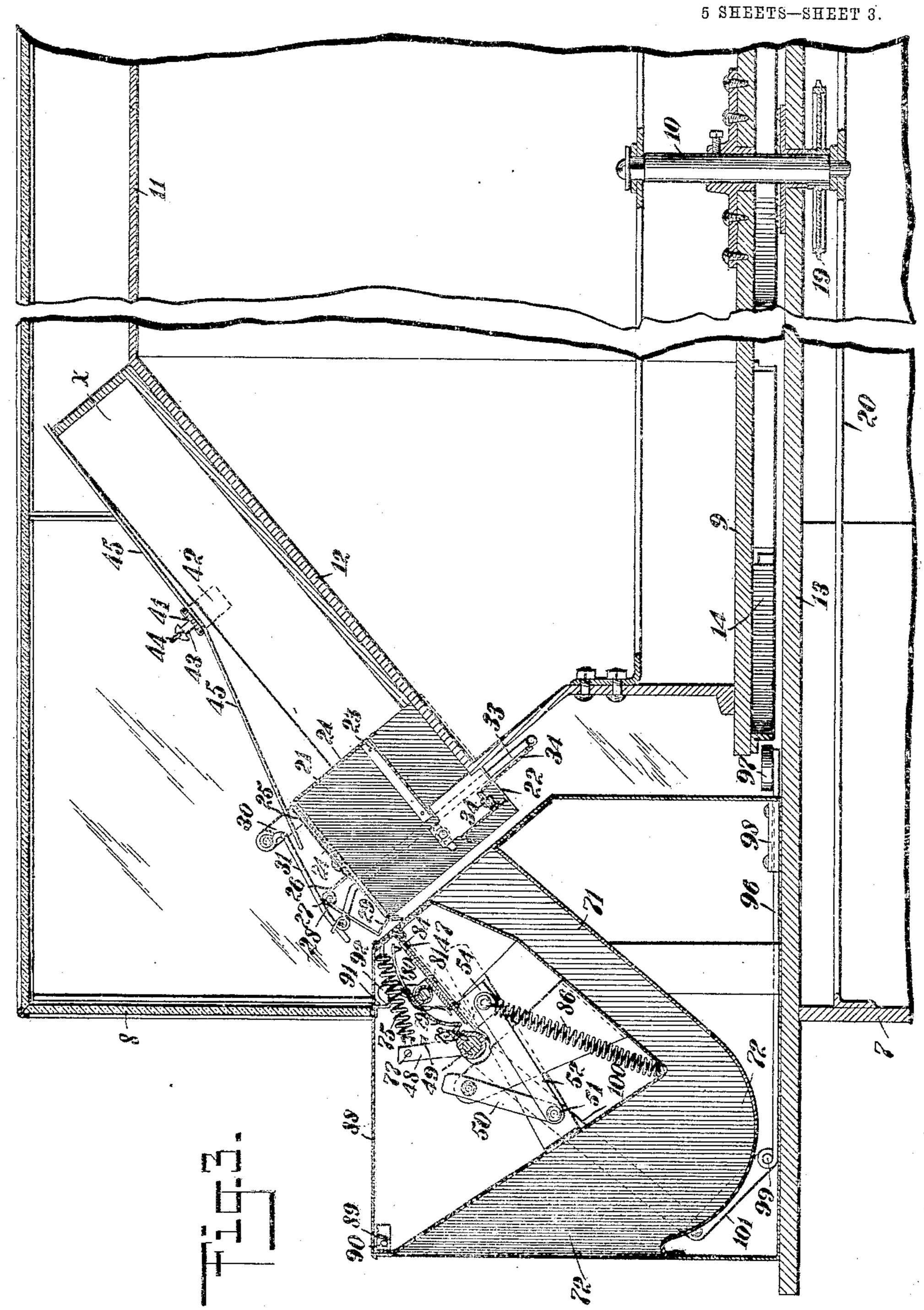


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WITNESSES

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