

No. 673,704.

Patented May 7, 1901.

U. DI MARCO.
VENDING MACHINE.

(Application filed May 3, 1900.)

4 Sheets—Sheet 1.

(No Model.)

Fig 1

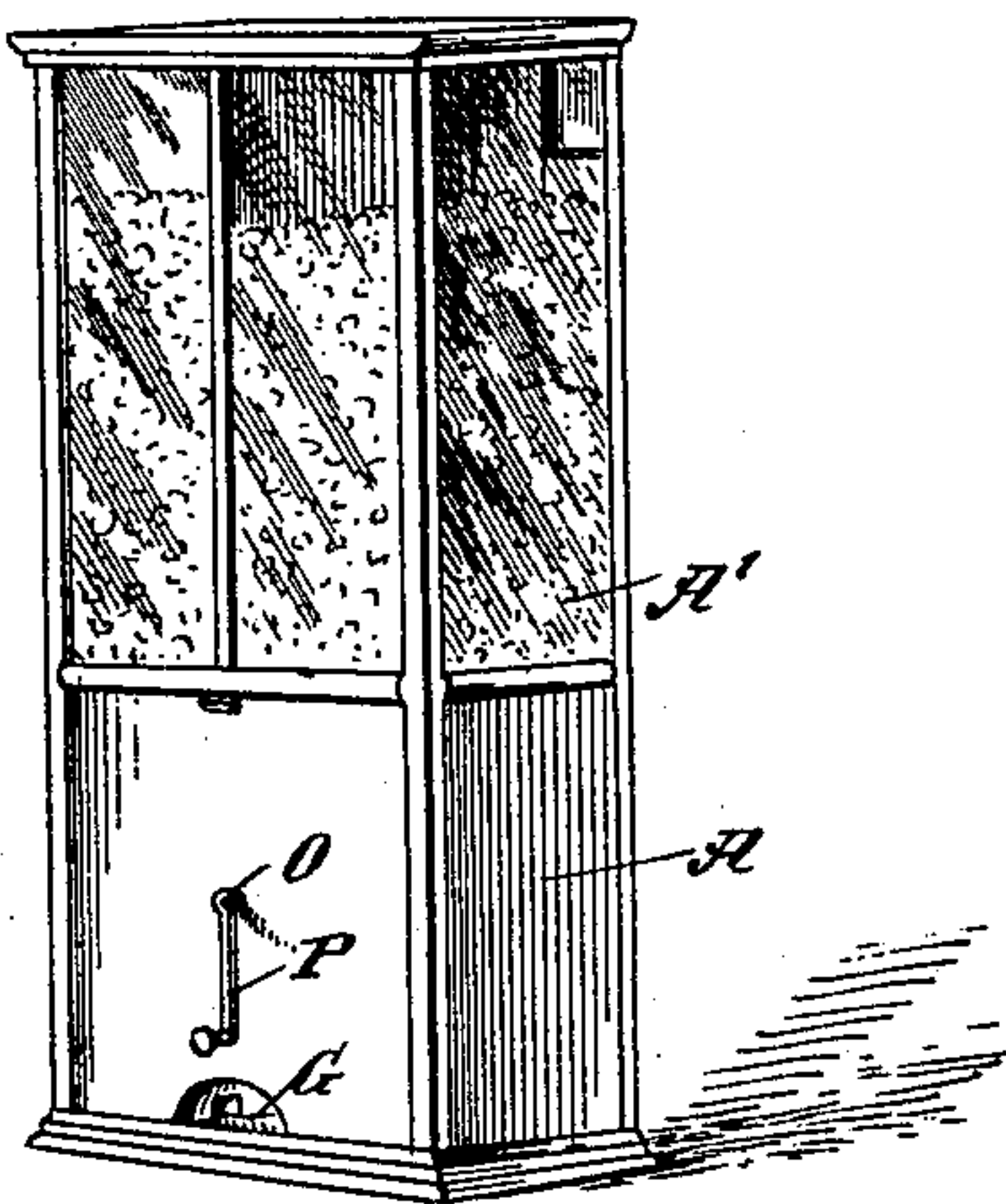
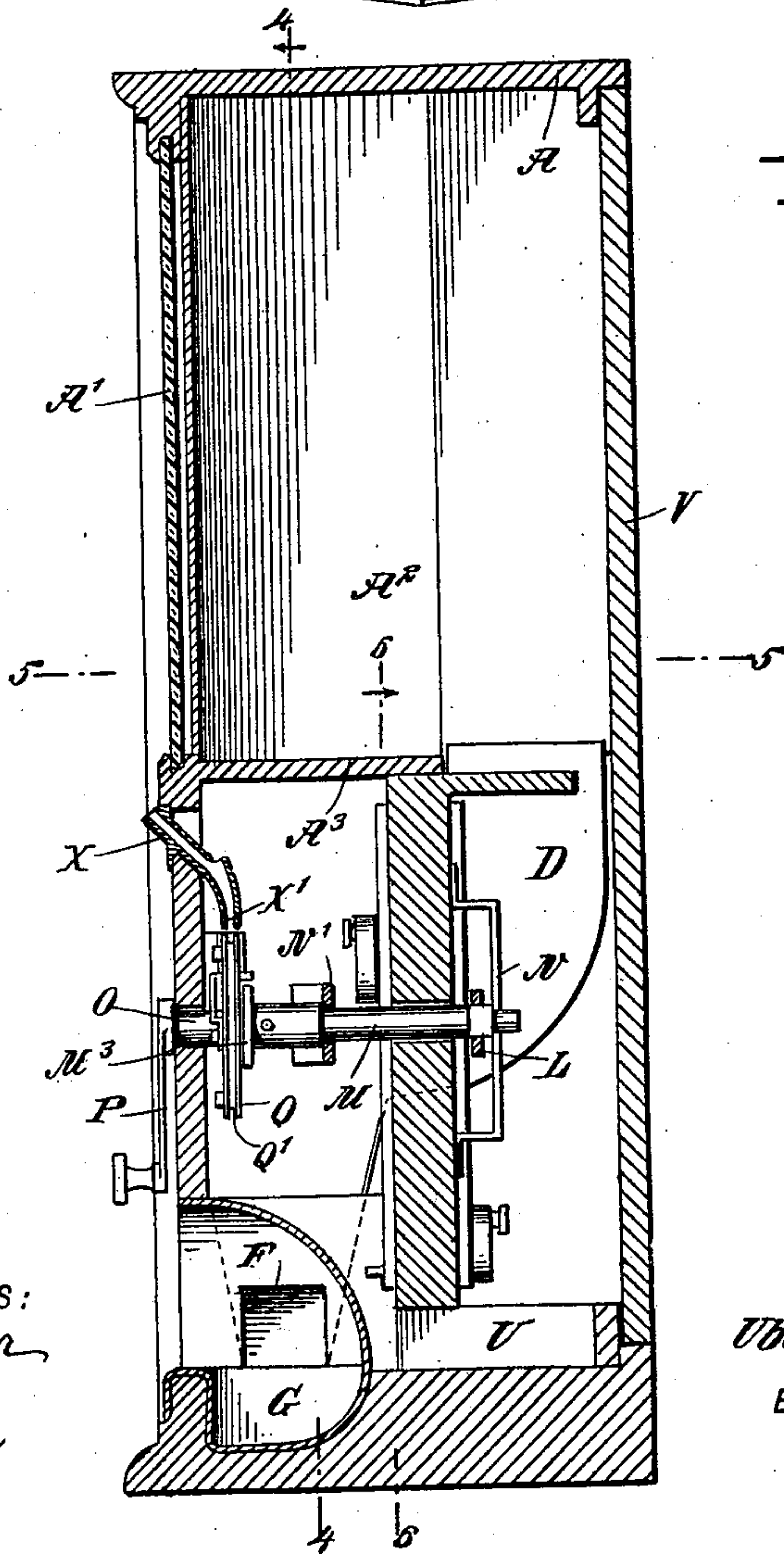


