No. 736,110. PATENTED AUG. 11, 1903.

J. JONSON.

VENDING MACHINE.

APPLICATION FILED JULY 11, 1902.

NO MODEL. 4 SHEETS—SHEET 1.

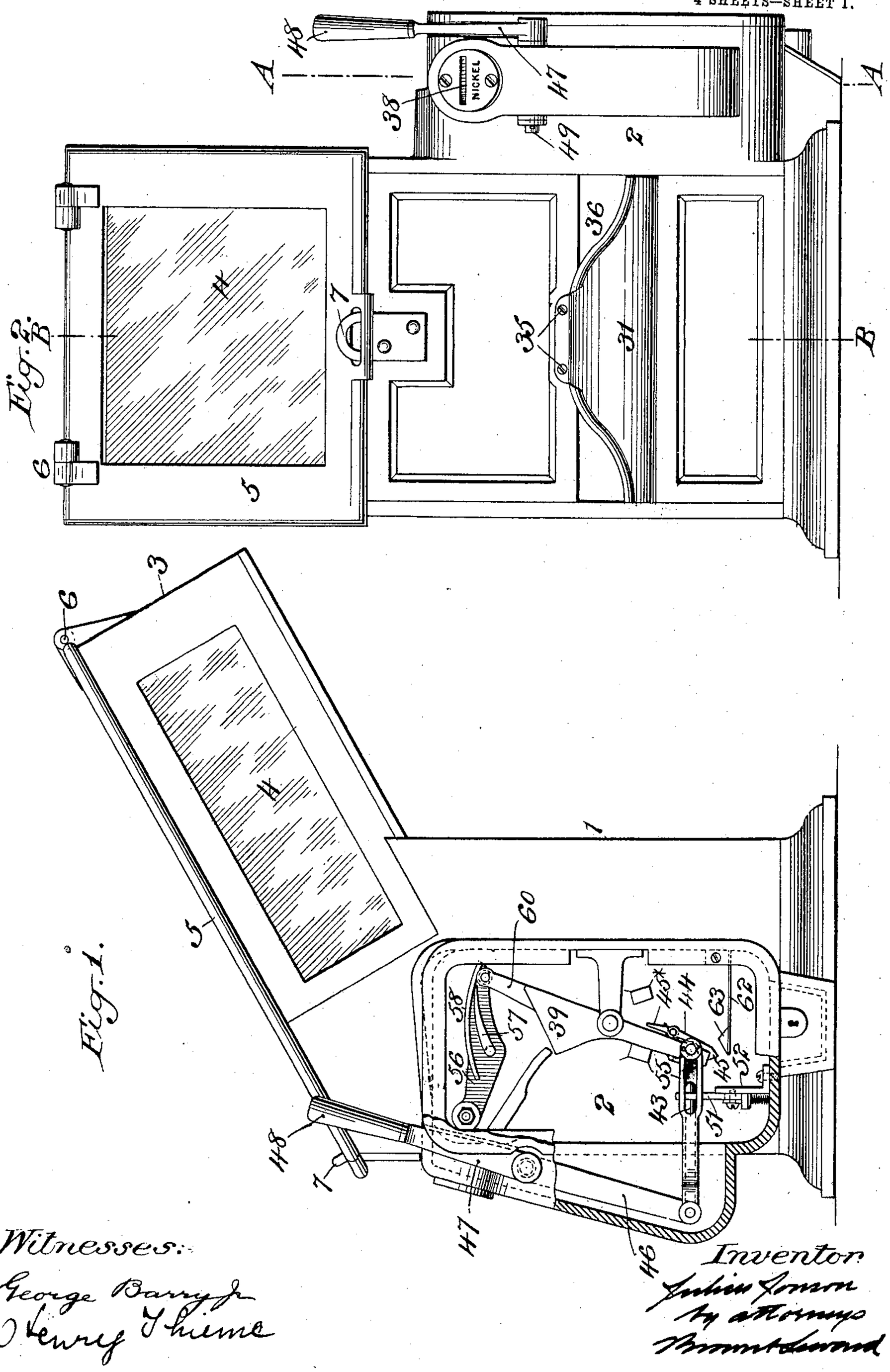

Fig. 2.

Fig. 1.

Witnesses:
George Barry Jr
Henry Thieme

Inventor
Julius Jonson
by attorneys
Brown & Wood

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NO MODEL. 4 SHEETS—SHEET 2.

Fig. 3.