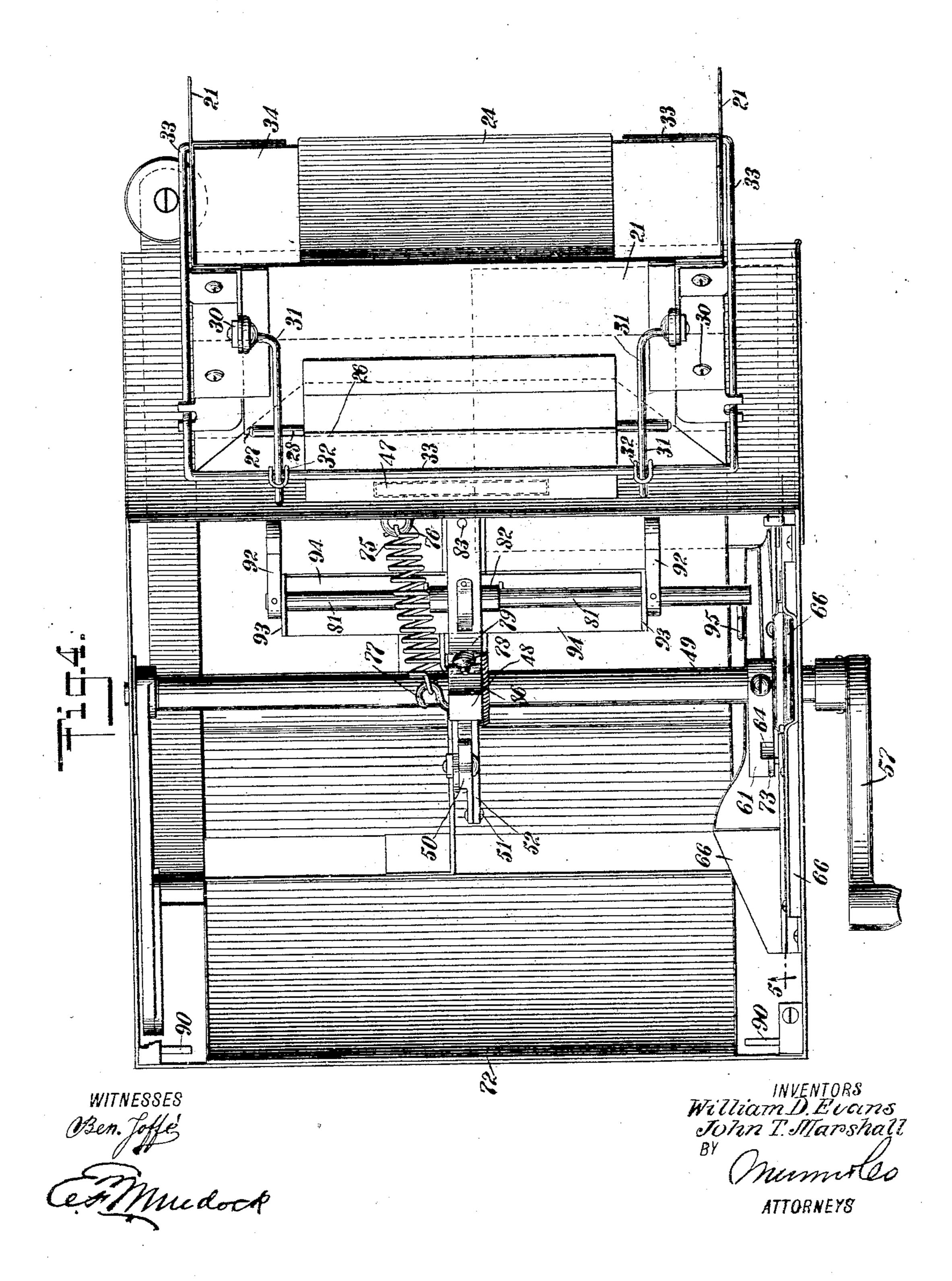
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5 SHEETS-SHEET 4.

