

J. V. MARTIN.
VENDING MACHINE.
APPLICATION FILED NOV. 25, 1907.

916,345.

Patented Mar. 23, 1909.

3 SHEETS—SHEET 1.

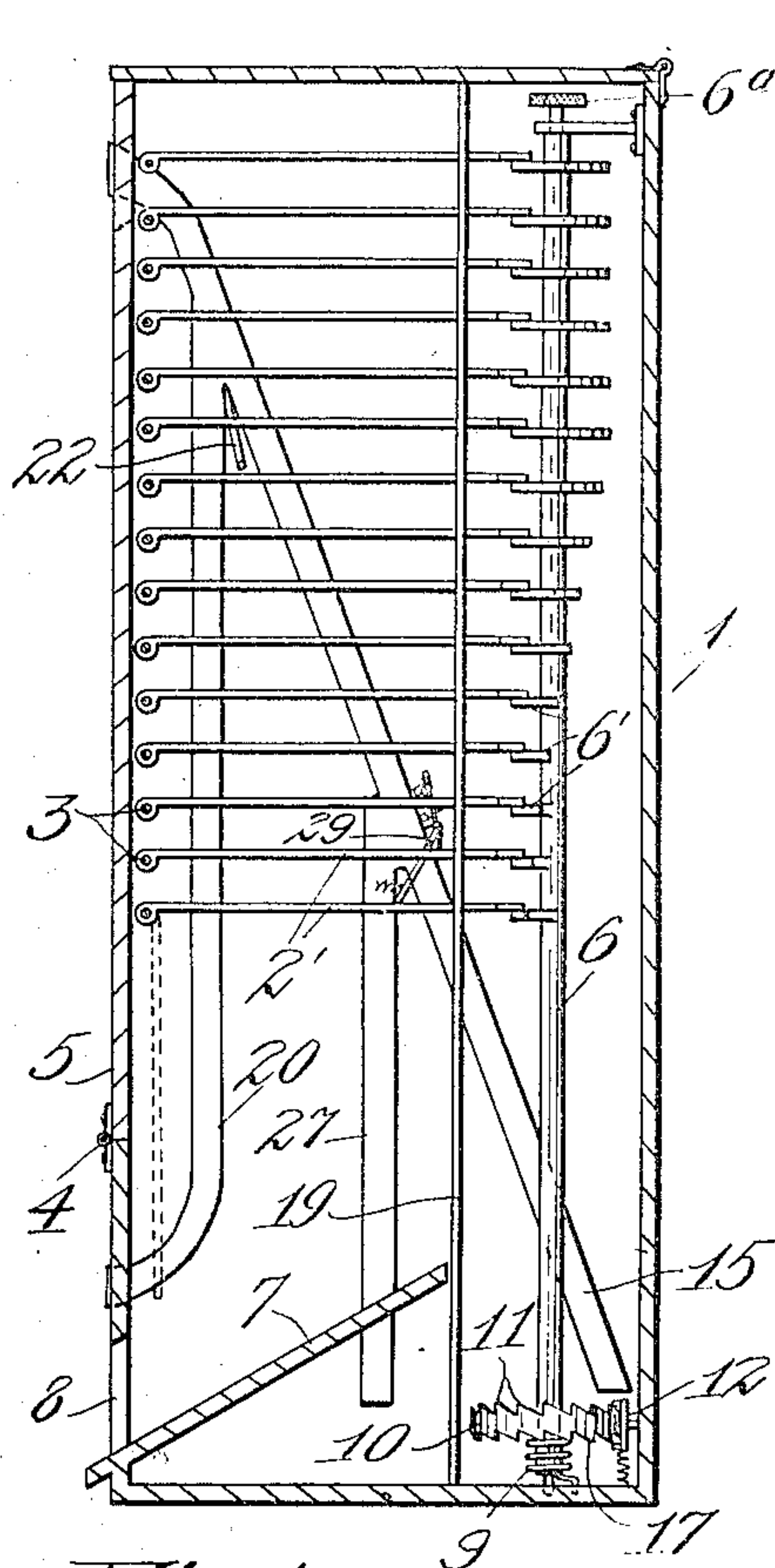


Fig. 1

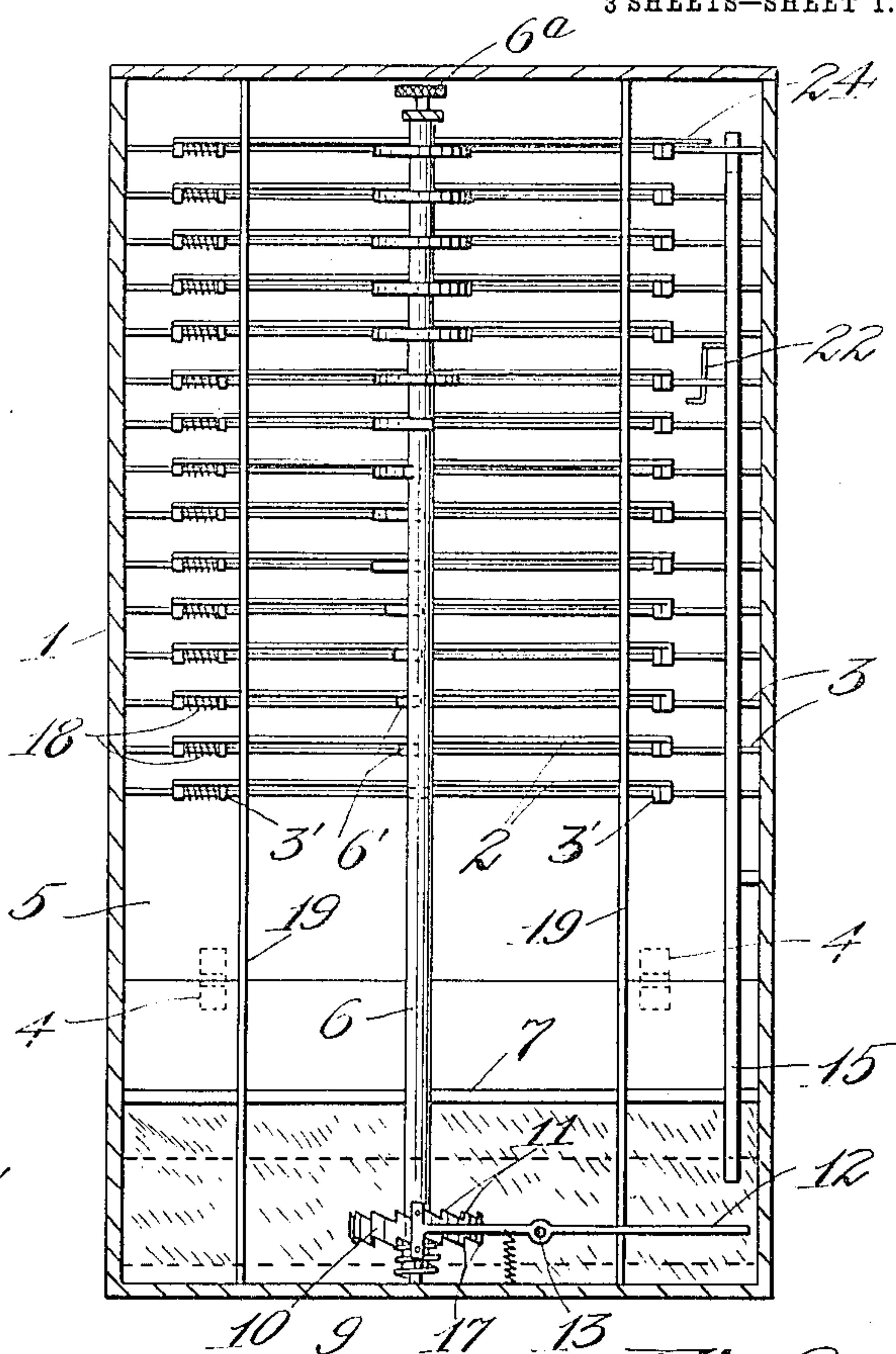