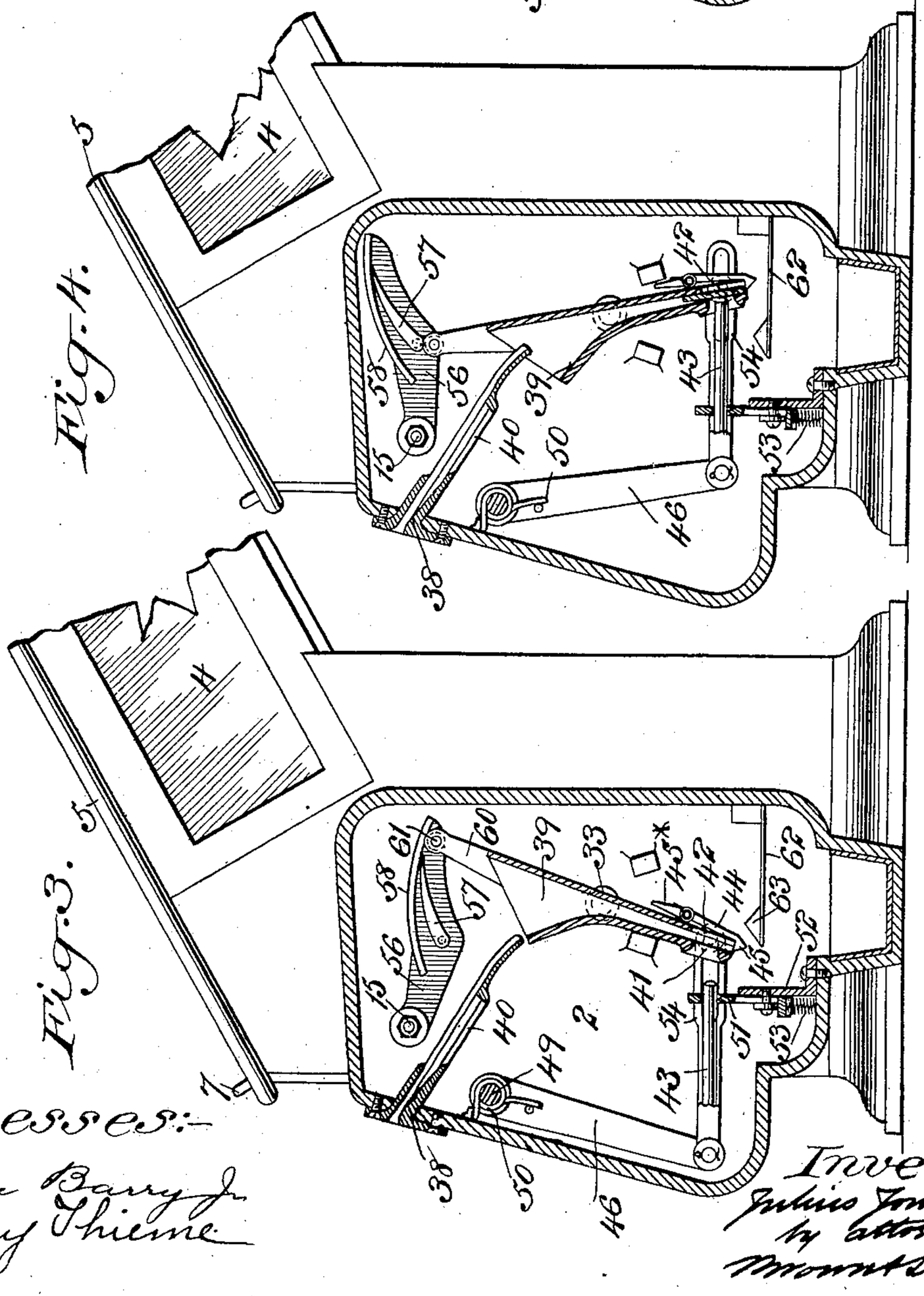

Fig. 4.

Fig. 5.

Witnesses:-
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Henry Thieme

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NO MODEL. 4 SHEETS—SHEET 3.

Fig. 6.

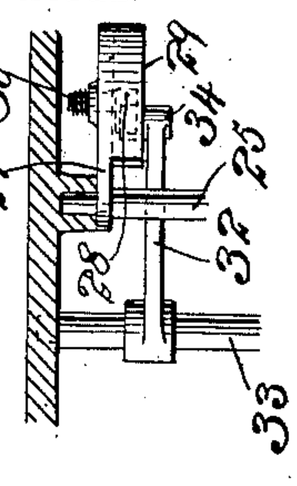

Fig. 9.

