

(No Model.)

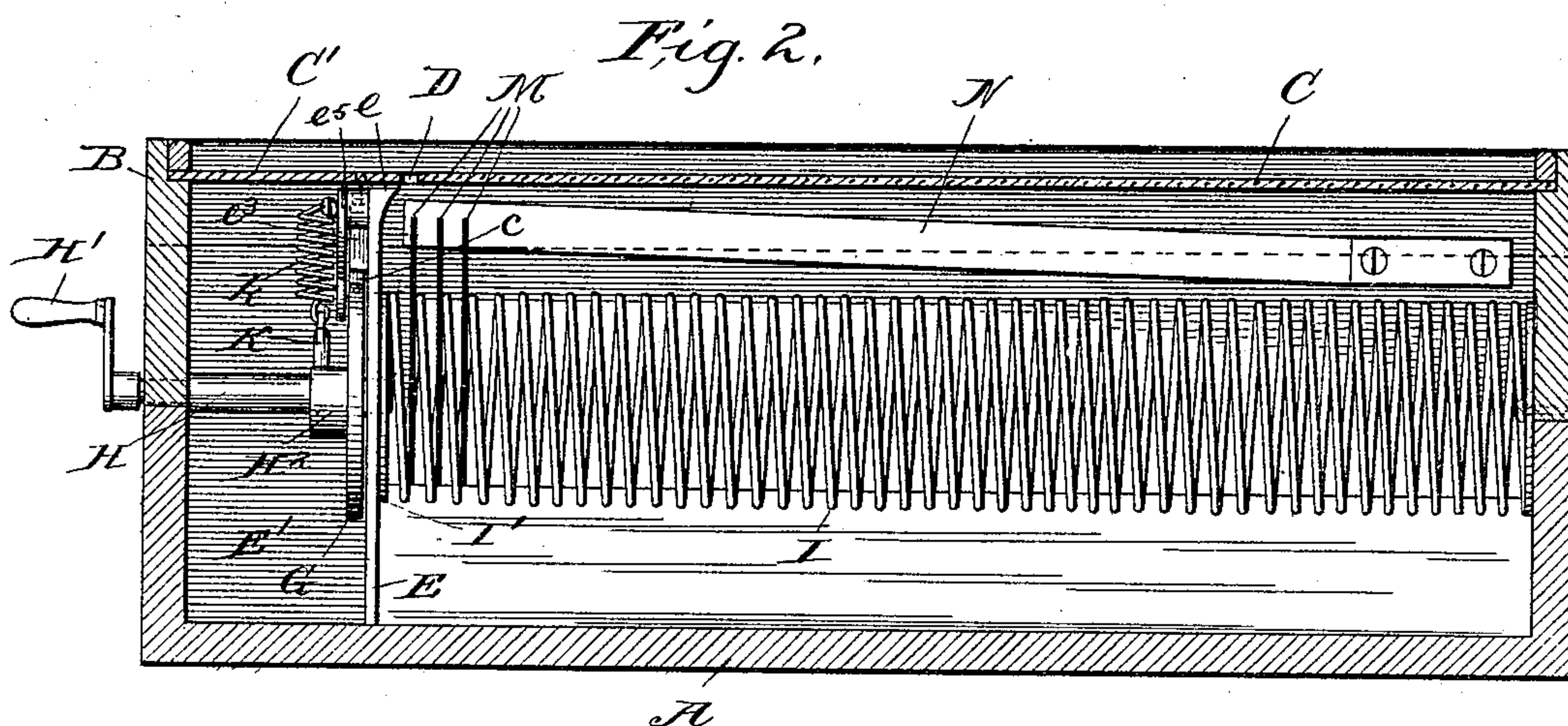