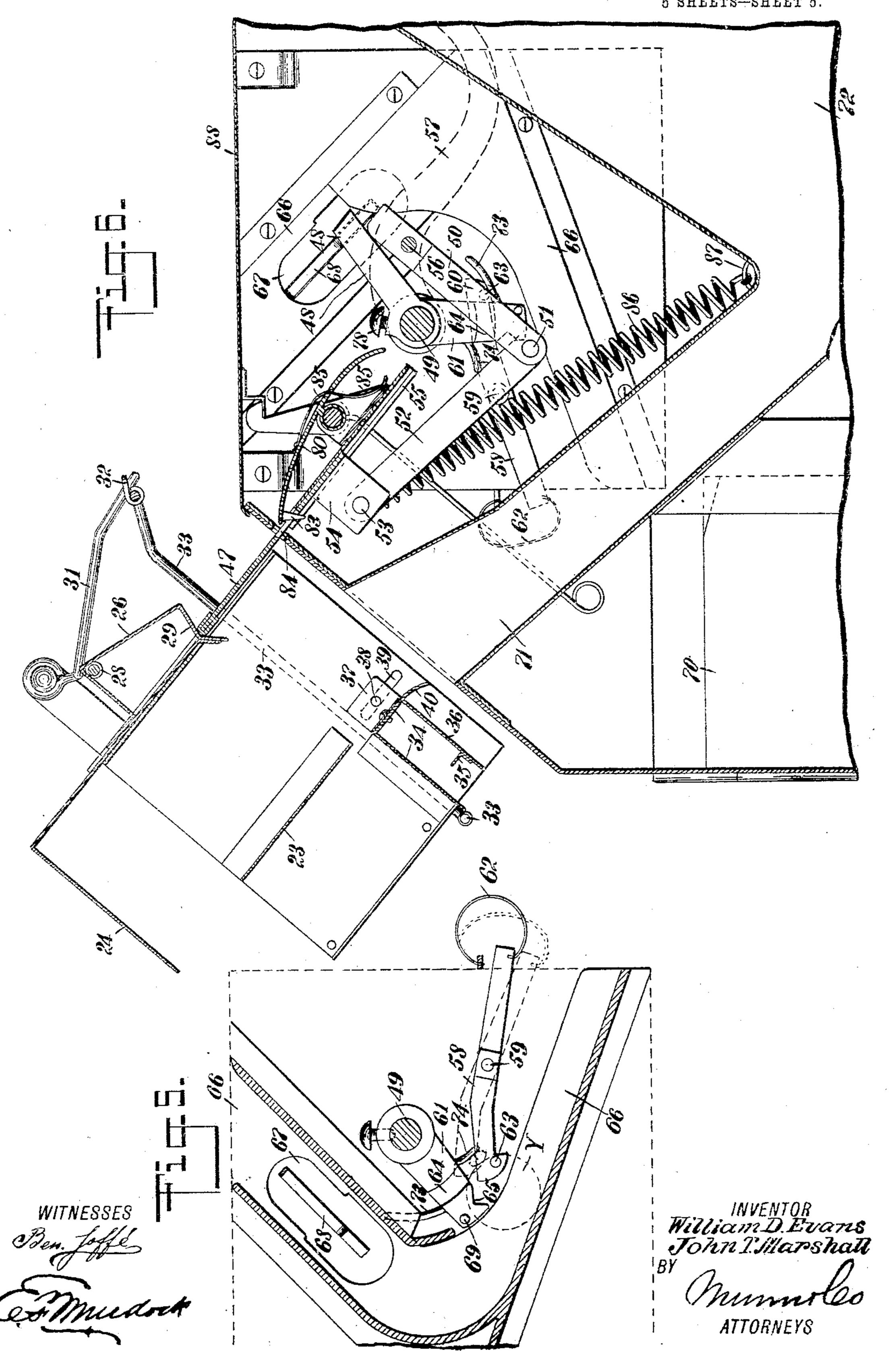


CIGAR VENDING MACHINE.

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5 SHEETS-SHEET 5.



UNITED STATES PATENT OFFICE.

WILLIAM D. EVANS AND JOHN T. MARSHALL, OF EUPORA, MISSISSIPPI.

CIGAR-VENDING MACHINE.

962,825.

Specification of Letters Patent. Patented June 28, 1910.

Application filed June 21, 1909. Serial No. 503,295.

To all whom it may concern:

Be it known that we, William D. Evans and John T. Marshall, citizens of the United States, and residents of Eupora, in the county of Webster and State of Mississippi, have invented a new and Improved Cigar-Vending Machine, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view is to provide a machine wherein a single vending mechanism will be used to operate upon a plurality of tills or cigar containing boxes; to provide a suitable mechanism for selecting one of a number of brands or kinds of cigars and to have the same delivered by the vending machine; to prevent tampering with the vending mechanism and to simplify the construction of the same.

One embodiment of the present invention is disclosed in the construction illustrated in the accompanying drawings, in which similar characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a front elevation of a vending machine constructed in accordance with the present invention, the front panel being broken away to show the containing box 30 and delivering mechanism attached; Fig. 2 is a plan view of the machine as shown in Fig. 1 of the drawings; Fig. 3 is a vertical section enlarged, and taken on the line 3—3 in Fig. 2, the lower portion of the pedestal 35 case being eliminated; Fig. 4 is a plan view of the vending and delivering mechanisms; Fig. 5 is a detailed view in vertical section of the nickel slot and nickel operated latches; and Fig. 6 is a vertical section of the vending 40 mechanism taken on the line 6—6 in Fig. 1, the forward or front fragment of the casing for the nickel vending mechanism being removed.