Fig. 2

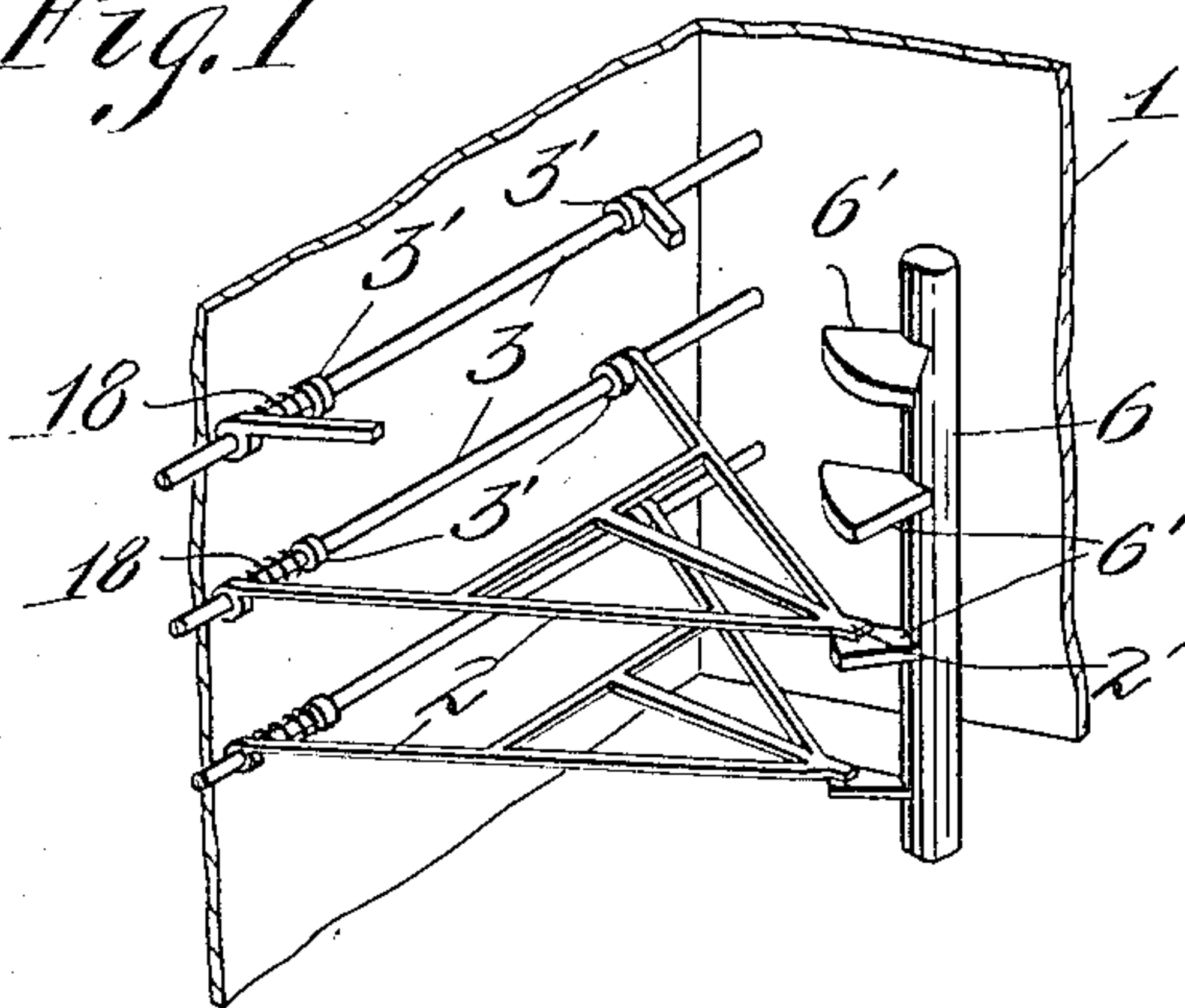


Fig. 3

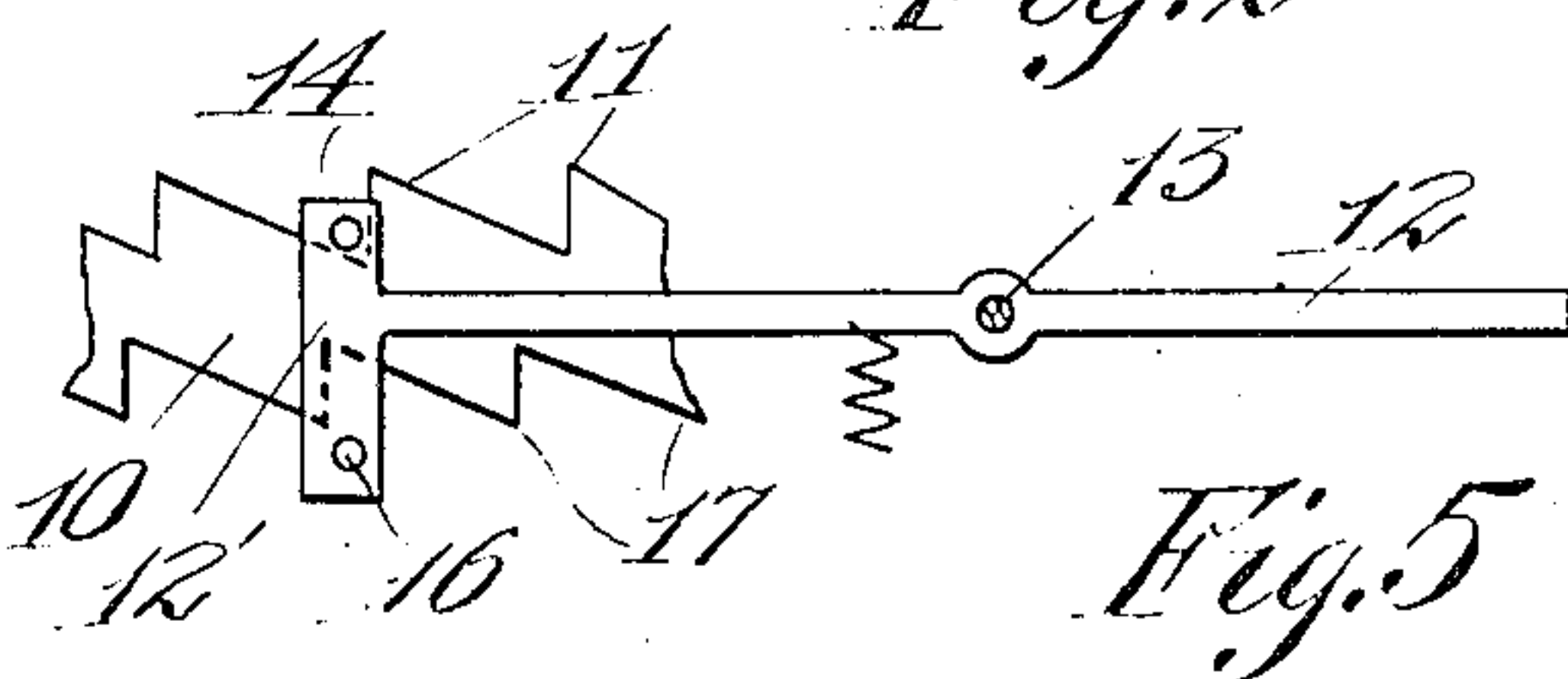


Fig. 5

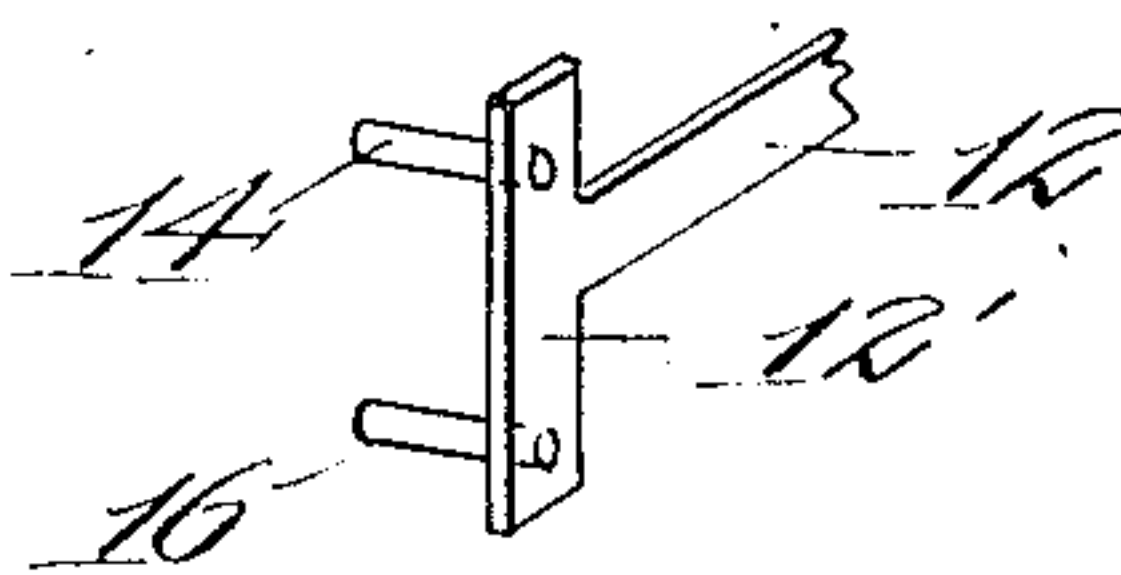


Fig. 6

WITNESSES: *Fig. 3*