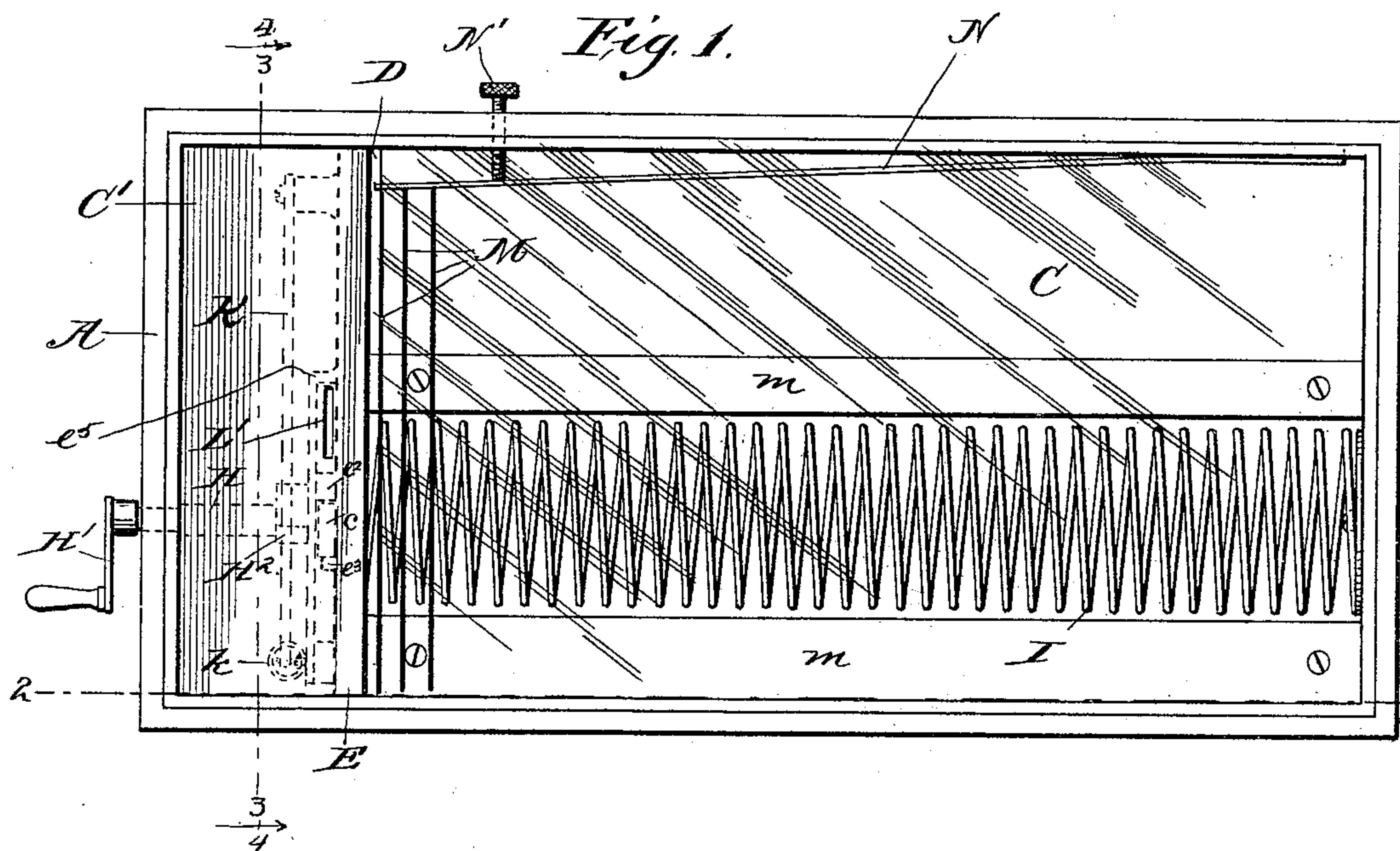
3 Sheets—Sheet 1.

