

No. 749,260.

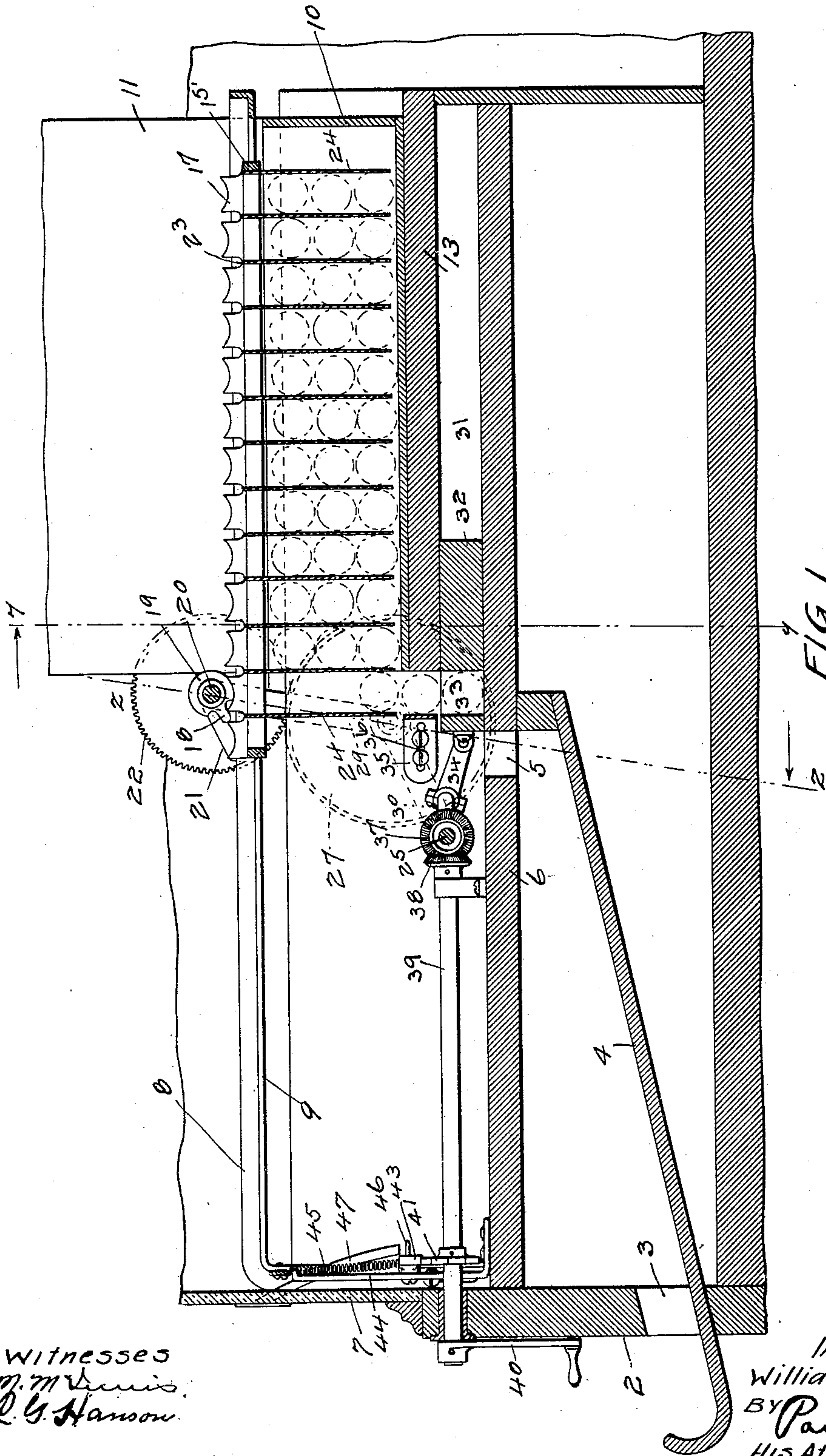
PATENTED JAN. 12, 1904.