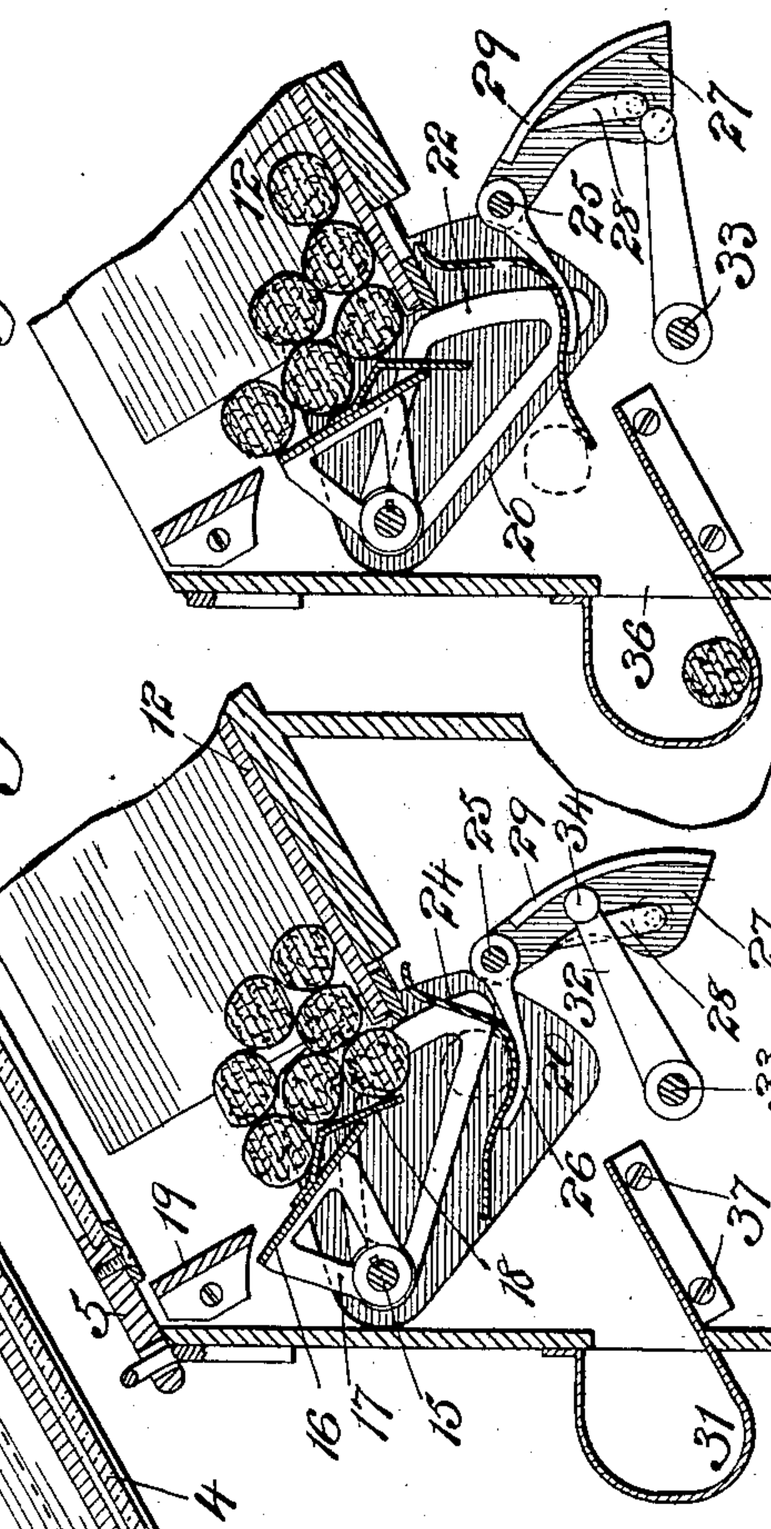

Fig. 8.

Fig. 7.

Witnesses:-

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Brown & Ward

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VENDING MACHINE.

APPLICATION FILED JULY 11, 1902.

NO MODEL. 4 SHEETS—SHEET 4.