A. S. KIBBY.

COIN CONTROLLED VENDING APPARATUS.

No. 481,280.

Patented Aug. 23, 1892.



Witnesses
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Fig. 3.

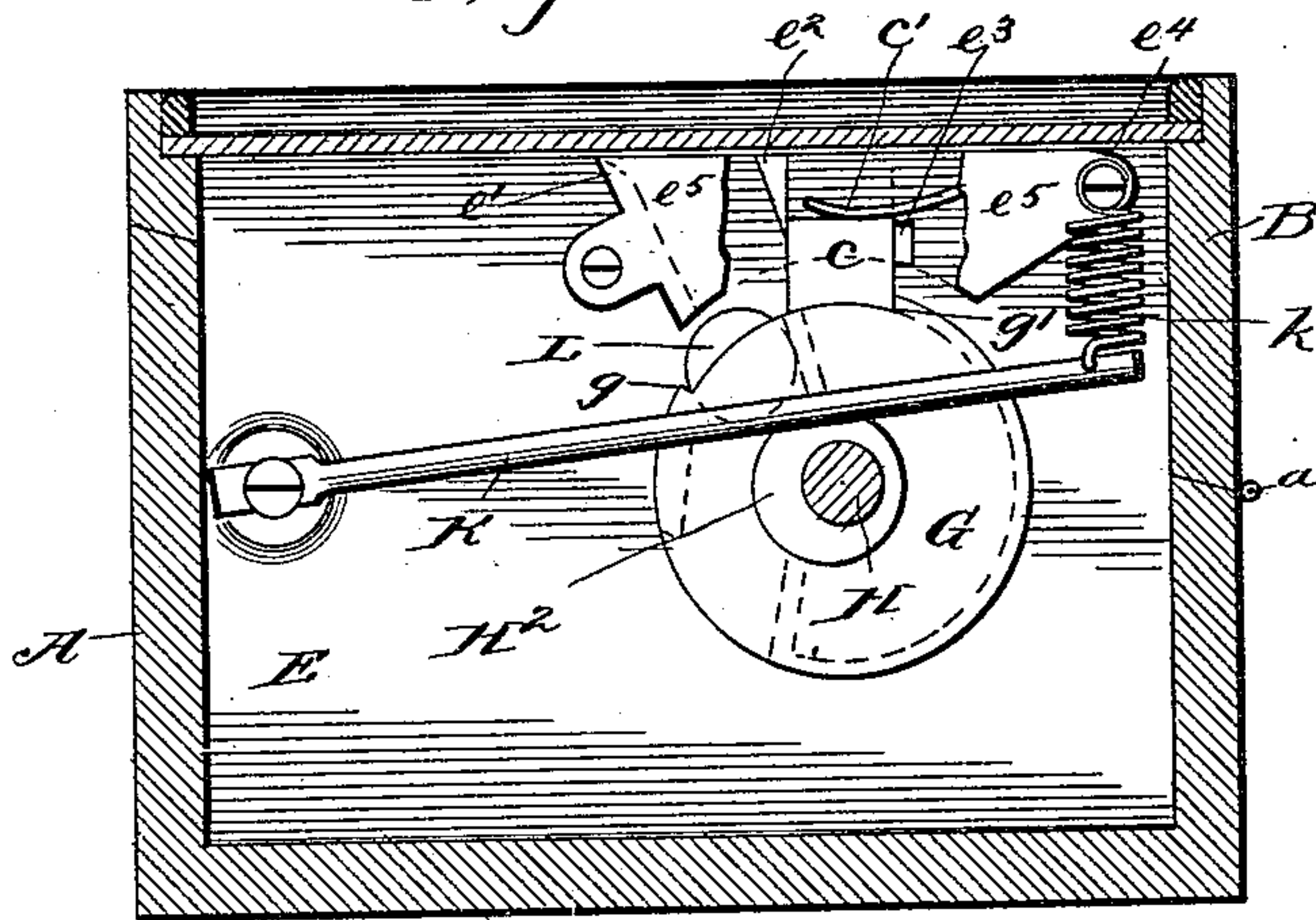


Fig. 4.