W. S. CONNER.
VENDING MACHINE.

APPLICATION FILED JAN. 27, 1903.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses
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4 SHEETS—SHEET 2.

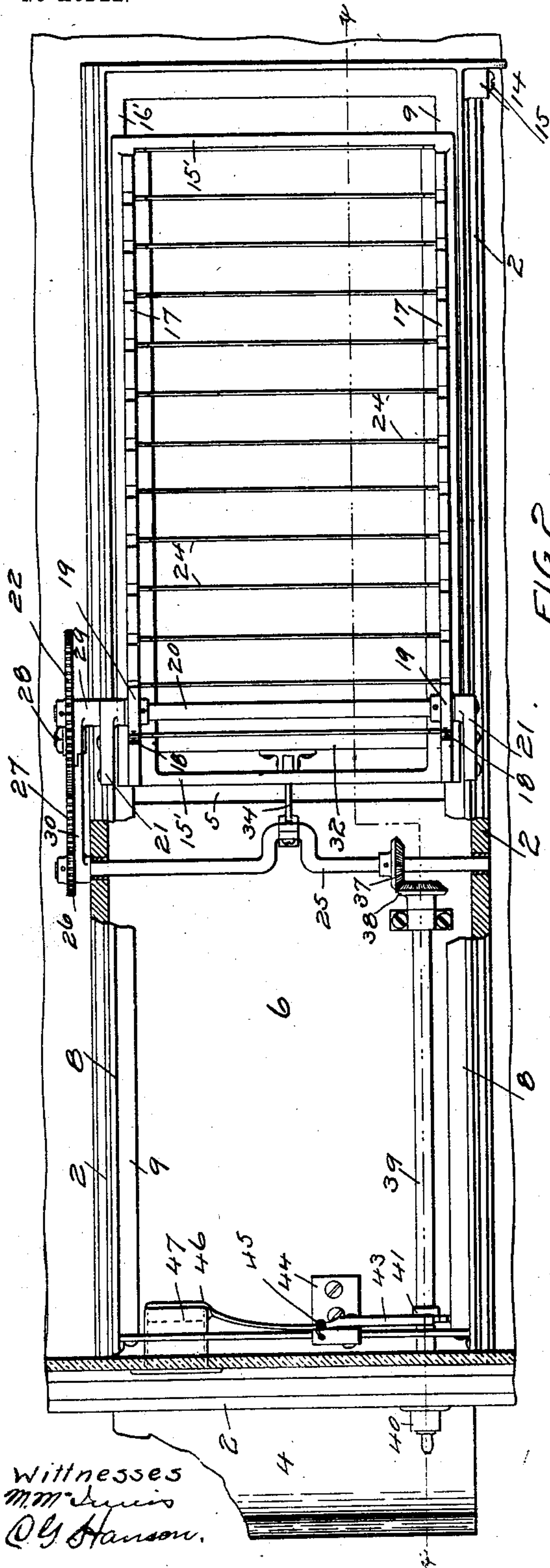


FIG. 2.