Arlita Adams
E. W. Cressman

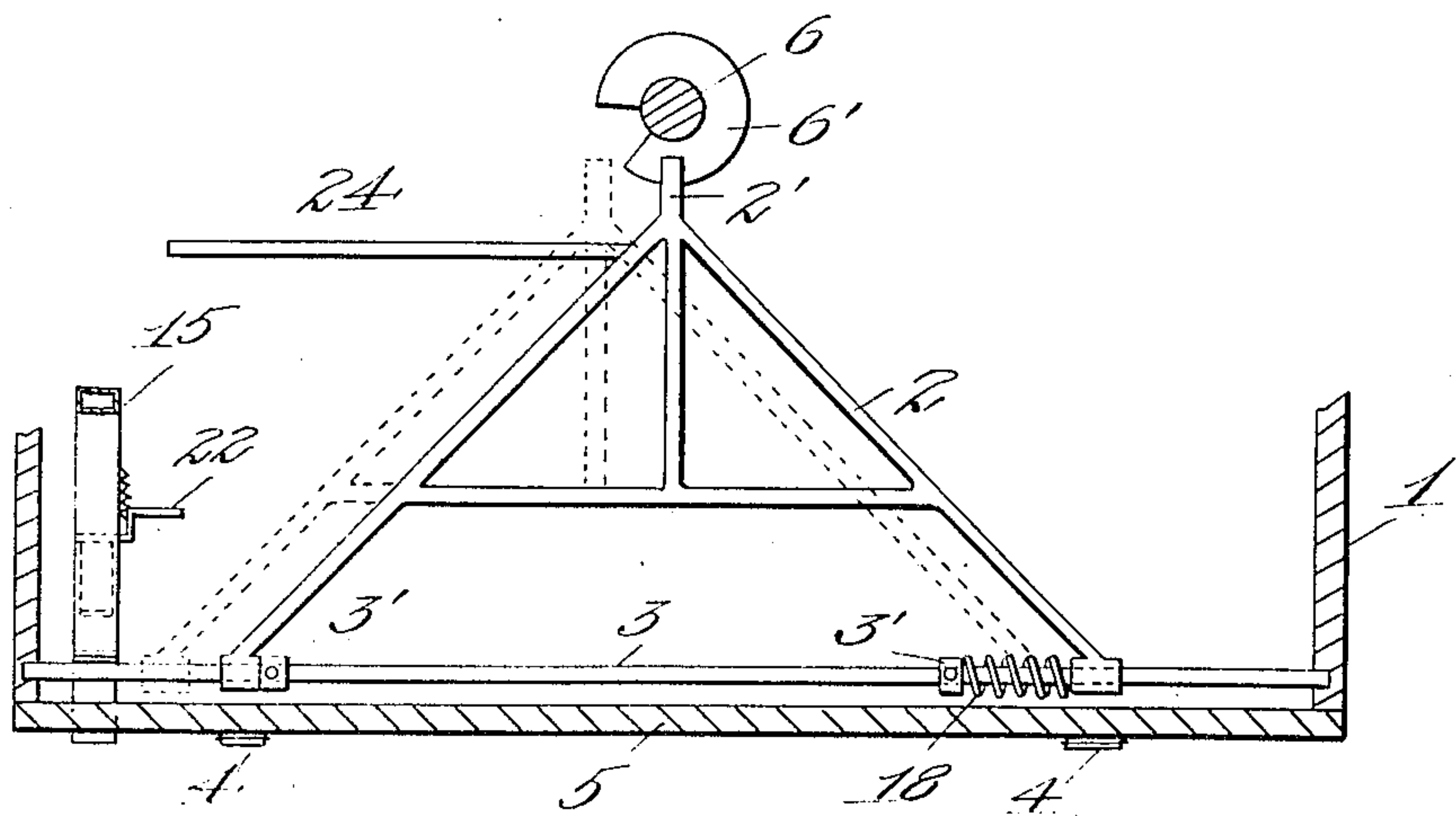
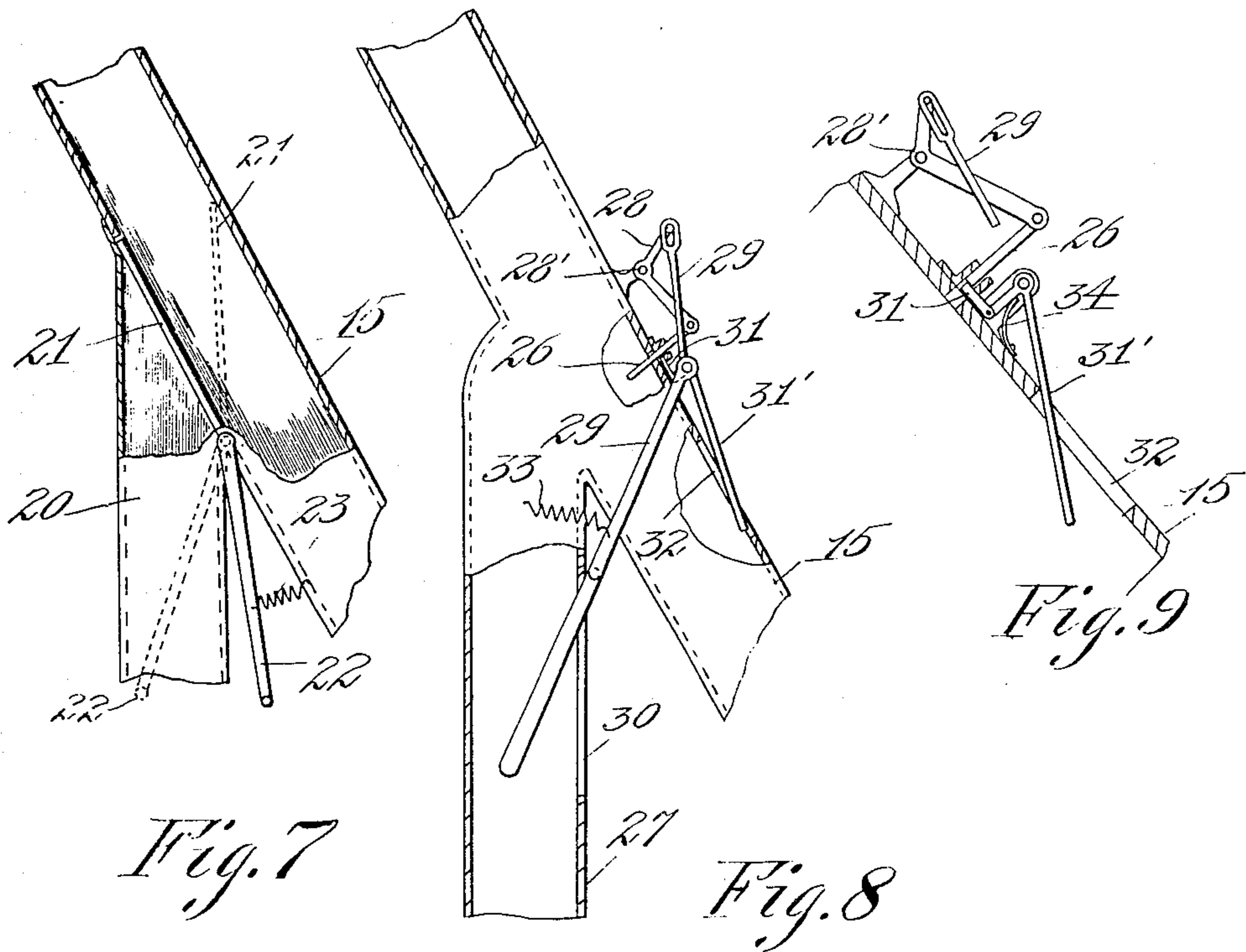
INVENTOR
James V. Martin
BY *Adams & Brooks*
Attorneys

J. V. MARTIN.
VENDING MACHINE.
APPLICATION FILED NOV. 25, 1907.

916,345.

Patented Mar. 23, 1909.

3 SHEETS—SHEET 2.



WITNESSES:

Fig. 1

E. W. Cressman

Arleta Adams

INVENTOR

James V. Martin

BY

Adams & Brooks

Attorneys

916,345.