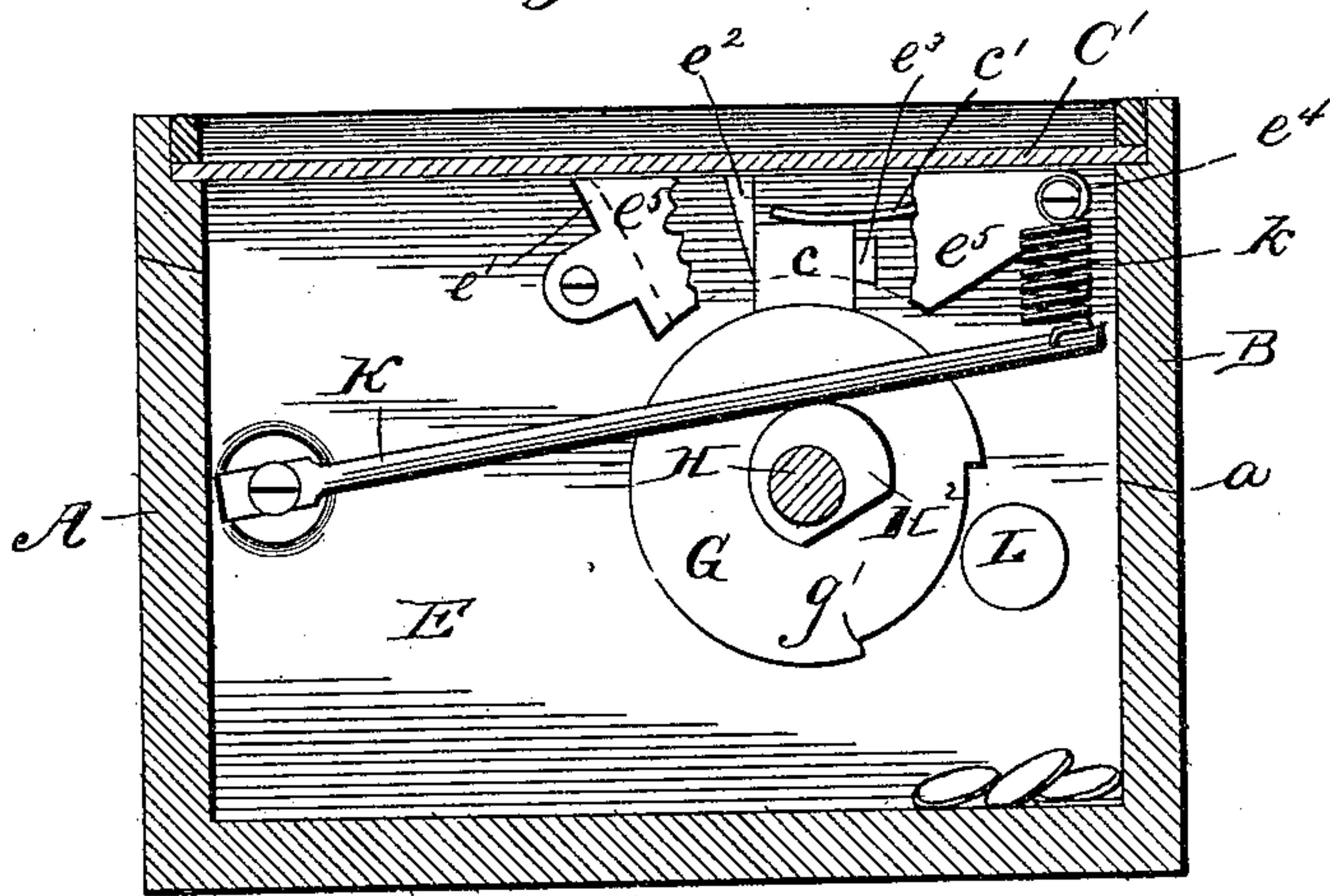


Fig. 5.