Fig 2



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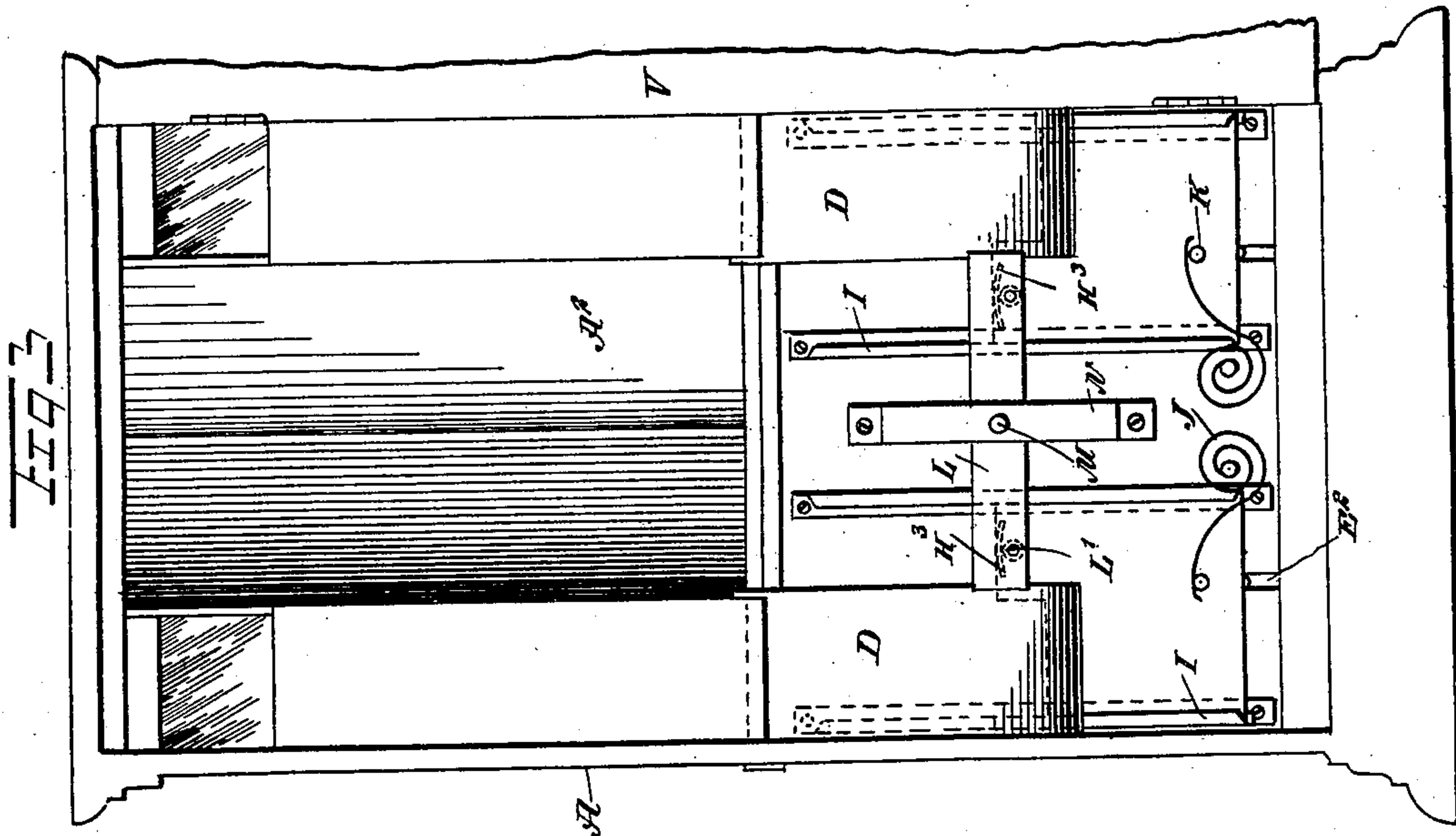
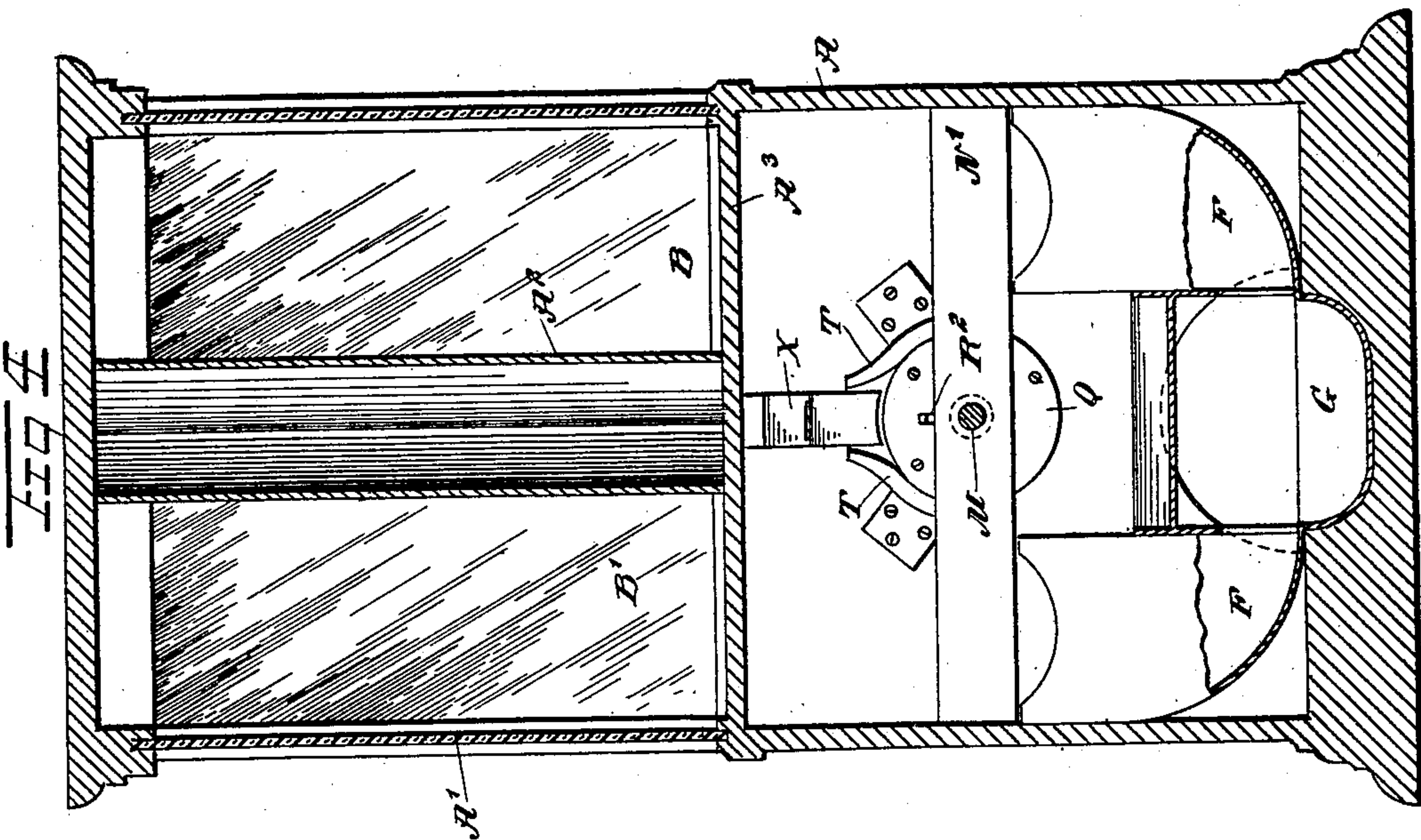
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Fig 5