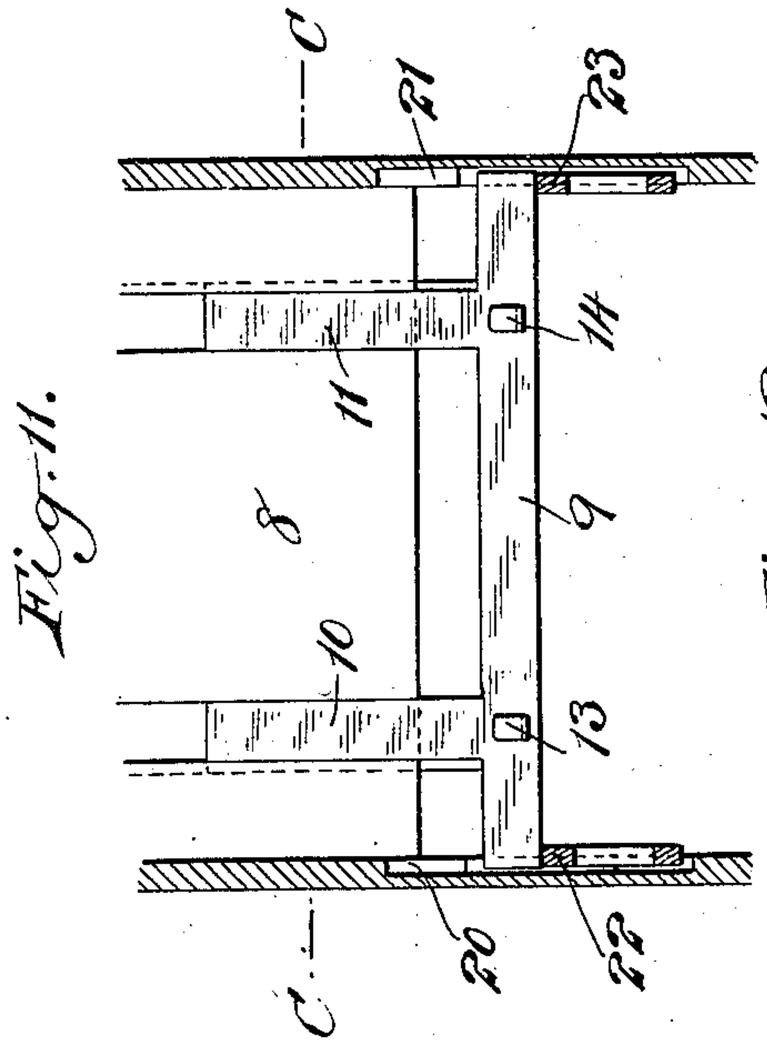

Fig. 11.

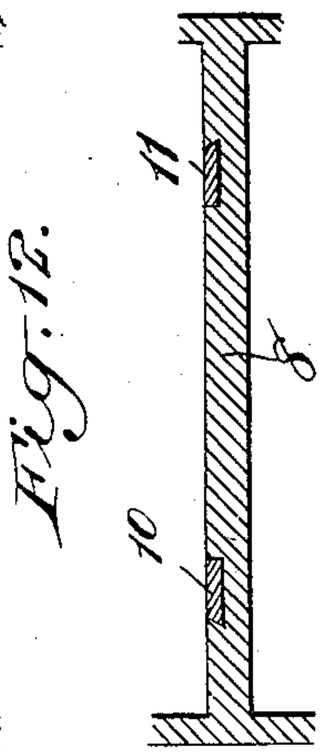

Fig. 12.

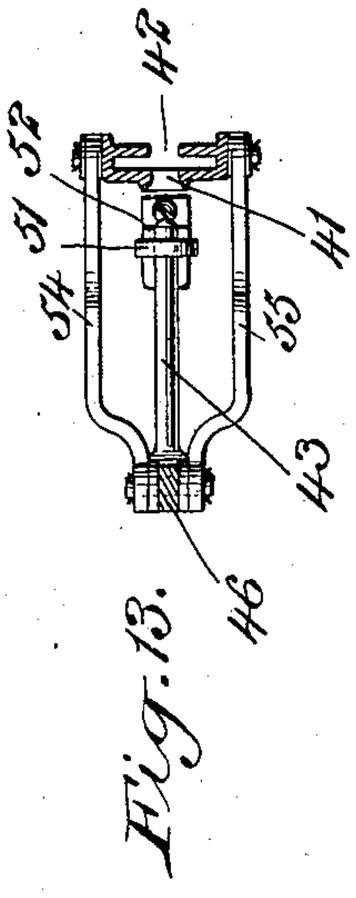

Fig. 13.