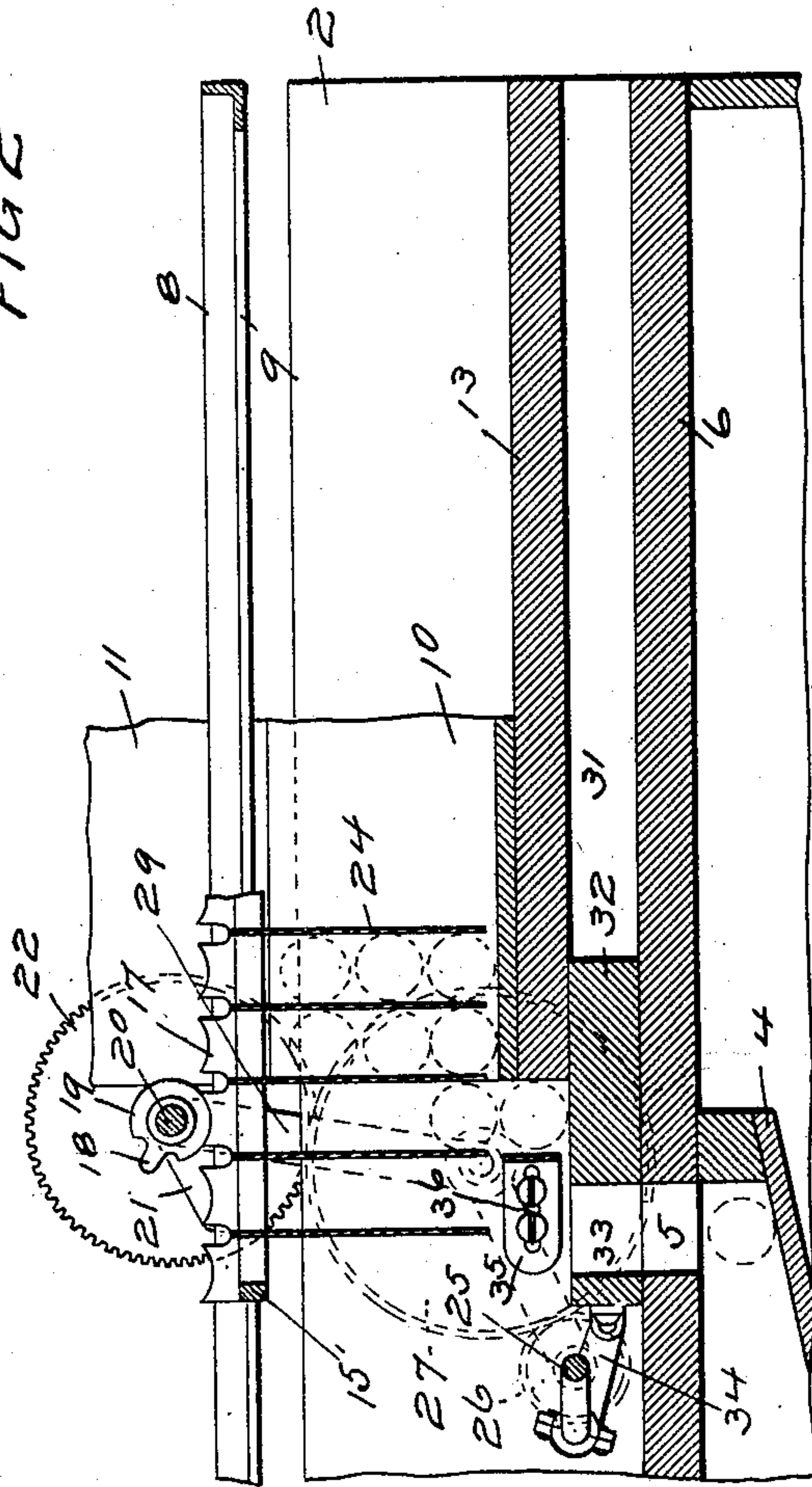


FIG. 5.