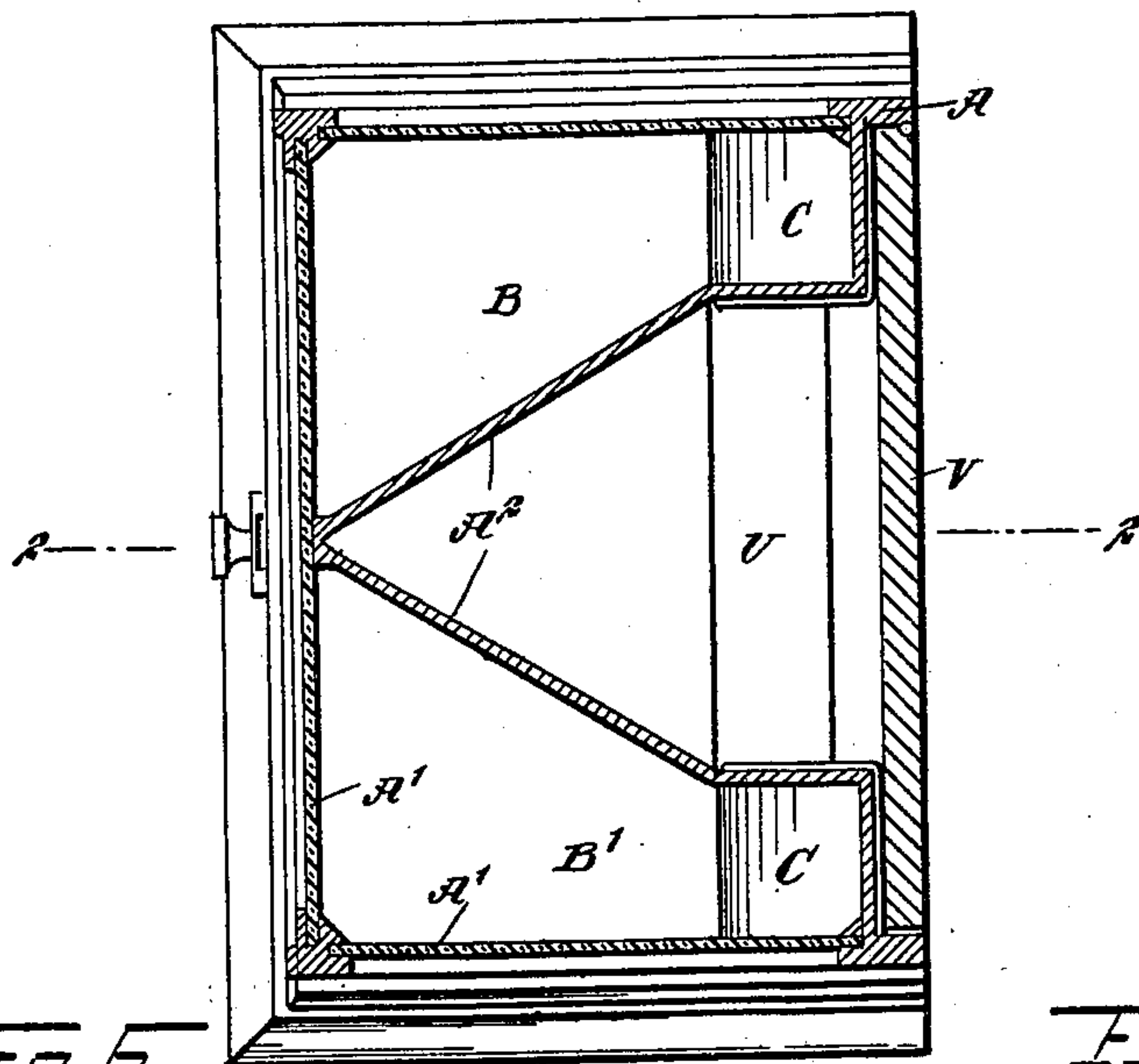
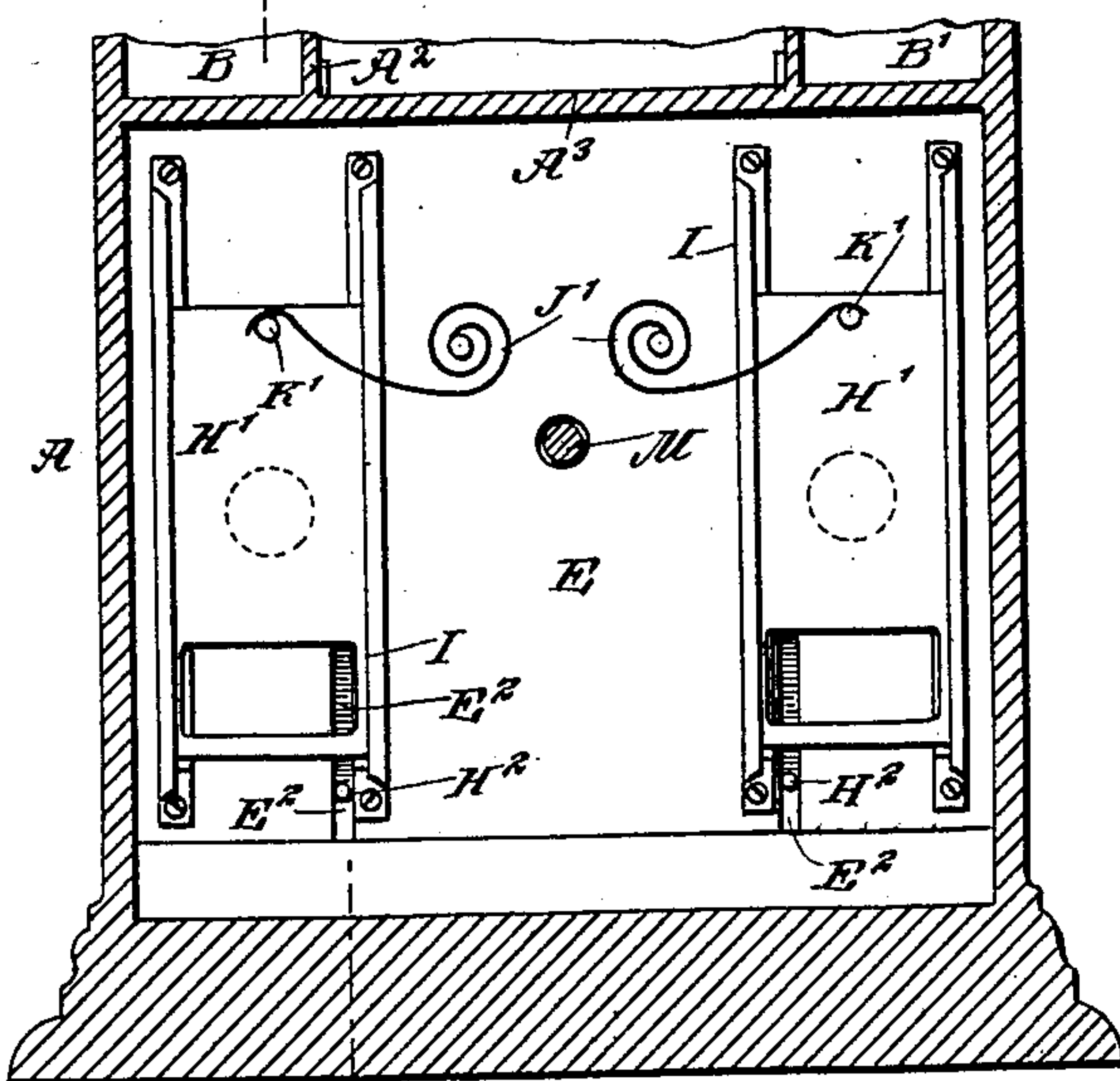