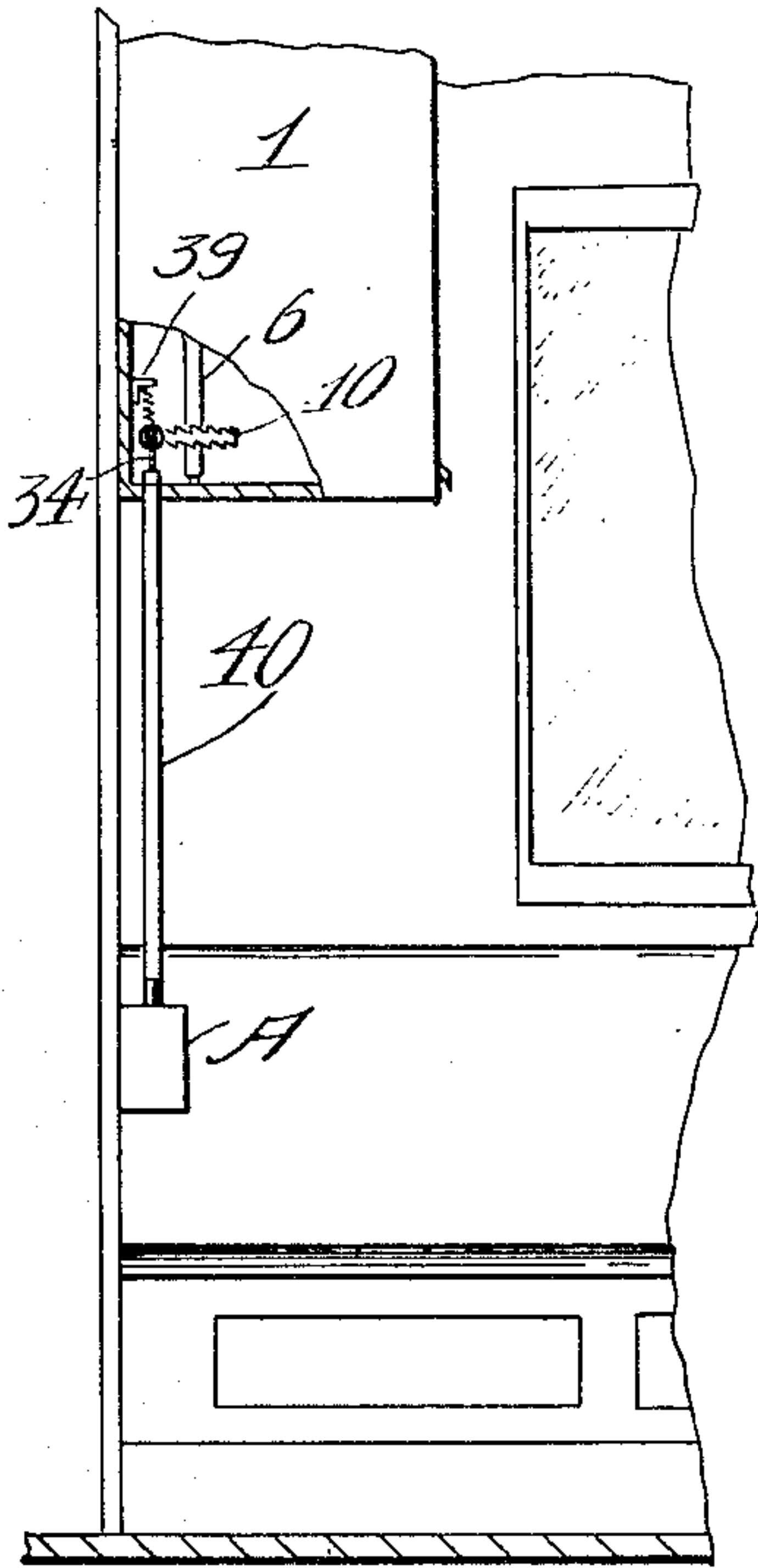


Fig. 10

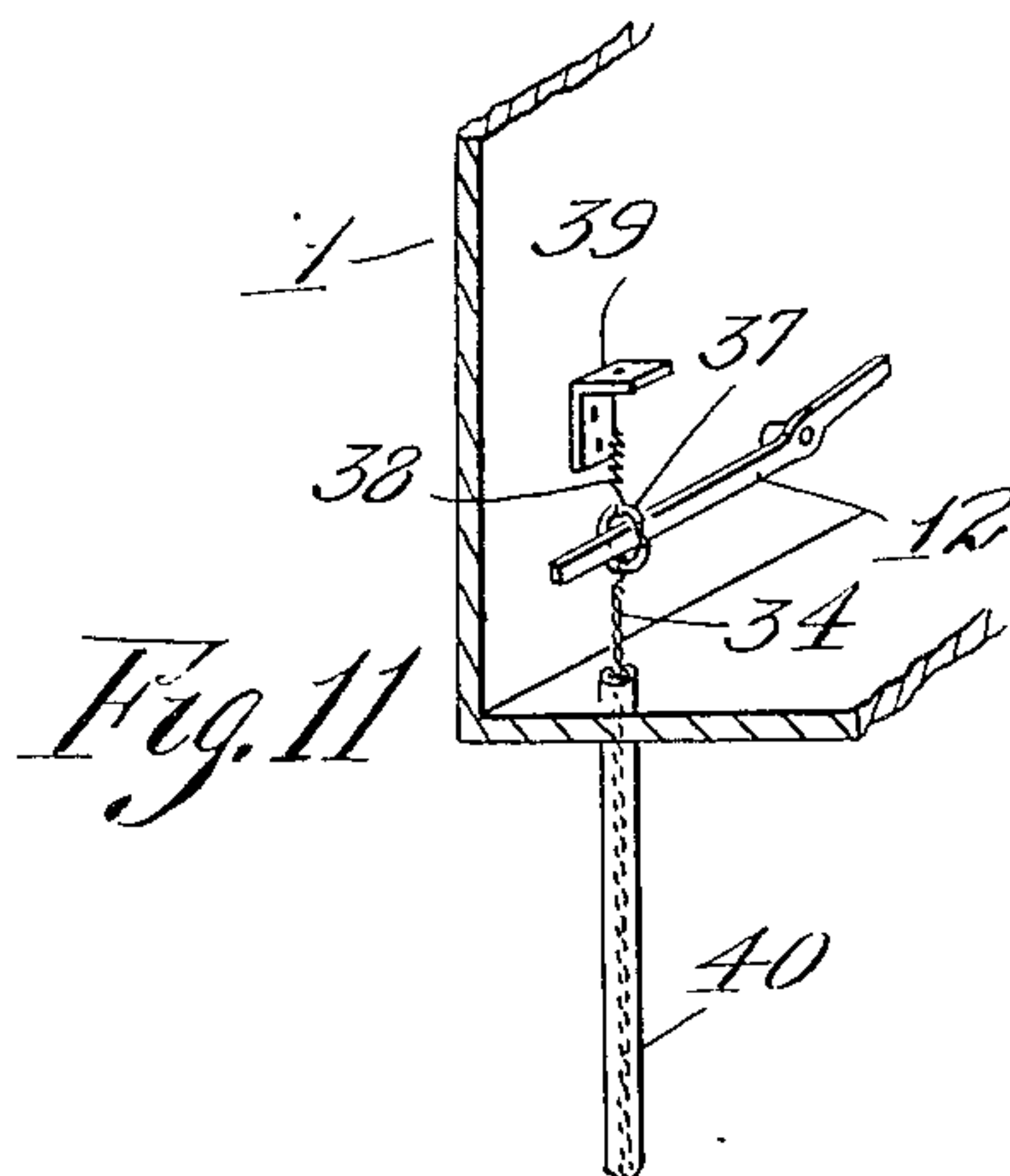
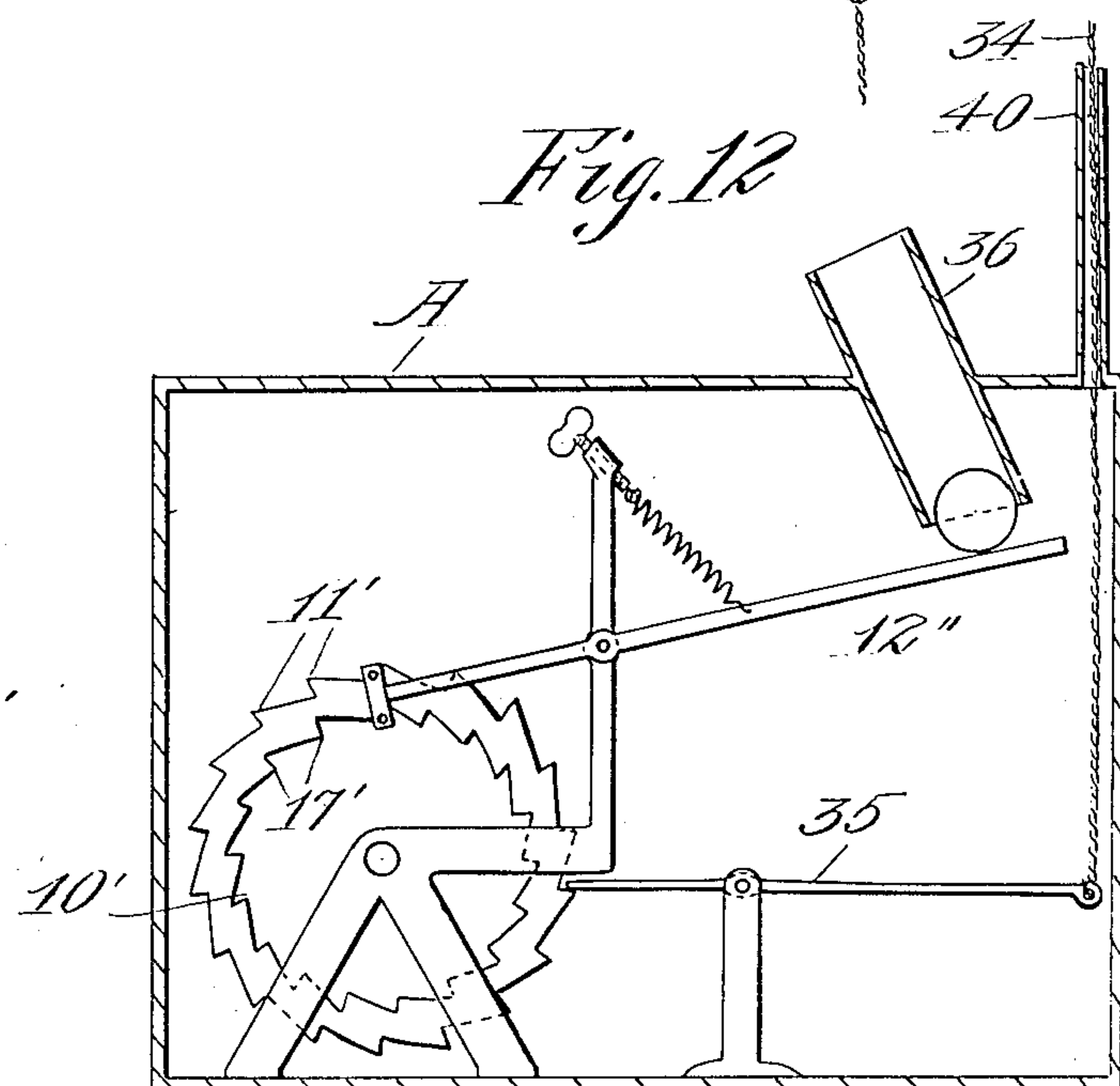
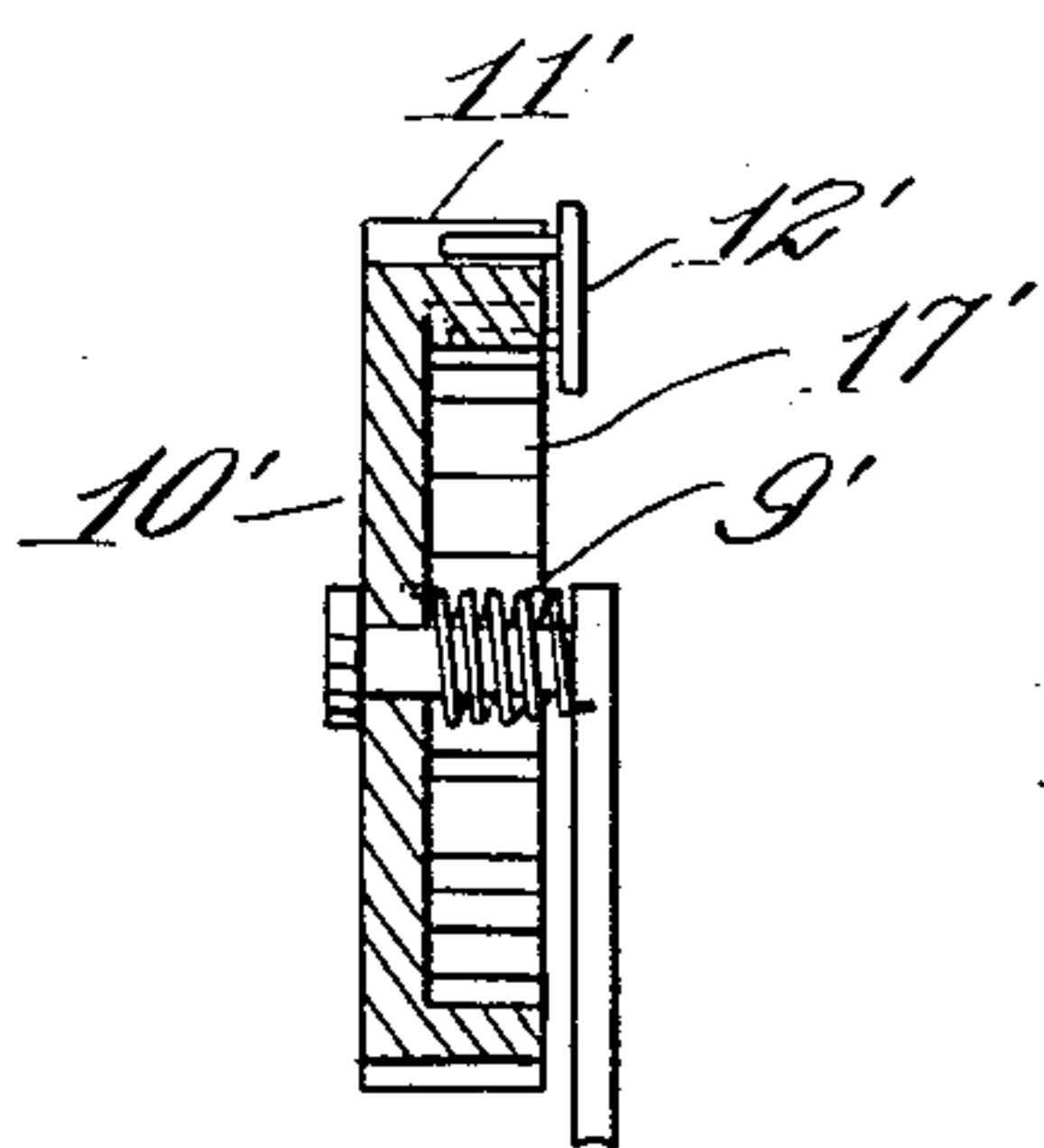


Fig. 11

Fig. 12



WITNESSES: *Fig. 13*

E. W. Cressman

Arleta Adams

INVENTOR

James V. Martin

BY

Adams & Brooks

Attorneys

UNITED STATES PATENT OFFICE.