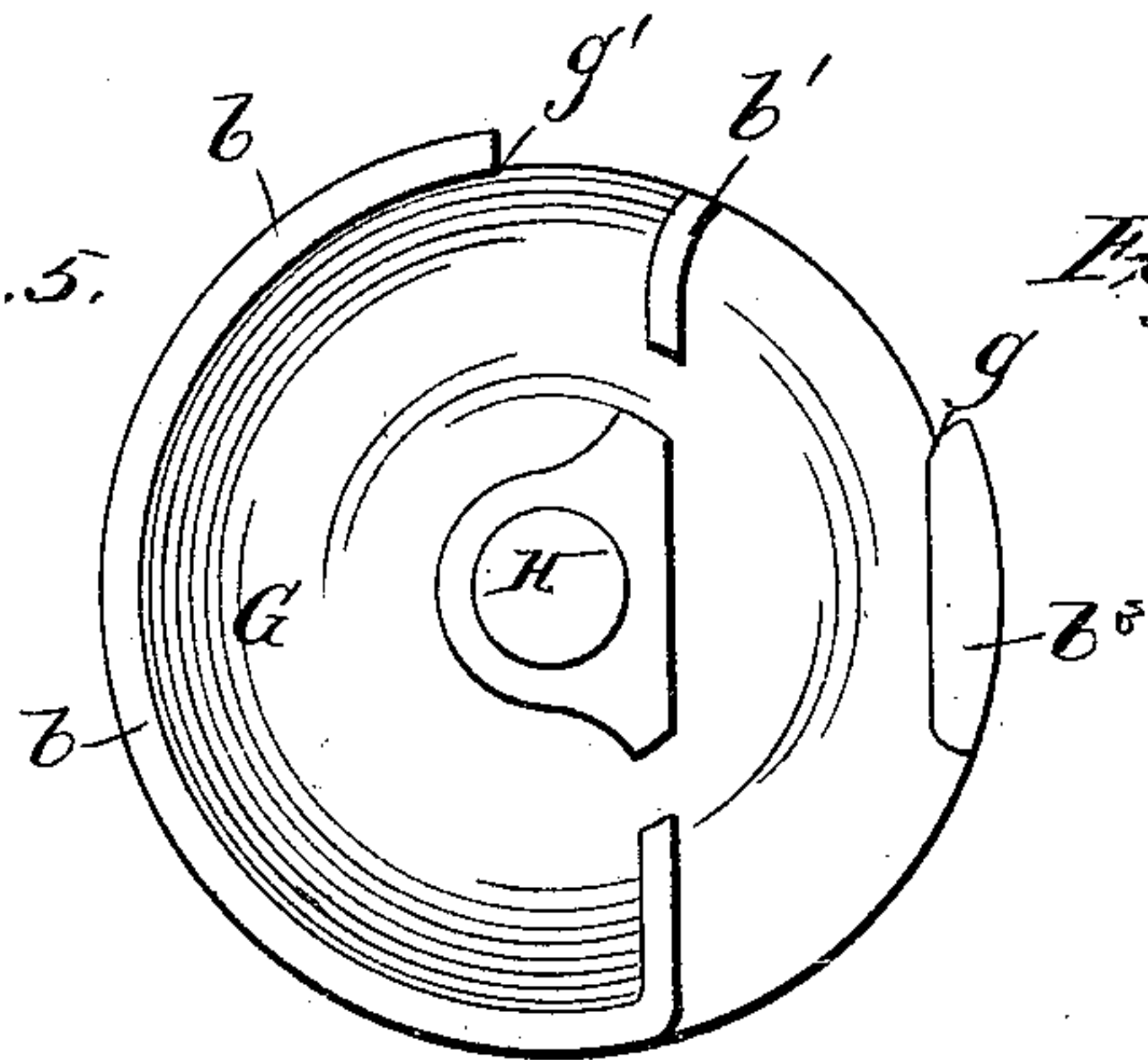