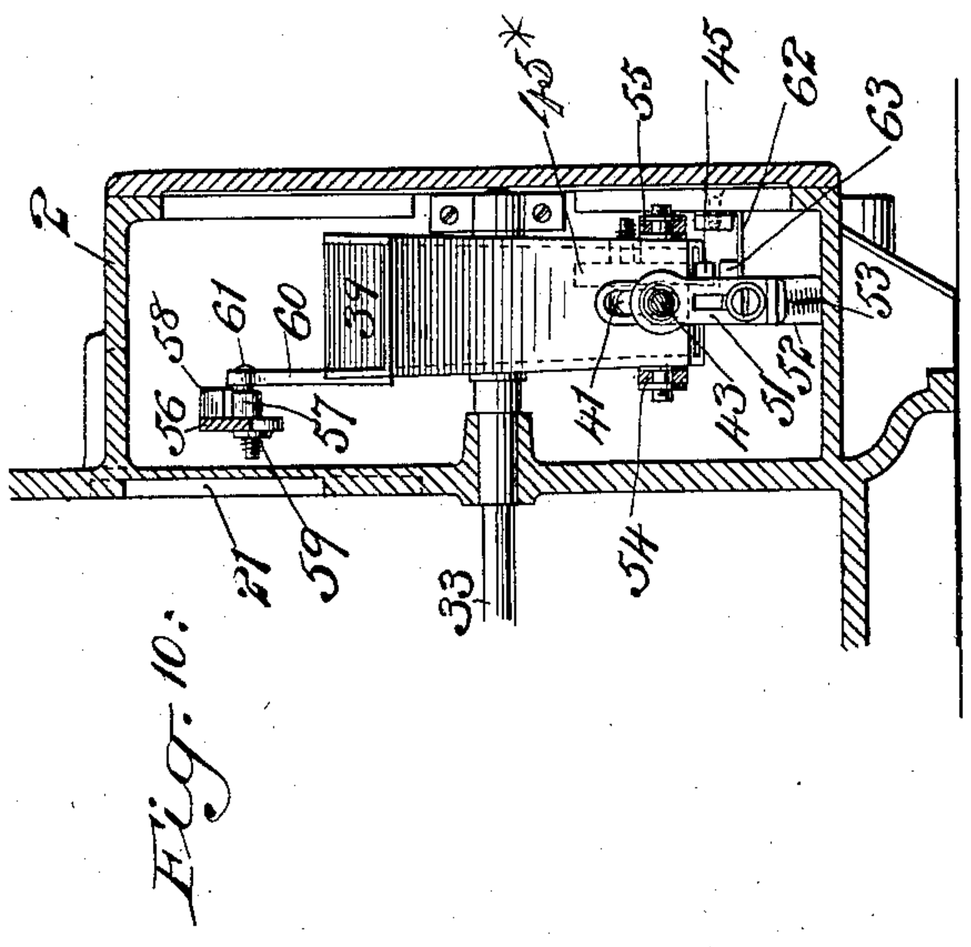

Fig. 10.

Witnesses:-
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Henry Thieme

Inventor:
Julius Jonson
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Brown & Lewis

No. 736,110. Patented August 11, 1903.

UNITED STATES PATENT OFFICE.

JULIUS JONSON, OF NEW YORK, N. Y.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 736,110, dated August 11, 1903.

Application filed July 11, 1902. Serial No. 115,152. (No model.)

To all whom it may concern:

Be it known that I, JULIUS JONSON, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Vending-Machines, of which the following is a specification.

My invention relates to an improvement in vending-machines, and has for its object to provide a machine which will be more particularly applicable for vending cigars one by one from a cigar-box located within the machine.

A further object is to provide certain improvements in the construction, arrangement, and operation of the several parts whereby the accurate vending of the articles contained within the machine is insured.

A further object is to provide a machine in which different-sized cigar-boxes may be contained in a standard-sized machine without changing any of the parts of the machine.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the machine in side elevation, a portion of the side of the casing for containing the coin-operated mechanism being broken away to show more clearly the said coin-operated mechanism. Fig. 2 is a view of the machine in front elevation. Fig. 3 is a partial vertical section taken in the plane of the line A A of Fig. 2, the parts of the coin-operated mechanism being in their normal position. Fig. 4 is a similar view in the same plane, showing the parts in another position. Fig. 5 is a similar view showing the parts in a third position. Fig. 6 is a detail top plan view of the cam-plate of the delivery mechanism and its adjacent parts. Fig. 7 is a vertical section taken in the plane of the line B B of Fig. 2, showing the parts of the delivery mechanism in a position corresponding to the position of the coin-operated mechanism in Fig. 3. Fig. 8 is a similar view showing the parts in a position corresponding to the position of the parts in Fig. 4. Fig. 9 is a similar view showing the parts in a position corresponding to the position of the parts shown in Fig. 5. Fig. 10 is a vertical transverse section through the casing containing the coin-operated mechanism. Fig. 11 is a detail section showing a top plan view of the bottom slide for supporting the box containing the articles to be vended. Fig. 12 is a section taken through the plane of the line C C of Fig. 11; and Fig. 13 is a top plan view, partially in section, of the coin-operating plunger and its adjacent parts.

The machine as a whole comprises a casing 1 for containing the article-delivery mechanism, a side casing 2 thereon for containing the coin-operated mechanism, and a casing 3 for containing the articles to be vended.

The casing 3 for containing the articles to be vended is arranged diagonally to the delivery-mechanism casing and opens at its lower end into the interior of the said delivery-mechanism casing.

The bottom, sides, and top of the casing 3 are provided with panes of glass or other transparent material 4 for disclosing the interior of the said casing 3.

The top of the casing 3 is made removable for permitting the insertion of the articles to be vended. In the present instance this top or cover 5 is hinged at its upper end, as shown at 6, to the upper end of the casing 3, and its lower end may be secured to the front of the casing 1 in any desired manner—as, for instance, by means of a staple 7, which projects from the top or cover 5, and may be engaged by any suitable padlock. (Not shown herein.)