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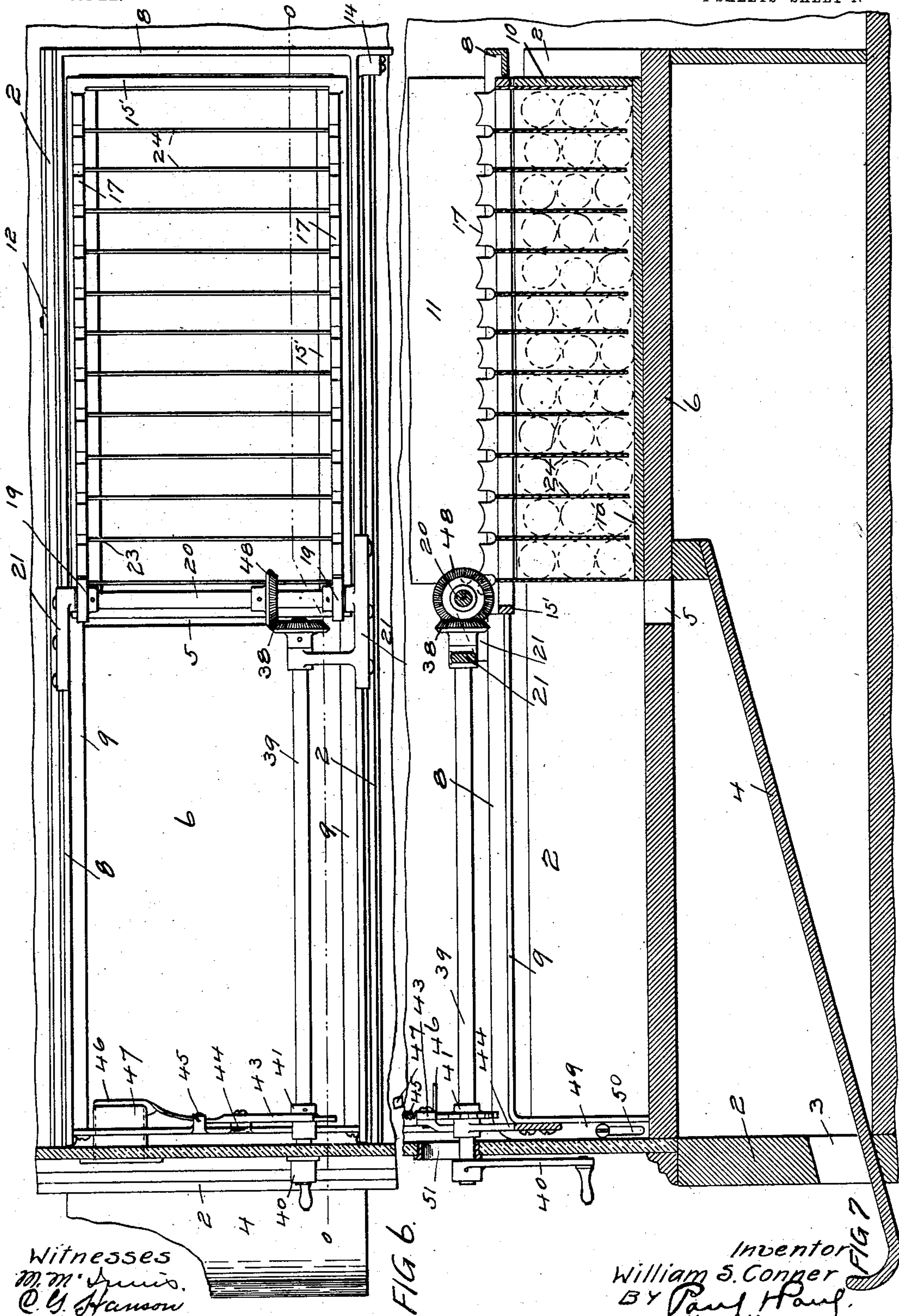
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4 SHEETS—SHEET 4.



UNITED STATES PATENT OFFICE.

WILLIAM S. CONNER, OF MINNEAPOLIS, MINNESOTA.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 749,260, dated January 12, 1904.

Application filed January 27, 1903. Serial No. 140,796. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. CONNER, of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to vending-machines, particularly to those designed for delivering cigars; and the object of the invention is to provide a machine for vending articles, such as cigars, from the box or package in which they were originally packed by the manufacturer.

A further object is to provide a vending-machine which when used for handling cigars will not break or otherwise damage the wrappers.

A still further object is to provide a machine which can be used to deliver one or several cigars or other articles at a time, as desired.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in providing a series of members arranged to pass down between the articles to be sold and divide them into vertical rows and means for moving said members to discharge one row or a part of a row at a time.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal vertical section of a vending-machine embodying my invention substantially on the line $x x$ of Fig. 2. Fig. 2 is a plan view of the same. Fig. 3 is a transverse section on the line $y y$ of Fig. 1. Fig. 4 is a similar view on the line $z z$ of Fig. 1. Fig. 5 is a detail showing the mechanism in the act of delivering cigars from the machine. Fig. 6 is a plan view of a modified construction for delivering cigars simultaneously. Fig. 7 is a longitudinal vertical section on the line $o o$ of Fig. 6.