A vending machine constructed in accordance with the present invention is mounted upon an octagon pedestal 7. This pedestal may be utilized to form gutters for containing the supply of the materials being vended.

The invention is peculiarly designed for the vending of cigars, yet it will be recognized that it may be used for vending other articles, particularly cologne when packed in small, round cartons.

The upper or display casing 8 is con- 55 structed as a show case having glass panel sides and dome or flat top, according to the desire of the proprietor or owner.

Within the show case 8 is mounted a turn table 9 on a central shaft 10. Supported 60 upon the turn table 9 is a table 11 having a plurality of inclined sides 12. These sides 12 are provided to receive, as in the present instance, a cigar box, and upon which is mounted a mechanism herein termed a deliv- 65 ering mechanism to be hereafter fully dedecribed. The table 9 is suspended away from the bottom 13 of the casing 8. Depended from the under side of the table 9 are a series of angles forming a star-shaped 70 track 14. These angles are made from angle iron, as shown in Fig. 3 of the drawings, and are shaped in plan as shown in dotted lines in Fig. 2 of the drawings. It is by means of these angles constituting the star- 75 shaped track that the delivering mechanism on each of the tables 12 is caused to accurately register with the vending mechanism at the moment of delivery thereto. The table 9 is arranged to be shifted manually 80 and at will by the purchaser. For this purpose there is provided a hand wheel 15 pivotally mounted as at 16 to a shaft set in the under side of the casing 8. The shaft 16 has fixedly mounted thereon a sprocket 85 wheel which is connected by means of a sprocket chain 18 with a similar sprocket wheel 19 fixedly mounted on the shaft 10. The shaft 10 is supported by the metal strips or brackets 20—20. When now in the 90 course of the operation the purchaser desires to shift the table 9 so as to present any particular choice of brand of cigars contained in the boxes on the table 12, he turns the hand wheel 15 to rotate the table 9 until 95 the box containing his chosen brand is presented in proper juxtaposition to the vending machine. After having purchased and having had delivered his cigar, the machine is left in the position selected by him. A 100 succeeding purchaser performs the same operation, rotating the table to bring the box containing his choice of cigars in position in front of the vending mechanism.

As above stated, there is provided at the 105 lower edge of each of the sides 12 a delivering mechanism. This is mounted on side plates 21, which are secured by flanges 22

which are extended under the board forming the sides 12 and fixedly secured thereon. Between the plates 21 is extended a shelf 23 which forms a stop for a pusher plate 24. 5 The pusher plate 24 extends upward and across the top of the plates 21, sliding across the top and connecting the two plates 21 under the guides 25. Up set from the plate 24 where it passes across the top 25 there is 10 extended a housing 26 carrying a shaft 27, on the ends of which are mounted rollers 28. The front of this housing forms a wall 29 inwardly shaped and forming a groove or gutter to guidedly receive a thrust bar ex-15 tended from the vending mechanism when the same is operated.

Hingedly mounted in standards 30—30 are levers 31-31, which extend forward and pass under loops 32—32 fixedly attached to 20 a yoke 33. The yoke 33 is fixedly attached at the lower end to an elevator 34, which is shaped as shown at Fig. 6 of the drawings, and is adapted to normally rest at the position approximately level with the top of the 25 sides 12. In this position it is held by a small shelf 35 extended across a fender 36.

In the operation of the machine, when the elevator $3\overline{4}$ is in its depressed position the one of the cigars or articles being vended 30 rests upon the top of the elevator and against the inner wall of the fender 36. The articles being vended are delivered singly or in a row of a single thickness by the push plate 24. The articles are prevented from 35 crowding so as to rise one on top of the other by the shelf 23. By means of this construction there is secured the accurate delivery of one article only on the elevator 34 at any one time.

The fender 36 is provided with side plates 37, in which a screw 38 is threaded. In the side plates 21 are provided slots 39 through which the screw 38 is extended. The screw 38 is provided with a suitable washer to 45 straddle the slot 39 in such manner that when the screw is set up the washer is pressed against the side plates to fix the fender in position. By this means the fender may be moved inwardly and outwardly, ⁵⁰ thereby increasing the capacity of the elevator 34 to deliver larger or smaller articles. The upper wall 40 of the fender 36 is sharply inclined and adapted to deliver the article when received from the top of the ⁵⁵ elevator 34 into the delivery chute of the

vending mechanism. The boxes X are held firmly on the inclined sides 12 by means of cross rods 41 from which are depressed ears 42 which are slidably mounted upon the cross rods 41. At each end of the cross rods 41 is pivoted a long coarsely pitched screw 43 having wings 44 formed in the head thereof. Suitable sockets are provided in the table 11 to receive this screw.