The bottom 8 of the casing 3 is provided with a longitudinal movable extension comprising a cross-bar 9 and rearwardly-extended branches 10 and 11, which branches have a tongue-and-groove engagement with the bottom 8 of the casing.

When the machine is intended for use in vending cigars from the box, the lower end of the box is removed and the front edge of the bottom 12 of the box is engaged by clips 13 and 14, carried by the cross-bar 9 of the bottom extension of the casing 3, so that the extension and the cigar-box will be reciprocated together.

By the arrangement above described I am enabled to successfully vend cigars from the boxes of varying sizes in the same machine without changing the interior arrangement of the machine in any particular.

The delivery mechanism is constructed, ar-

ranged, and operated as follows: A rock-shaft 15 extends transversely through the casings 1 and 2 of the machine and is mounted in suitable bearings therein. Within the delivery-casing 1 this rock-shaft 15 has fixed to rock therewith a plate 16, which extends across the lower open end of the casing 3 from a point adjacent to the forward edge of the bottom of the casing a distance toward the top of the casing. Brackets 17 serve to connect the rocking plate 16 with the shaft 15. The face of the plate 16 is preferably provided with a yielding angular cross-plate 18, which serves the purpose of rolling the articles one upon another as the plate is rocked for preventing the cramping of the articles. A stationary plate 19 is secured across the open end of the casing 3 between the top of the cross-plate 16 and the top 5 of the casing to prevent the escape of the articles above the said plate 16. The inner walls of the opposite sides of the delivery mechanism containing the casing 1 are provided with shallow recesses 20 21, into which the ends of the cross-bar 9 of the extension-bottom project. Cams 22 23 are located within the shallow recesses 20 21 in engagement with the ends of the said cross-bar 9, which cams are fixed to the rock-shaft 15, so that when the said shaft is rocked the cams will cause the bottom extension of the article-receiving casing to reciprocate. As the box containing the articles is secured to the bottom extension by means of the clips 13 and 14, the box will be reciprocated with the extension, thus agitating the articles within the box. As the shaft 15 is rocked in a direction to cause the cams 22 23 to slide the bottom extension upwardly the angular plate 18 and its supporting-plate 16 will be rocked upwardly, also serving to agitate the articles about to be delivered to prevent the binding or cramping of the same. Furthermore, as the bottom extension is moved upwardly by the cams 22 23 the space between the bottom extension and the angular plate 18 is opened sufficiently to permit one of the articles to drop therethrough. A tilting receiver 24 is located directly beneath the lower edge of the bottom extension in position to receive the article as it drops through the space between the bottom extension and the angular plate 18. The tilting plate is keyed to a rock-shaft 25 by one or more supporting-arms 26. A cam-plate 27 is keyed to the rock-shaft 25, which cam-plate is provided with a rocking cam 28, the point of which cam is held yieldingly in engagement with the offset portion 29 of the cam-plate by means of a suitable spring 30. The tilting receiver 24 is held normally in position to receive the article by the weight of the cam-plate 27. The receiver is tilted to direct the article into the delivery-pocket 31 by means of an arm 32, fixed to the rock-shaft 33, which is controlled by the coin-operated mechanism. The upper end of this arm 32 is provided with a stud or roller 34, fitted to travel along both sides of the rocking cam 28. As the shaft 33 is rocked in one direction the stud or roller 34 will travel upwardly between the offset portion 29 of the cam-plate and one face of the cam 28 without disturbing the position of the tilting receiver 24. As the shaft 25 is rocked in the other direction the stud or roller 34 will travel along the other face of the cam 28, thereby rocking the shaft 25 and tilting the receiver 24 until the stud or roller 34 is released from engagement with the said cam 28. The weight of the cam-plate 27 will cause it to fall by gravity until the stud or roller 34 is again engaged with the stud or offset 29 on the said cam-plate and the receiver 24 is returned to its normal position ready to receive the articles as they are released.

The delivery-pocket 31 is formed in such a manner as to prevent the insertion of the fingers into the interior of the casing 1 for tampering with the delivery mechanism. In the present instance this pocket consists of a plate having the portion which projects through the front of the casing 1 bent upwardly and attached to the front of the casing, as shown at 35, above the opening 36 in the casing, so that the articles within the pocket 31 will have to be forced out laterally in either direction from within the pocket. The inner portion of the plate which forms the pocket is extended into the interior of the casing 1 upwardly and rearwardly and is secured, as shown at 37, to the side walls of the said casing.