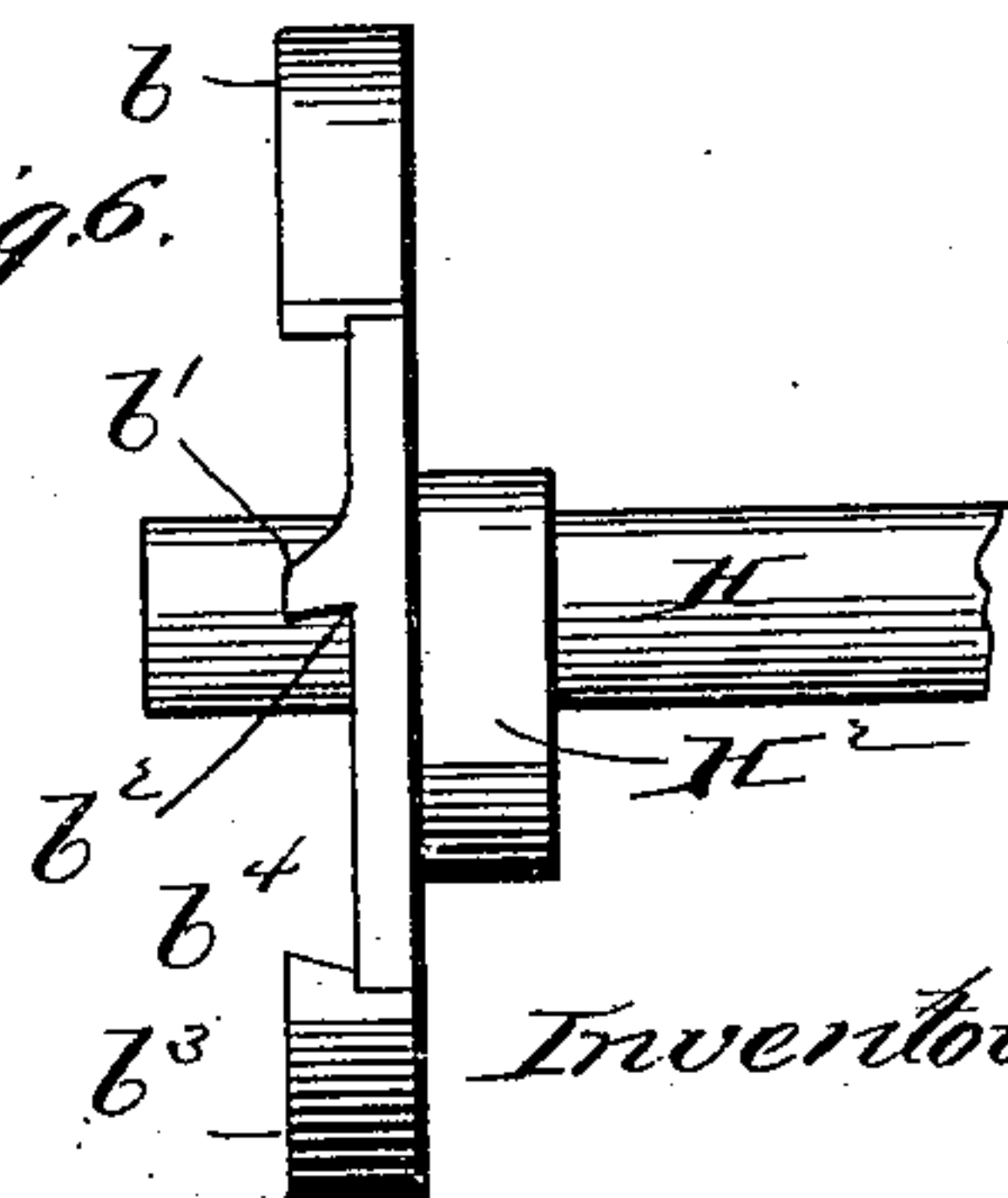