It is to maintain articles carried in the carton in position that the rods 41 are provided with wires 45—45. These wires 45—45 are adapted to overlie the articles contained in the boxes X to prevent them from becoming disarranged due to the inclined position 70 to which the carton is placed on the sides 12. To locate the carton accurately there are provided spacing bars 46—46 extended between the ears 42—42.

The boxes X are placed in position upon 75 the sides 12—12, having one end of the box drawn away to permit the cigars or other articles being vended to roll from the end of the said boxes within the space covered by 80 the shelf 23 and between the plates 21—21. For this purpose the top of the case, or in some instances any one of the side panels, is removable. This movable top or side is provided with a suitable lock so that when the machine is supplied with properly filled 85 boxes secured in position the case may be secured against pilfering.

In the top 11 there may be provided and carried any suitable humidor whereby the 90 cigars in the case may be maintained moist.

The purpose of the present invention is to provide a vending machine automatically operated by the introduction of a coin Y of a certain type and value; therefore the cigars 95 carried in the case 8 are all of the same value. It will be understood that this is the limitation of the present vending mechanism, but the delivering mechanism and the arrangement of the selecting table may be 100 operated by a vending mechanism wherein coins of different value may be used, or a selected series of coins may be used for the purpose of manipulating the delivering mechanism.

As stated, the delivering mechanism as above described is mounted upon the lower end of each of the sides 12—12. The number of sides 12—12 may be as that shown in the drawings, which is eight.

The table 9 is manipulated so as to introduce each of the sides and the delivering mechanisms thereon in front of and in juxtaposition to a single vending mechanism. Each of the delivering mechanisms is oper- 115 ated by a thrust plate 47 with which the vending mechanism is provided. The thrust plate 47 is adapted to strike within a groove of the wall 29 formed in the front of the housing 26 and to force the same in the posi- 120 tion shown in Fig. 6 of the drawings.

The operation of the parts connected with the housing 26 when thrust backward by the plate 47 is as follows: The rollers 28 are resting under the inclined levers 31—31. 125 The lower extension of the said levers is below the rise of the rollers 28, producing the effect that when the rollers 28 are forced backward, as shown in Fig. 6 of the drawings, the forward end of the levers 31-31 130

110

are lifted. The levers 31 being connected with the yoke 33 lifts the same, and with it the elevator 34. The elevator 34, as described, is carrying a single one of the arti-5 cles being vended. At the full upward movement of the yoke 33 the elevator 34 is carried slightly above the apron 40, which conveys the said article to a delivery chute provided in the vending mechanism. With the retrac-10 tion of the housing 26 there is also retracted the push plate 24 which extends into the carton X and forces upward all but the lower layer of the articles being vended. This action of the plate 24 prevents jamming or 15 crowding of the articles within the carton X at the point of entrance under the shelf 23 between the plates 21—21. The thrust plate 47 is thus operated by the arm 48, which is fixedly mounted upon the 20 main shaft 49. The arm 48 slidably engages the end of a lever 50 which is pivotally connected at 51 to a link 52. The link 52 is pivotally connected at 53 with a hinged block 54 extended from the under 25 side of the plate 47. The plate 47 is guidedly mounted in a grooved runway 55 which maintains the plate in a parallel operative position. When the shaft 49 is rotated to cause the arm 48 to impinge upon 30 the short end of the lever 50, it causes the said lever 50 to rock upon its pivot 56 to extend the long arm connected through the link 52 with the plate 47 upward to advance the said plate 47 to the full limit of its 35 upward stroke, causing thereby the displacement of the levers 31 and the yoke 33 to lift the elevator 34 as above described.

The shaft 49 is extended across the frame of the vending mechanism, and is suitably 40 mounted in heavy bearings in the side walls thereof. It is provided on the outside of the walls of the casing with a suitable crank handle 57. The shaft is locked against rotation by a dog 58 which is pivotally 45 mounted at 59 in the frame of the casing for the vending mechanism. The head 60 of the said dog is adapted to lap and rub against the arm 61 which is fixedly attached to and set out from the shaft 49. 50 The dog 58 is held in its normal position by a light spring 62. Extended from the side of the head 60 is a pin 63. In the side of the arm 61 there is provided a slot 64 (see in dotted lines at Fig. 6 and in full 55 lines at Fig. 5 of the drawings.)