Fig 6

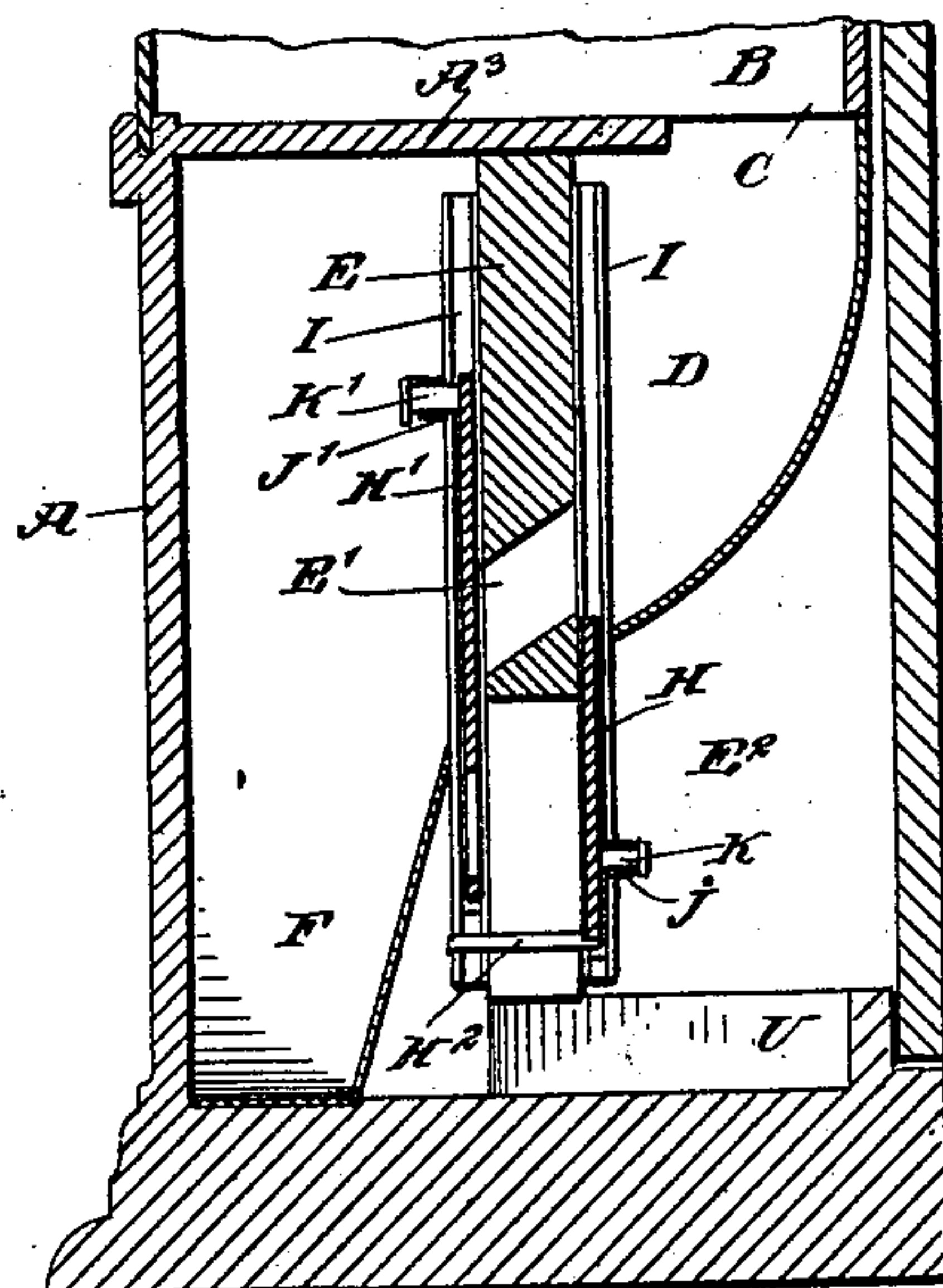


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Fig 7