JAMES V. MARTIN, OF SEATTLE, WASHINGTON.

VENDING-MACHINE.

No. 916,345.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed November 25, 1907. Serial No. 403,810.

To all whom it may concern:

Be it known that I, JAMES V. MARTIN, a citizen of the United States of America, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in vending machines and aims primarily to provide an apparatus of this character; the mechanism of which is reliable and efficient in operation.

A further object resides in the provision of a comparatively simple construction adapted more particularly for the vending of newspapers.

With these and other objects in view, to be referred to as the description progresses, the invention resides in the features of construction, arrangement and combinations of parts hereinafter described and succinctly defined in the claims hereto annexed.

Referring now to the accompanying drawings in which like numerals of reference indicate like parts throughout the several views: Figure 1 is a vertical sectional view of one embodiment of my improved vending machine. Fig. 2 is a rear elevation thereof with the rear wall of the casing removed. Fig. 3 is a detail fragmentary view in perspective of the supports for the articles to be vended and the vertical shaft or rod provided with the rests for normally holding said supports in a horizontal position. Fig. 4 is a fragmentary plan view of the top article support, and the means for holding the same, and illustrating by broken lines the support shifted laterally. Fig. 5 is a detail fragmentary view on enlarged scale, of a portion of the controller mechanism. Fig. 6 is detail fragmentary view in perspective of the controller lever. Fig. 7 is a view on enlarged scale of a portion of the coin chute, showing more particularly the coin gate. Figs. 8 and 9 are fragmentary views on enlarged scale, of the coin chute, illustrating more particularly the coin switch and the controlling means therefor. Fig. 10 is a fragmentary view illustrating my invention applied to a car. Fig. 11 is a detail fragmentary view in perspective of the upper casing of the invention as adapted for use in cars. Fig. 12 is a sectional view of the lower casing containing the mechanism directly actuated by the coin, and Fig. 13 is a detail sectional view.

Reference numeral 1 indicates the casing of my machine, which may be formed of any suitable material in any desired manner, and within this casing is arranged a vertical series of pivoted supports 2 each of which normally holds an article to be vended, such as for example a newspaper or the like. Supports 2 are, as now considered, of open formation, and swingingly supported on rods 3 secured in the side walls of casing 1, adjacent the front wall of said casing, as clearly illustrated in Figs. 1 and 4. The upper portion of the front wall of casing 1 is hinged by hinges 4, to the lower portion of said wall, to provide a door, indicated at 5, whereby all of said supports 2 can be exposed and reached from the exterior when desired to reset the same, as will be more fully explained hereinafter. Supports 2 are normally held in a horizontal position by a suitable rotatably mounted means 6 comprising a vertical shaft or rod provided with a plurality of rests 6' on which the fingers 2' of said supports 2 engage. Rests 6' are in the form of lugs, formed integral with shaft or rod 6. These rests vary in length, the lowest being the shortest, and each successive rest thereabove being of increased length over the underlying one or in other words, extend a greater distance about said rod or shaft whereby upon said shaft or rod being rotated in an intermittent manner, supports 2 will be released one at a time. Supports 2, when released, swing downwardly on rods 3 by gravity and deliver the articles to an inclined shelf 7, at the bottom of casing 1, from which they are discharged or may be removed through an opening 8 in the front of the casing.

Reference numeral 9 indicates a spring connected to shaft or rod 6 for rotating the same.

Spring 9 exerts a constant pressure on shaft or rod 6, tending to rotate the same, and in order that said shaft or rod 6 can be operated in an intermittent manner and only upon the proper depositing of a coin in the machine, I provide controller mechanism of novel construction, which I will now proceed to describe.

On shaft or rod 6, is fixed a disk 10 having a series of ratchet teeth 11 on its upper face, arranged in circular formation adjacent the outer edge thereof. A controller lever 12, fulcrumed at 13 is provided at its inner end with a dog 14 consisting of a laterally projecting pin (see Figs. 5 and 6) which is adapted

for engagement with ratchet teeth 11. The outer end of lever 12 is disposed directly beneath the coin chute 15, and when struck by a descending coin, is depressed, thereby swinging the lever on its fulcrum and elevating dog 14 from engagement with ratchet teeth 11. The coin after having depressed said lever, falls therefrom into the lower portion of casing 1, where it may be cared for in any desired manner. Now to prevent disk 10 from rotating more than the space of one ratchet tooth when released upon the operation of controller lever 12 by a coin, as just described, I provide lever 12 with a bearing or engaging member 16, similar in construction to dog 14 which projects beneath disk 10 and rides over cams 17.

Cams 17 correspond in formation to ratchet teeth 11 and are arranged entirely around said disk at the edge thereof, but said cams are set in a reverse manner relatively to said teeth and are out of alinement therewith, so that after the dog 14 has been drawn down over the inclined face of a ratchet tooth 11 bearing or engaging member 16 will have passed from engagement with its cam, as illustrated in Fig. 5, thereby permitting of dog 14 being elevated.

In order to obtain a proper spacing of dog 14 and bearing or engaging member 16, lever 12 is formed, at its inner end with a vertical cross arm 12', to the ends of which said dog and bearing or engaging member are fixed, see Fig. 6. Supports 2 can be slid on rods 3 laterally of shaft or rod 6, between shoulders 3' (as indicated by broken lines in Fig. 4,) to reengage their fingers 2' with the rests 6', but springs 18 will prevent any accidental movement of this character. Thus, in operation, assuming that all of the papers have been discharged from the machine, the authorized person opens door 5 and to reset supports 2 swings the same one at a time, upwardly and laterally so as to enable tongues 2' passing around and above rests 6' whereupon springs 18 will return supports 2 to their normal position and tongues 2' will be engaged on their respective rests. Papers can now be placed on supports 2, being slid in, in preferably a flat condition, until they strike the limiting vertical rods 19, fixed to the casing 1, as shown. Prior to the resetting of the supports 2, spring 9 can be rewound, if desired, by simply rotating shaft or rod 6, there being provided on the upper end of said shaft or rod a suitably shaped knob or terminal 6^a, which can be grasped by the operator to effect this operation, as will be readily understood.