In the drawings, 2 represents the wall of the base, having an opening 3, through which an inclined plate 4 projects from beneath a slot

5 in a floor or plate 6. The cigar or other articles to be sold dropping from the slot 5 upon the plate 4 roll down through the opening 3, where they can be reached by the purchaser.

7 is a show-case resting upon the wall 2 and inclosing the upper portion of the machine and through which the purchaser can inspect the cigars therein and the brand of the box.

8 is a frame provided within the show-case above the floor 6, having a flange 9, the case being open at one end to allow the cigar-box 10 to be inserted therein. A space is provided, as shown in Fig. 3, between the frame 8 and the side wall 2, in which the cover 11 of the cigar-box is inserted, where the said cover is held in an upright position by a spring 12, so that the brand of the cigars is plainly visible to the purchaser.

13 is a plate on which the cigar-box rests, and to adapt the space between the plate 13 and the frame 9 for boxes of different height I prefer to provide legs 14 on said frame, secured to the walls 2 by screws 15 passing through slots 16. One end of the box is removed when it is placed in the case, and to provide means for delivering the cigars without breaking the wrappers or otherwise damaging them I arrange an intermittently-operated rack-frame 15', having slots 16' to receive the guide-flanges 9, and provided with racks 17 on each side that are engaged by teeth 18, provided on wheels 19, that are secured on a shaft 20. This shaft is mounted in brackets 21 on the frame 8 and is provided with a gear-wheel 22. The frame 15' is provided on each side with vertical slits 23, that are spaced from each other a distance equal to the diameter of an ordinary cigar, and within these slits I arrange removable partition-plates 24, of metal or any other suitable material. These partitions are thrust down into the box between the cigars or other articles to be sold, dividing the contents of the box into vertical rows two, three, or four cigars deep, according to the shape of the box and the number of cigars therein. In the drawings I have shown a box three rows deep; but by varying the distance of the frame 15' from the plate 13 a box of different depth can be inserted into the case and the cigars

delivered therefrom. The partitions will move intermittently with the rack 15' toward the open end of the box, and a sufficient space is provided between said open end and the end of the showcase to allow the delivering-partitions to be moved out of the box a sufficient distance to discharge all the cigars therein.

25 is a crank-shaft mounted in bearings in the walls 2 and provided with a gear-wheel 26, that meshes with an idle gear 27, that is mounted on a pivot-pin 28, which connects the overlapping ends of arms 29 and 30, loosely mounted, respectively, on the shafts 20 and 25. (See Figs. 1 and 4.) When the arms are adjusted for a box of the length shown in Fig. 1, the idle gear will be in substantially the same position as indicated in dotted lines in said figure and the arms will be obliquely arranged with respect to each other. When, however, the frame 8 is raised, the shaft 20 will be elevated also, and the arms 29 and 30 will be moved until they are nearly in line with each other, the idle gear still remaining in mesh with the other gears. This mechanism allows the vertical adjustment of the frame and the gear 22 without throwing the latter out of mesh with the operating-gear. A space 31 is provided between the plate 13 and the floor 6, and within this space a block 32 is slidable, having a slot 33 of sufficient length and width to receive one article at a time as it is discharged from the open end of the box. The crank-shaft 25 is connected with the block 32 by a pitman 34, so that the revolution of said crank-shaft will impart a reciprocating movement to the block 32 within the space 31.