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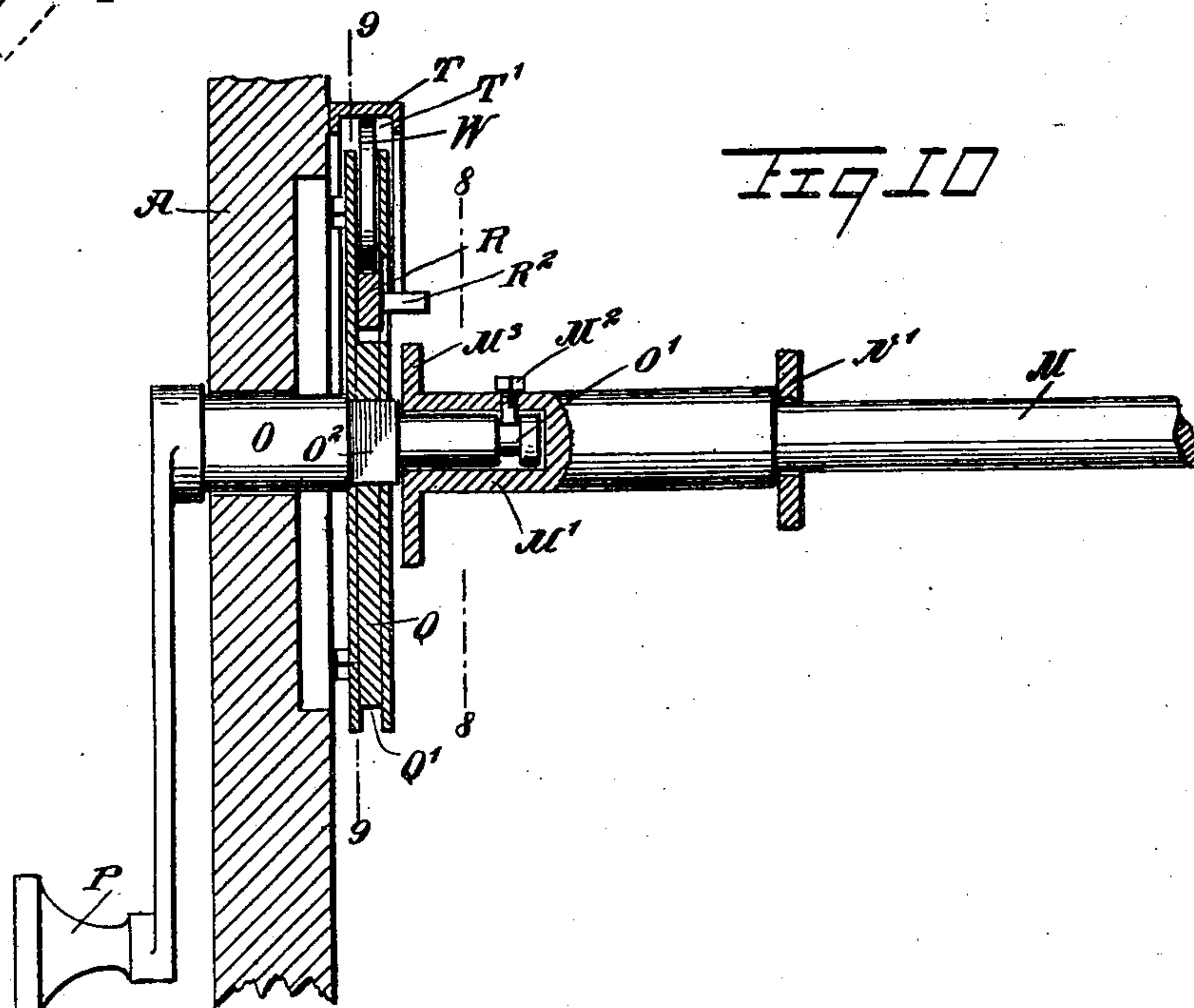
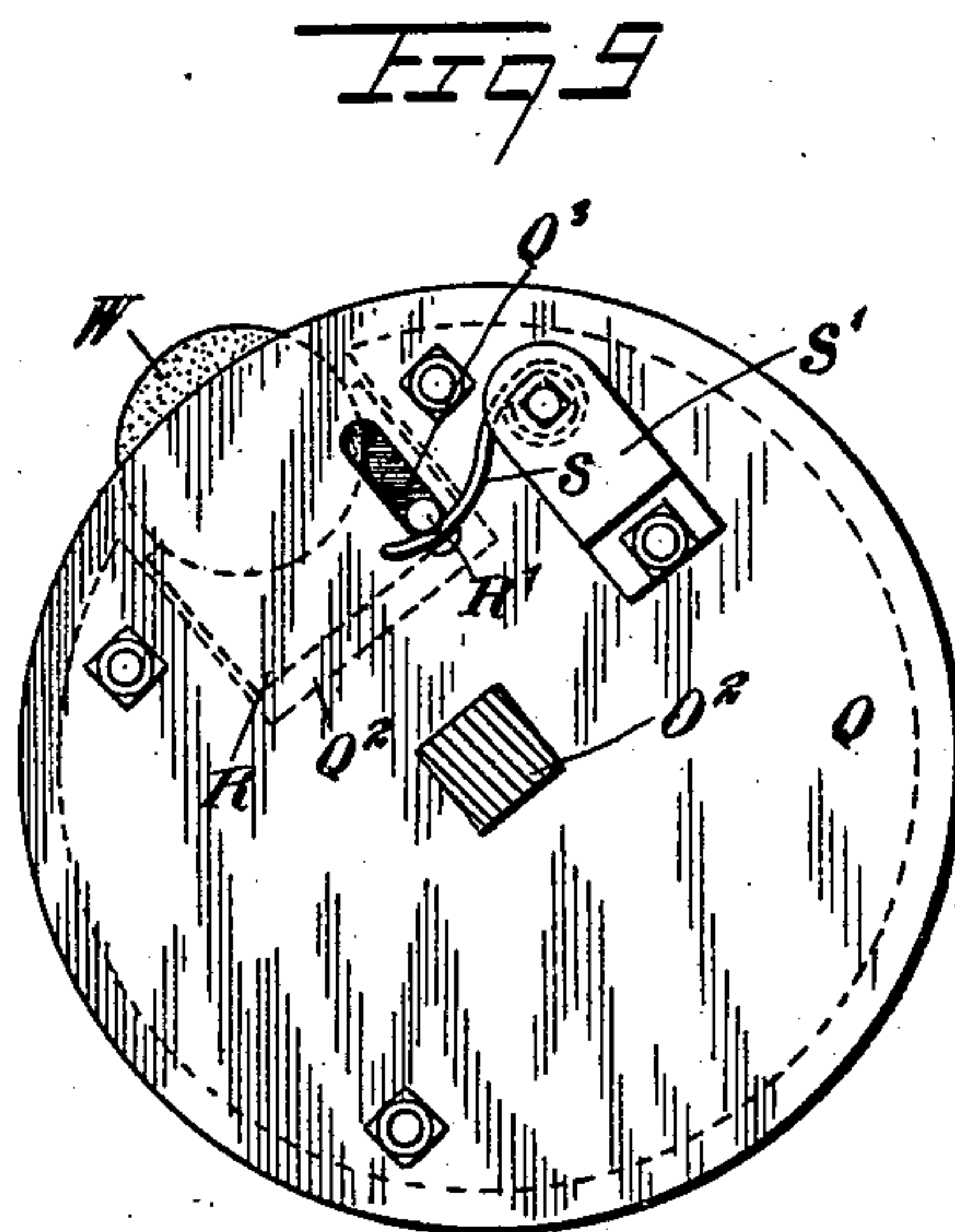