In the outer end of the arm 61 there is formed a notch 65 which is adapted to receive and hold the pin 63 formed in the side of the lever 58. In its normal position the dog 58 is so held as to present the pin 63 in the path of the notch 65. In this position, when the shaft 49 is rotated the notch 65 is engaged by the pin 63 and the shaft is arrested. It is by means of the coin Y that the pin 63 is raised to aline with the groove 64

and the arm 61 and with it the shaft 49 to be rotated.

The coin releasing apparatus, by means of which the pin 63 is raised to engage the slot 64 consists of a coin slot 66, the opening of 70 which is in the top of the casing of the vending mechanism. The slot 66 is formed in tortuous shape as shown at Figs. 5 and 6 of the drawings. In the upper stretch of the said slot there is provided an opening in the 75 vertical side. On the opposite wall is formed the light tension spring 68 so mounted as to press each passing coin toward the opening 67 in the opposite side wall. The opening 67 is of such dimension as to discard 80 any coin not suitable for the operation of this mechanism and admissible within the slot 66. In the lower extension of the slot 66 the pin 65 extends across and in the path of the coin, arresting the same in position. 85 The coin passes in its descent a pin 69 extended from the side of the arm 61. When now the coin Y is deposited within the slot 66 it descends the inclination thereof and is swept by the spring 68 and lightly forced 90 thereby against the wall having the opening 67. Should the coin prove smaller than the opening 67 the spring 68 ejects the coin from the opening 67. If, however, the coin be of the right dimension it passes the opening 67 95 and into the lower extension of the slot 66 until it impinges upon and is arrested by the pin 63. In this position of the coin the handle 57 is moved by the operator rotating the arm 61 until the pin 69 impinges upon 100 the coin to the rear of the same. In this position it forces the coin under the pin 63 on the dog 58, raising the pin 63 until it alines with the slot 64 in the arm 61. The coin is then forced by the continuation of the move- 105 ment of the arm 61 past the pin 63 and the pin 63 is caught within and held by the slot 64. Continuing the rotation of the shaft 49 the coin Y is carried beyond the detention of the said spring 63 and permitted to run 110 forward and be deposited in the money box 70 suitably placed within the casing of the vending mechanism. The shaft 49 is in this position free to be rotated to the limit wherein the plate is extended in its outward po- 115 sition to operate the elevator 34 and deliver the article being vended to the delivery shaft 71 of the vending mechanism. This shaft 71 leads into a tray 72 adapted to receive the hand of the purchaser or operator. In 120 the extreme position of the arm 61 the pin 63 is carried beyond the slot 64, and in this position is supported by a rod 73. A rod 74 is also provided on the opposite side to prevent the pin jumping beyond the entrances 125 of the slot 64 when the handle 7 is given a sudden movement.

The shaft 49 is retained in its normal position by a spiral spring 75 which is attached to the casing at 76 and to the arm 48 at 77, as

shown in Figs. 3 and 4 of the drawings. The tension of this spring is to pull the arm 48 in the direction shown by the arrow in Fig. 3. The rotation in the direction of said arrow on the part of the shaft 49 is arrested by a screw 78 which strikes upon the tail piece 79 of a detent 80. The detent 80 is pivotally mounted on a shaft 81, being provided with a collar 82 for that purpose. The detent 80 is pivoted at the forward end with a pin 83 adapted to seat in a perforation 84. The detent 80 is normally held under tension by a spring 85, therefore when the plate 47 is moved to the position wherein the pin 83 15 alines with the perforation 84 the said pin is inserted in the said perforation to hold the plate 47. This position of the parts is assumed when the plate 47 is thrust forward to advance the housing 26 and thereby op-20 erate the delivering mechanism to deliver the article being vended. It is in this position that the plate 47 is locked by the detent 80 against the pull of the spring 86, which is attached to the hinged block 54 at the pivot 25 53 and is anchored at 87 on the frame. The detent 80 maintains this position, holding the plate 47 against retraction until the screw 78 strikes upon the tail piece of the detent and raises the end carrying the pin 83 30 to lift the said pin out of engagement with the perforation 84 in the plate 47, thereby permitting the spring 86 to retract the said plate. The pin 78 strikes upon the tail piece of the detent 80 on the return of the shaft 49 35 from the position wherein the article being vended is delivered and only when the shaft 49 has assumed a position wherein the arm 61 has been moved to release the pin 63, permitting the spring 62 to lower the head of 40 the dog 58 to interpose the pin 63 in the path of the notch 65 of the arm 61. In this position of the dog 58 it is impossible for the shaft 49 to be rotated to again operate the elevator 34 to deliver one of the articles be-45 ing vended. Thus, the coin operating mechanism, in releasing the vending mechanism, is placed in a locked position prior to the operation of the elevator, and between each operation of the same. A cover 88 of the casing containing the