35 represents clips provided with slots 36, secured to the walls of the case and adjustable toward or from the open end of the box and the plate 13, according to the size of the articles to be discharged. These clips are arranged substantially on a level with the bottom of the box wherein the articles are placed, and said box is flush at its inner end with the end of the plate, so that as the articles are moved along the bottom of the box by the partitions they will drop one at a time into the space between the ends of the plate 13 and the box and the clips 35, and one of the articles will fall into the slot 33 in the block 32 and be discharged therefrom through the slot 5 when the block is moved thereover. The slot 33 accommodating only one article, the other articles in the vertical row will remain stationary during the interval between the movement of the rack-frame until the mechanism has been operated a second time. Any suitable means may be provided for moving the delivering-block without affecting the partitions; but I prefer to provide a gear 37 on the shaft 25, meshing with a similar gear 38 on an operating-shaft 39, having a ratio of three revolutions to one of the gear 22. It will follow, therefore, that the tooth 18, having engaged the rack-bar and advanced

the partitions one step, will not again engage said bar until the operating-shaft has made three revolutions, reciprocated the delivery-block a corresponding number of times, and discharged the three cigars or other articles that have been pushed out of the open end of the box by the first partition of the series. The shaft 39 projects through the wall of the casing and is provided with an operating-crank 40. As usual in mechanisms of this kind, the operating-shaft 39 is locked and released by the movement of a coin. Any suitable coin-releasing mechanism may be provided; but I prefer to employ the device shown herein on account of its simplicity and ease of operation. Within the casing the shaft 39 is provided with a ratchet-wheel 41, having one large tooth 42.

43 is a lever pivotally supported on a bar 44 and normally held in engagement with the teeth of the ratchet by a spring 45. The flattened end of said lever is beneath the discharge end of a coin-chute 47. The weight of the coin falling on the part 46 of the lever will lift its opposite end sufficiently to dislodge the coin from the opposite end. The ratchet will then be allowed to make one complete revolution, and when the large tooth again comes in contact with the lever it will be locked thereby, as indicated in Fig. 4.

It is sometimes desirable to provide means for discharging several cigars or other articles from the box simultaneously. I have therefore provided a mechanism, as shown in Figs. 6 and 7, whereby three cigars—where a three-for-a-quarter size is being sold—may be delivered simultaneously to the purchaser by the deposit of the proper coin in the chute. This mechanism consists in dispensing with the plate 13 and the pusher or delivery-block 32 and arranging the cigar-box directly upon the plate 6 with its open discharge end flush with the edge of the slot 5. The idle gear is dispensed with and the operating-shaft is arranged near the top of the casing, and the gear 38 meshes directly with the teeth of the gear 48 on the shaft 20, so that the operation of the crank-handle will cause a corresponding number of revolutions of the shafts 39 and 20, operate the rack-frame with each revolution, and discharge several cigars, in this case three, into the delivery-slot 5 each time said rack-frame and the partitions are moved. The frame supporting the rack is similar to the one shown in the other figures, except that it is provided with shorter legs 49 within the casing, having slots 50 to permit vertical adjustment of the frame, the shaft 39 being also adjustable in a slot 51 in the casing.

I claim as my invention—

1. The combination, with a stationary box or package wherein the articles to be sold are placed, said box having a delivery-opening, of a series of movable partitions or parting members dividing the contents of the box into

vertical rows, and means for moving said members to discharge said rows through said delivery-opening.

2. The combination, with a show-case, of a stationary box or package having a delivery-opening arranged therein, a movable frame, a series of movable partitions or members carried by said frame and arranged to divide the contents of the box into vertical rows, and means for moving said frame to discharge said vertical rows through said delivery-opening.

3. The combination, with a casing wherein a stationary cigar-box having an open end is placed, of a series of movable partitions or members dividing the contents of said box into vertical rows, and means for moving said partitions lengthwise of said box toward said delivery-opening to discharge said vertical rows therethrough.

4. The combination, with a casing wherein a cigar-box having an open end is placed, of a rack-frame adapted to be supported above the open top of said box, a series of vertical partitions carried by said frame and arranged to be inserted between the cigars in the box dividing them in vertical rows, and means for moving said frame lengthwise of said box to advance said vertical rows through said open end.