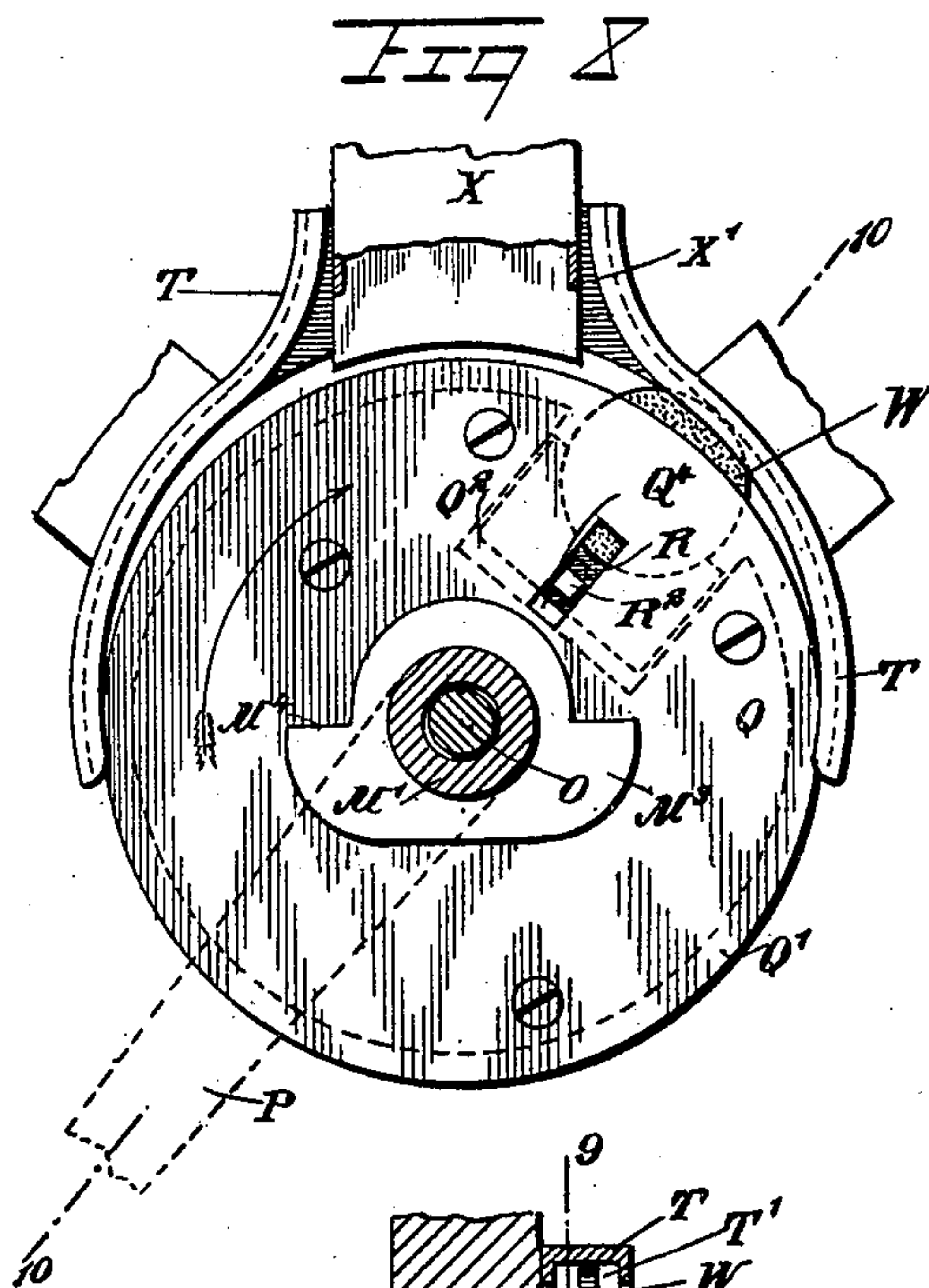
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(Application filed May 3, 1900.)