vending mechanism is detachable from the said casing. It is normally held in position by hooks 89 depended from the under side of the said cover at the forward edge there-55 of, adapted to extend under pins 90—90 set out from the side of the said casing. The pins 90—90 form hinges for the said cover which throw toward the rear, and provided with hooks 91—91 over which the latches 60 92—92 are adapted to throw. The latches 92—92 are fixedly mounted on the shaft 81 which is extended between and supported in bearings in ears 93—93 of a supporting plate 94 mounted in the said casing. The 65 shaft 82 is rotated by a wire 95 the end of

which is thrown to a position under the money box 70 when the said latches are in engaged position with the hooks 91—91.

The construction of the coin releasing mechanism and mechanism for operating the delivering mechanism are conveniently arranged with reference to the cover 88 whereby the removal of same exposes to the operator or inspector all of the operating parts in convenient position to be adjusted, altered or changed. At the same time the cover 88 is secured firmly in position to all parties excepting the one carrying the key to the

money box.

As above described, the table 9 is rotated by the hand wheel 15 and the said table is provided with a star shaped track 14. The reason for providing this construction is to secure the positive registering of the delivering mechanism with the vending mechan-ism. This alinement is secured by advancing the thrust bar 96 to impinge upon the side of the track 14 until the wheel 97 is carried into the inner angle of the said track, or if the same be supported is carried be- 90 tween the two adjacent tracks. The thrust bar 96 is mounted in suitable guide plates 98 contained within the casing of the vending mechanism. At the inner end of the thrust bar 96 it is pivotally connected at 99 to a 95 lever 100 through a link 101. The lever 100 is fixedly mounted upon the shaft 49. When the shaft 49 is rotated to operate the delivering mechanism to deliver one of the articles being vended to the tray 72, the lever 100 100 is thrown forward toward the table 9, carrying the thrust bar 96 with its wheel 97, causing the same to impinge upon the side of the track 14 until it passes between the same or reaches the bottom of the inner angle 105 thereof, causing the table 9 to move to turn the delivering mechanism into exact registration with the vending mechanism.

With a machine constructed as above described the operation of vending is as fol- 110 lows: The purchaser has full view of the articles being vended, together with their brands, names, tags and condition, and having selected that which he desires to purchase, by means of the hand wheel 15 he 115 moves the carton bearing the article desired into position adjacent to the vending mechanism. Having brought the carton selected into position he drops a coin of the desired denomination into the slot 66 provided 120 therefor and turns the handle 57 as directed. Following the sequence of operation herein set forth, the registering mechanism comprising the thrust bar 96 and wheel 97, forces the table 9 into position to cause ex- 125 act registration between the delivering mechanism and the vending mechanism; and also causing the delivering mechanism to operate to deliver the article which is then in position upon the elevator 34, this article 130

appearing in the tray 72 to be extracted therefrom by the purchaser.

Having thus described our invention, what we claim as new and desire to secure

5 by Letters Patent is:—

1. A cigar vending machine comprising an inclined receptacle having a delivery section arranged to spread the articles being vended in a single layer; means for elevat-10 ing the foremost of said articles over the mouth of a delivery chute; a thrust plate adapted to operate the said means; a rotary shaft provided with a crank handle extended beyond the casing of the machine, 15 said shaft being provided with a lever arm adapted to advance said thrust plate; a latch interposed in the path of said lever arm to prevent the same impinging upon the said thrust plate; and a mechanism to re-20 move the said latch from the path of said lever arm.

2. A cigar vending machine comprising an inclined receptacle having a delivery section arranged to spread the articles being 25 vended in a single layer; means for elevating the foremost of said articles over the mouth of a delivery chute; a thrust plate adapted to operate the said means; a rotary shaft provided with a crank handle ex-30 tended beyond the casing of the machine, said shaft being provided with a lever arm adapted to advance said thrust plate; a latch interposed in the path of said lever arm to prevent the same impinging upon the 35 said thrust plate; a mechanism to remove the said latch from the path of said lever arm; and a latch for locking the said thrust plate in operative position until the said shaft has returned to its normal position.

3. A cigar vending machine comprising an inclined receptacle having a delivery section arranged to spread the articles being vended in a single layer; a platform normally located below the foremost of said 45 articles; lifting rods connected with said platform; a reciprocating member adapted to lift the said rods; a rotary shaft provided with a crank handle extended beyond the casing of the machine, said shaft being pro-50 vided with a lever arm adapted to advance the said reciprocating member; a latch interposed in the path of said lever arm to prevent the same impinging upon the said reciprocating member; and a mechanism to 55 remove the said latch from the path of said

reciprocating member.