Reference numeral 20 indicates a branch coin chute leading from chute 15 to the exterior of casing 1, and at the juncture of these chutes 15 and 20 I arranged a gate 21. Gate 21 is provided, at a point without the coin chutes with an arm 22 which is held by

a spring 23 so as to normally hold said gate so that it will close chute 20, see Fig. 7. When, however, the uppermost support 2 falls, arm 24, carried thereby strikes arm 22 and forces the same toward the front wall of the casing, thereby swinging gate 21 upwardly, as indicated by broken lines in Fig. 7, and closing chute 15. All the papers having now been sold, any further coins placed in the machine will be returned to the person inserting the same through chute 20. Often times papers are sold for two cents, and in Figs. 8 and 9 I have illustrated novel mechanism which will, upon the insertion of two coins into chute 15 control the travel thereof so that but one of the said coins will operate lever 12. This mechanism comprises a switch 26, in the form of a pin which is slidably mounted in the wall of coin chute 15, directly opposite an auxiliary coin chute 27. Switch 26 is connected to a bell crank lever 28, fulcrumed at 28', and said lever 28 in turn is pivotally connected to a lever 29, whose lower end is adapted to project through a slot 30 in chute 27, as clearly shown in Fig. 8.

With the parts arranged as shown in Fig. 8, the first coin descending in chute 15, strikes switch 26 and is deflected into the auxiliary coin chute 27, where it engages the lower end portion of lever 29 and swings the same outwardly. This movement of lever 29, being transmitted to switch 26, through bell crank lever 28, draws the same outwardly until a catch 31 is engaged under the same by reason of pressure exerted by spring 34. Catch 31 is provided with a trip 31' which, when the catch is engaged beneath said switch (see Fig. 9,) extends through a slot 32 in chute 15. The switch being now withdrawn from chute 15, the second coin will jump across the mouth of the auxiliary chute and travel down through chute 15, to operate lever 12. After the coin passes the auxiliary chute it engages trip 31', and forcing the same outwardly operates catch 31 to release switch 26, whereupon a spring 33 returns said switch and lever 29 to the position shown in Fig. 8.

In Figs. 10 to 13 inclusive I have illustrated my invention as adapted for use in cars, in which construction casing 1, is preferably arranged in the top of the car where it will be out of the way. It will be understood that the construction of the mechanism in casing 1, as shown in Fig. 10 is identical with that previously described and illustrated, but the various coin chutes can be omitted, for lever 12 is not now directly actuated by the coin, but is connected by a cord 34 with a lever 35 mounted in a comparatively small casing A arranged where the passengers can readily insert their coin. Within casing A is supported for rotation a suitable means 10' adapted to be rotated by a

spring 9', said means 10' being provided on its outer face with ratchet teeth 11' and on its inner face with cams 17'. Said ratchet teeth and cams are arranged and related to one another as in the construction shown in Figs. 1, 2 and 5. Reference numeral 36 indicates a coin chute, arranged directly over the outer end portion of controller lever 12". Lever 35 has its inner end arranged to be elevated by ratchet teeth 11', during rotation of means 10', whereby a jerk will be imparted to cord 34 so as to operate lever 12 in casing 1, thereby allowing shaft or rod 6 to rotate, as previously described, and thereby effect the release of a newspaper. As now considered, cord 34 is provided with a link 37 for reception of lever 12 (see Fig. 11) and said link is connected to a spring 38, secured to a lug or bracket 39, fixed to casing 1. Cord 34, which may be of any desired material, extends through a tube 40 between the casings 1 and A.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is:

1. In a vending machine, a vertical series of supports for the articles to be vended, means supporting said supports for swinging, a rotatable means, means on said rotatable means for holding said supports in substantially horizontal planes, said last means being arranged to release said supports in a successive manner upon movement of said rotatable means, means to rotate said rotatable means, and controller mechanism for stopping said rotatable means and normally holding the same against rotation.

2. In a vending machine, a vertical series of supports for the articles to be vended, means supporting said supports for swinging, a rotatable means, a vertical series of lugs on said rotatable means forming rests for said supports for normally holding the same in substantially horizontal planes, said lugs varying in length, whereby upon movement of said rotatable means said supports will be released in a successive manner, means to rotate said rotatable means, and controller mechanism for stopping said rotatable means and normally holding the same against rotation.

3. In a vending machine, a vertical series of supports for the articles to be vended, means supporting said supports for vertical swinging and sliding in a lateral direction, a rotatable means, a vertical series of lugs on said rotatable means forming rests for said supports for normally holding the same in substantially horizontal planes, said lugs varying in length, whereby upon movement of said rotatable means said supports will be released in a successive manner, means to rotate said rotatable means, and controller mechanism for stopping said rotatable means

and normally holding the same against rotation.

4. In a vending machine, a vertical series of supports for the articles to be vended, rods on which said supports are mounted for vertical swinging and sliding in a direction lengthwise of said rods, resilient means holding said supports against sliding, a rotatable means, a vertical series of lugs on said rotatable means forming rests for said supports for normally holding the same in substantially horizontal planes, said lugs varying in length, whereby upon movement of said rotatable means said supports will be released in a successive manner, means to rotate said rotatable means, and controller mechanism for stopping said rotatable means and normally holding the same against rotation.

5. In a vending machine, a vertical series of supports for the articles to be vended, means supporting said supports for swinging, a rotatable means normally holding said supports for successive release, a member fixed to said rotatable means and provided with a series of ratchet teeth arranged in circular relation, a spring means for rotating said rotatable means to release said supports, a controller lever, and a dog on said lever normally engaging the ratchet teeth of said member.

6. In a vending machine, a rotatably mounted member provided on one of its faces with ratchet teeth and on its opposite face with cam surfaces, means for rotating said member, a lever, a dog on said lever normally engaging the ratchet teeth of said member, and arranged to engage the cam surfaces on said member when said dog has been disengaged from said ratchet teeth, for returning said dog into engagement with the ratchet teeth during rotation of said member.

7. In a vending machine, a rotatably mounted means provided on one of its faces with ratchet teeth arranged in circular relation and on its opposite face with inclined cam surfaces arranged out of alinement with said ratchet teeth, there being one cam surface for each ratchet tooth, means to rotate said first means, a controller lever provided with an engaging part arranged to move over the cam surfaces of said first means, and a dog on said lever normally engaging the ratchet teeth of said first means, and being moved into engagement therewith by said engaging part moving over the cam surfaces of said first means.

Signed at Seattle, Washington this 6th day of November 1907.

JAMES V. MARTIN.

Witnesses:

JOHN W. FILKINS,
SARAH B. FOLEY.