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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

UBALDO DI MARCO, OF NEW YORK, N. Y., ASSIGNOR TO JULIUS BRAUNSTEIN
AND ABRAHAM KRESSIN, OF SAME PLACE.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 673,704, dated May 7, 1901.

Application filed May 3, 1900. Serial No. 15,356. (No model.)

To all whom it may concern:

Be it known that I, UBALDO DI MARCO, a subject of the King of Italy, and a resident of the city of New York, borough of Bronx, in the county and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a full, clear, and exact description.

My invention relates to coin-controlled vending-machines, and has for its object to provide a device for the sale of two kinds or grades of goods in which there is employed but a single handle, by the rotation of which to the left or to the right the machine will be made to deliver one or the other kind of goods.

The invention will be fully described hereinafter and the features of novelty pointed out in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the complete machine. Fig. 2 is a central sectional elevation thereof on the line 2 2 of Fig. 5. Fig. 3 is a rear view of the machine with the back door open. Fig. 4 is a sectional elevation on the line 4 4 of Fig. 2. Fig. 5 is a horizontal section on the line 5 5 of Fig. 2. Fig. 6 is a broken sectional elevation on the line 6 6 of Fig. 2. Fig. 7 is a partial sectional elevation on the line 7 7 of Fig. 6. Fig. 8 is a sectional elevation on the line 8 8 of Fig. 10, showing the coin-chute and the mechanism connected therewith. Fig. 9 is a sectional elevation on the line 9 9 of Fig. 10 with the stationary coin-guides removed, and Fig. 10 is a section on the line 10 10 in Fig. 8.

The machine comprises a casing A, which in its upper part is preferably provided with transparent panes or windows A', so that the goods (candy) contained in the machine may be visible. Vertical partitions A², which diverge from the front pane rearwardly, (see Fig. 5,) divide the upper half of the casing into two compartments B B', having for a bottom the central partition A³, which may be horizontal, as shown in Figs. 4 and 7, or inclined rearwardly toward the discharge-openings C, which openings lead to chutes D. The lower end of each chute registers with a measuring-

compartment E', provided in a stationary vertical partition E. The measuring-compartment, like the chute D, is preferably inclined forwardly, as shown in Fig. 7. Adjacent to the lower end of each measuring-compartment E' is located the upper end of a chute F, inclined transversely, both chutes F leading to a centrally-located receptacle G, which is permanently open, so that the goods conveyed into the same may be taken out by the purchaser.

At the front and rear faces of the partition E, adjacent to each measuring-compartment E', are arranged cut-off slides H H', the two slides of the same side being operatively connected by a pin or bar H², which works in a slot E² of the partition E. The slides H H' project to different heights, as shown in Fig. 7, so that while one clears the opening of the compartment E' the other closes the other end of said compartment—that is, when the measuring-compartment is open at its upper or receiving end it will be closed at its lower or discharge end, and vice versa. The slides H H' move in vertical guides I, provided upon the front and rear faces of the partition E. The slides are normally held in a lowermost position by springs J J', secured to the partition E and engaging projecting pins K K' on the slides H H', respectively. It will be obvious that one set of springs will do, since the slides H H' are connected. The rear slides H are provided with curved flanges or projections H³, Fig. 3, engaged by pins L' upon a cross-bar L, secured rigidly to a shaft M, journaled in the partition E and also in brackets N N', Fig. 2.

The front portion M' of the shaft M is tubular to receive the rear end of the operating-shaft O, provided exteriorly of the casing with a handle or crank P, adapted to be turned by the operator. A pin or screw M², secured to the tubular portion M' and engaging an annular groove O' of the operating-shaft, prevents a withdrawal of the latter, but normally allows it to rotate independently of the shaft M.

The operating-shaft has rigidly secured upon it, as by engagement with a squared portion O², a disk Q, having a groove Q' at its periphery. At that portion of the periphery

which is uppermost in the normal position (with the crank P down, as in Figs. 1 and 10) the disk Q has a chamber or recess Q^2 , in which is movably mounted a slide R, having a concaved seat at its outer end to receive a coin. The slide R is pressed radially outward by a spring S, secured to a bracket S' on the front face of the disk Q and engaging a pin R', projecting from the slide R through a radial slot Q^3 in said disk. On its rear face the slide R has another projection R^2 , working in a radial slot Q^4 of the disk Q. This projection R^2 is normally—that is, when in its outer position—at such a distance from the center that when the disk is turned the projection R^2 will clear the flange M^3 , secured to the inner end of the tubular shaft portion M'. When, however, the slide R is pushed inward, as in Fig. 8, the projection R^2 will be in a position to engage one or the other of the stops or shoulders M^4 , formed upon the flange M^3 .

In registry with the upper portion of the grooved disk Q is arranged the lower end of a coin-chute X, preferably removable from the casing A and having its discharge portion X' so formed that coins exceeding a prescribed thickness or diameter will fail to pass through said chute. Laterally of the chute are located two stationary guide-plates T, having curved grooves T', located in the same plane with the groove Q' of the disk Q. These plates extend only around a portion of the disk, leaving the bottom thereof free, so that the coin can drop into the coin-receptacle U, Fig. 2. A door V, which is normally locked, closes the back of the casing A and affords access to the mechanism when required.