4. A cigar vending machine comprising an inclined receptacle having a delivery section arranged to spread the articles being vended in a single layer; a platform normally located below the foremost of said articles; lifting rods connected with said platform; a reciprocating member adapted to lift the said rods; a rotary shaft provided 65 with a crank handle extended beyond the

casing of the machine, said shaft being provided with a lever arm adapted to advance the said reciprocating member; a latch interposed in the path of said lever arm to prevent the same impinging upon the said 70 reciprocating member; and a mechanism to remove the said latch from the path of said

reciprocating member.

5. A cigar vending machine comprising a plurality of delivering mechanisms each 75 embodying separating and extracting devices, a rotary conveyer to support said delivering mechanisms and adapted to be rotated at the will of the operator; and a stationary operating mechanism having a 80 thrust member adapted to be extended to move the said separating and extracting devices of said delivering mechanisms.

6. A cigar vending machine comprising a plurality of delivering mechanisms each 85 embodying separating and extracting devices; a rotary conveyer to support said delivering mechanisms and adapted to be rotated at the will of the operator; a stationary operating mechanism having a thrust 90 member adapted to be extended to move the said separating and extracting devices of said delivering mechanisms; and a lock device to hold said thrust member in ex-

tended position.

7. A cigar vending machine comprising a plurality of delivering mechanisms each embodying a separating and extracting device; a rotary conveyer to support said delivering mechanisms and adapted to be rotated at the 100 will of the operator; a stationary operating mechanism having a thrust member adapted to be extended to move the said separating and extracting devices of said delivering mechanisms; and a spring actuated locking 105 device to hold said thrust member in extend-

ed position.

8. A cigar vending machine comprising a plurality of delivering mechanisms each embodying a separating and extracting device; 110 a rotary conveyer to support said delivering mechanisms and adapted to be rotated at the will of the operator; a stationary operating mechanism having a thrust member adapted to be extended to move the said separating 115 and extracting devices of said delivering mechanisms; a spring actuated locking device to hold said thrust member in extended position; and means for releasing the said locking device after the said operating 120 mechanism is returned to position.

9. A cigar vending machine comprising a plurality of delivering mechanisms each embodying a separating and extracting device; a rotary conveyer to support said delivering 125 mechanisms and adapted to be rotated at the will of the operator; a stationary operating mechanism having a thrust member adapted to be extended to move the said separating and extracting devices of said delivering 130

mechanisms; a locking device to hold the said thrust member in extended position; and means for releasing the locking device after the said operating mechanism has been relocked.

10. A cigar vending machine comprising a plurality of delivering mechanisms each embodying a separating and extracting device and adapted to receive the article being

vended in the original packages; a rotary conveyer to support said delivering mechanisms and adapted to be rotated at the will of the operator and having a registering device; and a stationary operating mechanism

having a thrust member adapted to be extended to move the said separating and extracting devices of said delivering mechanisms and adapted to engage said registering device to register said delivering mechanisms

20 with said operating mechanism.

a plurality of delivering mechanisms each embodying a separating and extracting device and adapted to receive the article being vended in the original packages; a rotary conveyer to support said delivering mechanisms and adapted to be rotated at the will of the operator and having a registering device; a stationary operating mechanism having a thrust member adapted to be extended to move the said separating and extracting

devices of said delivering mechanisms and l

to engage said registering device to register said delivering mechanisms with said operating mechanism; and a locking device to 35 hold the said thrust member in extended position.

12. A cigar vending machine comprising a plurality of delivering mechanisms each embodying a separating and extracting de- 40 vice and adapted to receive the articles being vended in their original packages; a rotary conveyer to support said delivering mechanisms adapted to be rotated at the will of the operator and having a registering device; a 45 stationary operating mechanism having a thrust member adapted to be extended to move the said separating and extracting devices of said delivering mechanisms and to engage said registering device to register 50 said delivering mechanisms with said operating mechanism; a spring actuated locking device to hold said thrust member in an extended position; and means for releasing the said locking device after the said operating 55 mechanism has assumed a locked position.

In testimony whereof we have signed our names to the above specification in the pres-

ence of two subscribing witnesses.

WILLIAM D. EVANS. JOHN T. MARSHALL.

Witnesses:

CARL M. WIGGINS, J. W. HAPOLE, Jr.