5. The combination, with a suitable casing adapted to receive a box having an open end and top, of a frame arranged above the open top of said box, means for adjusting said frame vertically to adapt it for boxes of different depth, a series of partitions carried by said frame and dividing the contents of the box into vertical rows, and means for moving said frame and partitions lengthwise of said box to discharge said rows therefrom.

6. The combination, with a casing adapted to receive a cigar-box having the cover raised and provided with an open end, of a rack-frame arranged above said box, a series of movable partitions carried by said frame and arranged to divide the cigars into vertical rows, a gear mechanism engaging said rack-frame, an operating-lever and shaft, a delivery-block having a slot adapted to receive a single cigar, a gear mechanism connecting said operating-shaft and said rack-operating gear and in the ratio of three to one thereto, substantially as described.

7. The combination, with a suitable casing adapted to receive a cigar-box with an open top and end, of a frame arranged above said box, a rack-frame slidably mounted on said frame, a series of movable partitions carried by said rack-frame and arranged to divide the cigars into vertical rows, a sliding delivery-block provided beneath the open end of said box and having a slot to receive a single cigar, guide-clips provided beneath the discharge end of said box, a plate having a discharge-opening beneath said delivery-block to receive

the cigar therefrom when said block is reciprocated, and a mechanism arranged to operate said delivery-block three times to one movement of said rack-frame, substantially as described.

8. The combination, with a casing wherein a cigar-box having an open top and end is arranged, of a rack-frame supported above said box, a series of partitions carried by said rack-frame and dividing the cigars into vertical rows, a delivery-block near the discharge end of said box arranged to receive a single cigar, and a mechanism arranged to operate said rack-frame once to several operations of said delivery-block.

9. The combination, with a suitable casing provided with a plate 6 having a discharge-opening 5 and a plate 13 spaced from said plate 6, of a frame arranged within said casing above said plate 13, a series of partitions carried by said frame and arranged to project into a box resting upon said plate 13 and divide the contents thereof into vertical rows, a mechanism for moving said frame horizontally to advance said vertical rows through the open end of said box, a plunger or delivery-block operating over said plate 6 between it and said plate 13 and having a slot to receive an article from the discharge end of said box, and means for reciprocating said block.

10. The combination, with a show-case adapted to receive a cigar-box having an open top and end, of a rack slidably mounted in said case above said box, a series of partitions carried by said rack and adapted to project into said box and divide the contents thereof into vertical rows, means for operating said rack to move said partitions through the open end of said box and discharge the vertical rows, and a mechanism for receiving the cigars so discharged and delivering them one at a time.

11. The combination, with a box or package wherein the articles to be vended are placed, said box having a delivery-opening, of a plurality of partitions or parting members dividing the contents of the box into rows, means for moving said members to discharge said rows through said delivery-opening, and said members being adjustable to adapt them for boxes of different depth.

12. The combination, with a cigar-box having an open end, of a plurality of partitions or parting members dividing the cigars into vertical rows, means for moving said members lengthwise of said box to discharge said rows, and said members being adjustable to adapt them for use with boxes of different depth.

13. The combination, with a suitable casing wherein a cigar-box having an open end is arranged, a series of partition members provided within said box and movable lengthwise thereof and dividing the cigars into vertical rows, a delivery device at the discharge end of said box arranged to receive a single cigar, and a

mechanism arranged to operate said partitions once to several operations of said delivery device.

14. The combination, with a casing adapted
5 to receive a cigar-box having an open discharge end, of a plurality of partition members provided within said box and movable
lengthwise thereof and dividing the box into
vertical rows, a gear mechanism for operating
10 said partition members, a delivery device ar-

ranged to receive and discharge a single cigar, an operating-shaft, and a mechanism connecting said shaft and said partition-operating mechanism in the ratio of three to one thereto.

In witness whereof I have hereunto set my
hand this 22d day of January, 1903.

WILLIAM S. CONNER.

In presence of—

RICHARD PAUL,

C. G. HANSON.