The operation is as follows: The springs J J' normally hold the cut-off slides H H' in the position shown in Fig. 7. The goods (candy) will therefore pass from the compartments B B' to the chutes D and will fill the measuring-compartments E', the front slides H' preventing such goods from reaching the receptacle G. The machine cannot be operated by turning the crank P unless a coin is previously inserted, for as long as no coin is inserted the slide R will be in an outer position, and the projection R^2 will clear the shoulders M^4 , so that the shaft O may be turned around indefinitely without actuating the mechanism. When a coin is introduced into the chute X, it drops upon the slide R and becomes seated upon the concave outer surface of the slide. The weight of the coin might be sufficient to move the slide inward to cause the projection R^2 to engage the shoulder M^4 when the shaft O is rotated; but to secure an absolutely certain operation I have provided the guide-plates T. As the crank P is turned, for instance, to the left, as indicated in Fig. 8, the coin W will be pressed inward by the engagement of its periphery with the guide-plate T, which, as shown, gradually comes nearer to the periphery of the disk Q. Therefore when about a quarter of a turn has been given to the crank P the projection R^2 will

engage the shoulder M^4 , and further rotation of the crank will turn the shaft M with the cross-bar L. The latter by the engagement of its pins L' with the flanges H^3 will raise the cut-off slides H H' on one side of the machine—viz., the side of the compartment B in the example mentioned. The raising of the slide H will first cut off the measuring-compartment E' from communication with the chute D and then the front slide H' will clear the opening at the front of said measuring-compartment, so as to allow the contents thereof to escape through the chute or channel F into the receptacle G, whence the purchaser may take the goods. During this operation the coin W is carried beyond the lower end of the guide-plate T and drops into the receptacle U, the outward movement of the slide R (under the influence of the spring S) being temporarily prevented by the frictional engagement of the projection R^2 with the shoulder M^4 . When the slides H H' reach the limit of their upward travel, the shaft cannot be turned any farther, thus preventing another delivery of goods without the insertion of another coin, for as soon as the shaft O is turned back the pressure holding the pin R^2 in its inner position is relaxed and the slide moves outward until it clears the flange M^3 , whereupon the springs J J' will return the slides H H', and with them the bar L and shaft M, to their normal positions. Should a defective coin be thrown into the machine and fail to pass the coin-chute X, it will remain there as evidence against any claim set up by a complaining customer. It will be understood that in practice the compartments B B' will be filled with different kinds of goods, such as candy, and it will be obvious that the purchaser can by turning the handle P in one direction or the other secure goods of either kind, as desired; but he will not be able to alter his choice when the operation of the slides H H' has begun, since at that time the coin W will have been discharged from the disk Q.

Various modifications may be made without departing from the nature of my invention as long as they remain within the scope of the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a coin-controlled mechanism for vending-machines, the combination with a discharge device, of a shaft formed of two sections capable of moving one upon the other, a coin-controlled coupling device for the shaft-sections, means for operating the discharge device from one of the shaft-sections when the said sections are coupled, and means for returning the said shaft-section from the discharge device to its normal position, when the shaft-sections are uncoupled, as set forth.

2. In a coin-controlled mechanism for vending-machines, the combination with discharge

devices, of a shaft formed of two sections capable of moving one upon the other, a coin-controlled coupling device for the shaft-sections, means whereby the discharge devices
5 are alternately operated, from one of the shaft-sections, when the said sections are coupled, and means for returning the said shaft-section from the discharge devices to its normal position, when the shaft-sections
10 are uncoupled, as set forth.

3. In a coin-controlled mechanism for vending-machines, the combination with a spring-pressed discharge device, of a shaft formed of two sections capable of turning one upon
15 the other, a coin-controlled coupling device for the shaft-sections, and a connection between the inner shaft-section and the discharge device to move it in one direction against the action of its spring, when the said
20 sections are coupled, whereby the said inner shaft-section when the sections are uncoupled, will be returned to its normal position by the discharge device, as set forth.

4. In a coin-controlled mechanism for vending-machines, the combination with two
25 spring-pressed discharge-slides, of a shaft formed of two sections capable of turning one upon the other, a coin-controlled coupling device for the shaft-sections, and a cross-bar on the inner shaft-section and adapted to alternately engage projections on the discharge-
30 slides, whereby provision is made for alternately operating the discharge devices when the shaft-sections are coupled and returning the inner shaft-section to its normal position when said sections are uncoupled, as set forth.

5. In a coin-controlled mechanism for vending-machines, the combination of the actuating-shaft made in two alined sections normally capable of relative movement, operated
40 mechanism connected with one of said sections, and a coupling device for compelling said shaft-sections to move in unison, said coupling device consisting of a face or shoulder on one shaft-section, and a coin-controlled
45 part movably mounted on the other section and arranged to engage said shoulder.

6. In a coin-controlled mechanism for vending-machines, the combination of the shaft
50 made in two alined sections normally capable of turning one relatively to the other, oper-

ated mechanism connected with one of said sections, and a coupling device for compelling said sections to turn in unison, said coupling device consisting of a face or shoulder
55 on one shaft-section, and a coin-slide mounted to move in and out on the other section and provided with a projection adapted to engage said shoulder.

7. In a coin-controlled mechanism for vending-machines, the combination of the shaft made in two alined sections normally capable of turning one relatively to the other, operated mechanism connected with one of said
60 sections, and a coupling device for compelling said sections to turn in unison, said coupling device consisting of a face or shoulder on one shaft-section, a spring-pressed coin-slide mounted to move in and out on the other section and provided with a projection adapted
70 to engage said shoulder, and a stationary guide-plate arranged adjacent to the path of the coin to force the coin-slide inward.

8. In a coin-controlled mechanism for vending-machines, the combination with a shaft
75 formed of two alined sections, capable of turning one on the other, one section of the shaft being provided with a shoulder, of a disk carried by the other section of the shaft, and a spring-pressed coin-slide mounted in the disk
80 and provided with a projection, said projection when the slide is depressed by the coin extending into the path of the said shoulder.

9. In a coin-controlled mechanism for vending-machines, the combination with a casing
85 provided with a coin-chute, and with a grooved guide on its inner surface, of a shaft formed of two alined sections capable of turning one upon the other, the inner section being provided with a shoulder, a disk mounted
90 on the outer section, and a spring-pressed coin-slide mounted in the disk and provided with a projection which when the slide is depressed by a coin extends into the path of the said shoulder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

UBALDO DI MARCO.

Witnesses:

VITO RUSSO,
JOHN LOTKA.