The coin-operated mechanism is constructed, arranged, and operated as follows: A coin-chute 38 extends inwardly from the exterior of the casing downwardly and rearwardly into the interior thereof. This coin-chute 38 is arranged to direct coins of a predetermined size into the mouth of an oscillating coin-receiver 39, fixed to the rock-shaft 33, hereinbefore described with reference to the delivery mechanism. This coin-chute 38 is provided with an opening 40 in its bottom intermediate its ends, through which coins or disks of a less size than that required to operate the machine are permitted to fall if they are inserted into the mouth of the chute. The lower end of the oscillating coin-receiver 39 is provided with holes or slots 41 42 through its front and rear walls for the free passage therethrough of the coin-receiving plunger 43 when there is no coin held within the receiver or when a washer is held in position in the receiver. When a coin has been inserted into the receiver 39, it is temporarily held in position to be engaged by the plunger 43 by means of a spring-actuated latch-plate 44, having a hook portion 45, which normally closes the lower end of the receiver, and a projection 45*, fitted to engage the back wall of the receiver when the latch 44 has been rocked a sufficient distance to release the coin. The plunger 43 is hinged to the depending arm 46 of the operating-lever, the upper arm 47 of which is located exterior

to the casing and is provided with a suitable handle 48. This depending arm 46 is located within the casing 2, and the two arms 46 and 47 are fixed to rock on a cross-shaft 49, mounted in the said casing. The plunger 43 is normally held away from engagement with the coin-receiver 39 by means of a spring 50, which spring in the present instance is shown as coiled around the cross-shaft 49, with one end in engagement with the operating-lever and the other end in engagement with the casing 2. The free end of the plunger 43 is supported by a spring-actuated vertically-yielding plate 51, having a pin-and-slot connection with a supporting-bracket 52, fixed to the interior of the casing 2, an extension-spring 53 serving to hold the yielding support 51 normally at the limit of its upward movement. This yielding support 51 for the plunger is so arranged as to permit the plunger to slide through the same, but will permit the plunger to retain the position against the coin which is held within the receiver as the plunger, and thereby the receiver, is operated, thus preventing any movement of the coin within the receiver while the mechanism is being manipulated. The receiver 39 is returned to its normal position by means of side bars 54 55, which are hinged to the lower ends of the depending arm 46 of the operating-lever and have pin-and-slot connections with the lower end of the oscillating receiver 39.

The rock-shaft 15, hereinbefore referred to with reference to the delivery mechanism, projects into the interior of the casing 2 and is under the control of the oscillating receiver 39 by means of the following device: A cam-plate 56 is fixed to the rock-shaft 15, which cam-plate is provided with a rocking cam 57, the point of which is held in engagement with the offset portion 58 of the cam-plate by means of a tension-spring 59. The oscillating coin-receiver 39 is provided with an arm 60, which is provided with a stud or roller 61, fitted to travel along the opposite faces of the rocking cam 57. As the oscillating receiver 39 is swung in one direction by the forward movement of the plunger 43 through its engagement with the coin held in the bottom of the receiver the stud or roller 61 will travel along the under face of the cam 57 until released by the cam. The weight of the parts attached to the rock-shaft 15 will be sufficient to cause the cam-plate to drop by gravity until the stud or roller 61 engages the offset portion 58 of the cam-plate. The reverse movement of the receiver 39, caused by the return of the operating-lever to its normal position, will cause the stud or roller 61 to travel along between the offset portion 58 and the upper side of the cam 57 until the stud or roller assumes its normal position beyond the point of the cam.

The means which I have shown for swinging the latch-plate 44 a sufficient distance to release the coin within the receiver 39 comprises a spring tripping-arm 62, having a double-incline abutment 63 at its free end. As the plunger 43 swings the receiver 39 in one direction by the engagement of the plunger with the coin the hook portion 45 of the latch 44 will be forced over the inclined abutment 63 of the tripping-arm. As the receiver 39 is returned to its normal position the abutment 63 will again be engaged by the hook portion 45 of the latch 44 and the latch will be swung back until the projection 45* engages the receiver 39, thus opening the bottom of the receiver to permit the coin to drop therefrom. The further movement of the receiver 39 will cause the hook portion 45 to be forced over the abutment 63 of the tripping-arm 62 and permit the latch to again close the bottom of the said receiver.

As the operation of the several parts has been set forth specifically in the description of the several parts, I will now describe in a general way only the complete operation of the machine.

Supposing that a box of cigars has been inserted into the article-receiving casing at the top of the machine, with its lower end open for permitting the escape of the articles therefrom, the articles may be vended one by one by going through the following procedure: A coin of the predetermined size is inserted into the mouth of the coin-chute 38. It will travel along the same and drop into the receiver 39 until stopped at the lower end of the receiver by the latch 44. The handle of the operating-lever is then swung toward the operator, thus bringing the plunger 43 into engagement with the coin. The further movement of the lever will cause the receiver 39 to rock. This rocking movement of the receiver will open the space between the bottom extension of the casing 3 and the angular plate 18 a sufficient distance to drop one of the articles onto the tilting plate 24 and at the same time slide the box containing the cigars longitudinally for agitating the same and causing the angular plate 18 to also prevent the cramping or binding of the cigars. As the operating-lever is returned to its normal position the reverse rocking movement of the coin-receiver 39 will cause the article-receiver 24 to tilt a sufficient distance to direct the cigar into the pocket 31. This movement of the coin-receiver 39 will also release the coin therefrom in the manner hereinbefore described.

The parts of the vending-machine which are shown and described, but not claimed herein, form the subject-matter of a divisional application filed by me the 7th day of November, 1902, the serial number of said application being 130,383.

It is evident that this machine may be made applicable for vending articles of various styles and shapes without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein set forth; but

What I claim is—

1. A vending-machine comprising a casing for containing the article-delivery mechanism, a separate casing for containing the locking and releasing mechanism located at one side of the article-delivery-mechanism casing and a separate casing for containing the articles to be vended surmounting the article-delivery-mechanism casing and in open communication therewith.

2. A vending-machine comprising a casing for containing the article-delivery mechanism, a separate casing for containing the locking and releasing mechanism located at one side of the article-delivery-mechanism casing and a separate casing for containing the articles to be vended surmounting the article-delivery-mechanism casing and extended upwardly therefrom at an angle thereto.

3. A vending-machine comprising an article-delivery-mechanism casing, a separate casing for containing the locking and releasing mechanism and a separate casing for containing the articles to be vended surmounting the article-delivery-mechanism casing and extended therefrom at an angle thereto, the top, bottom and side walls of the said article-containing casing being transparent.

4. A vending-machine comprising a casing for containing the article-delivery mechanism and a separate casing for containing the articles to be vended surmounting the article-delivery-mechanism casing and extended therefrom at an angle thereto.

5. In a vending-machine, a delivery mechanism, a casing for receiving a box containing the articles to be vended, having a bottom extension secured to the box and a cam carried by the delivery mechanism in position to engage the bottom extension to reciprocate it and thereby the box for agitating the articles therein.

6. In a vending-machine, a delivery mechanism, a casing therefor, a casing for containing the articles to be vended having its end opening into the delivery-mechanism casing and a rocking plate forming a partition between the two casings, the said rocking plate being under the control of the delivery mechanism for opening and closing communication between the article-receiving casing and the delivery-mechanism casing.

7. In a vending-machine, a delivery mechanism, a casing therefor, a casing for receiving the articles to be vended in open communication therewith, a rocking plate for opening and closing communication between the two casings and a cross-plate carried by the rocking plate for rolling the articles one upon another as the plate is rocked to prevent the cramping of the articles.

8. A vending-machine comprising a delivery mechanism, a casing therefor, a casing arranged to contain the articles to be vended in open communication therewith, a rocking plate under the control of the delivery mechanism for opening and closing communication between the two casings and a yielding angular cross-plate carried by the rocking plate for rolling the articles one upon another as the plate is rocked to prevent the cramping of the articles.

9. In a vending-machine, a delivery-mechanism casing, an article-delivery pocket thereon, a casing for containing the articles to be vended, and a delivery mechanism comprising means for opening and closing communication between the two casings and a tilting receiver arranged to receive the articles from their casing and direct them into the said article-delivery pocket as the mechanism is operated.

10. A vending-machine comprising a delivery mechanism, a casing therefor, a casing for containing the articles to be vended in open communication therewith, a rocking plate controlled by the delivery mechanism for opening and closing communication between the two casings, a delivery-pocket and a tilting receiver arranged to receive the articles from their casing and deliver them to the said pocket as the delivery mechanism is operated.

11. In a vending-machine, a delivery-mechanism casing, a casing for containing the articles to be vended having a reciprocating bottom extension, and a delivery mechanism comprising a rock-shaft having a cam engaging said bottom extension and a rocking plate in engagement with the articles for opening and closing communication between the two casings as the rock-shaft is operated.

12. In a vending-machine, a delivery-mechanism casing, an article-delivery pocket thereon, a casing for containing the articles to be vended, having a reciprocating bottom extension and a delivery mechanism comprising a rock-shaft having a cam in engagement with said bottom extension and a rocking plate in engagement with said articles for releasing the articles one by one as the rock-shaft is operated and a tilting receiver arranged to receive the articles and direct them into the delivery-pocket.

13. In a vending-machine, a delivery-mechanism casing, an article-delivery pocket thereon, a casing for containing the articles to be vended, means for releasing the articles one by one from the said casing and a tilting plate arranged to receive the articles as they are released and direct them into the article-delivery pocket.

14. An article-delivery pocket for vending-machines being open to the exterior at its opposite ends only.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of June, 1902.

JULIUS JONSON.

Witnesses:
FREDK. HAYNES,
HENRY THIEME.