Fig. 6.



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3 Sheets—Sheet 3.

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Fig. 7.

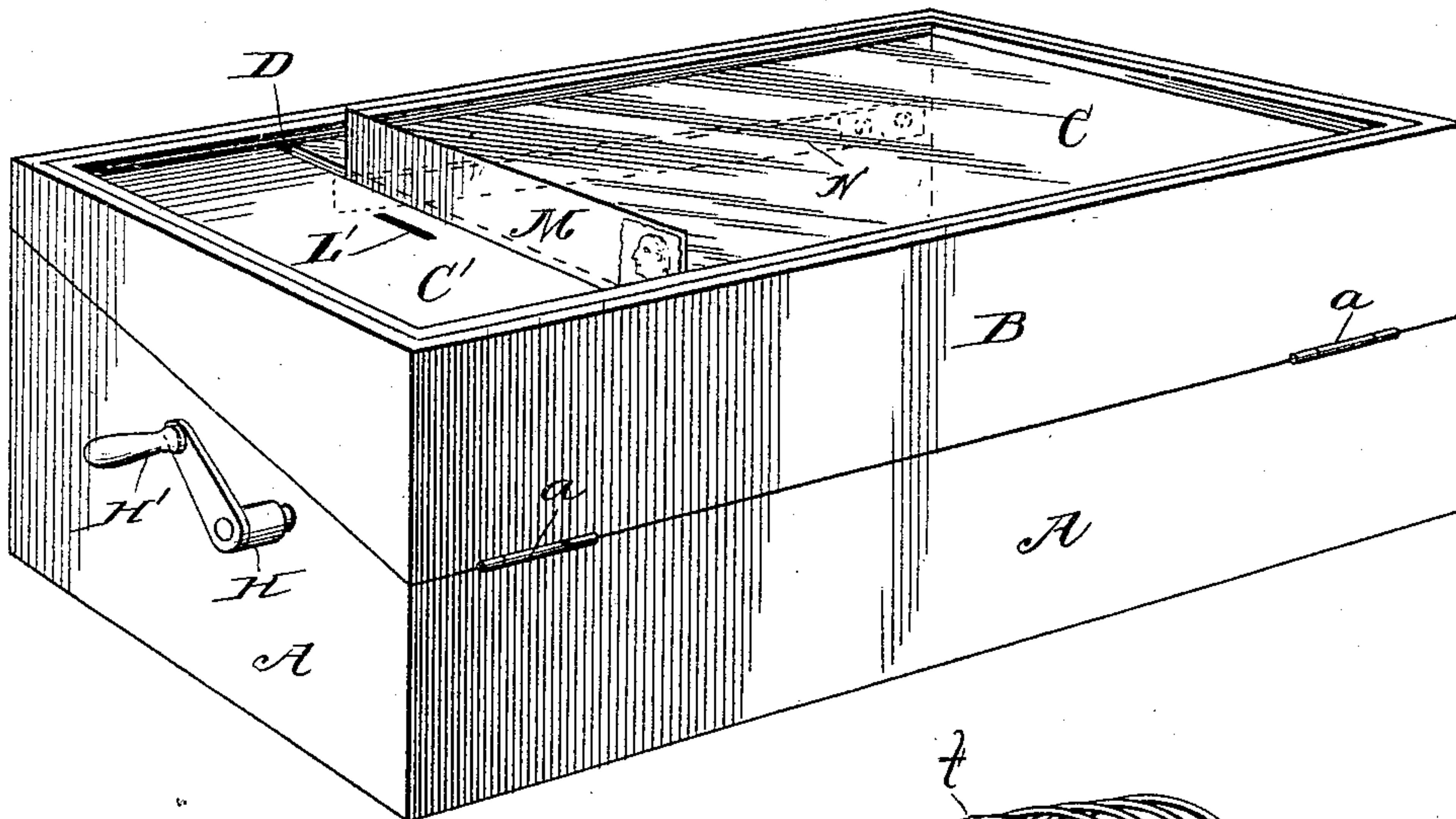


Fig. 10.

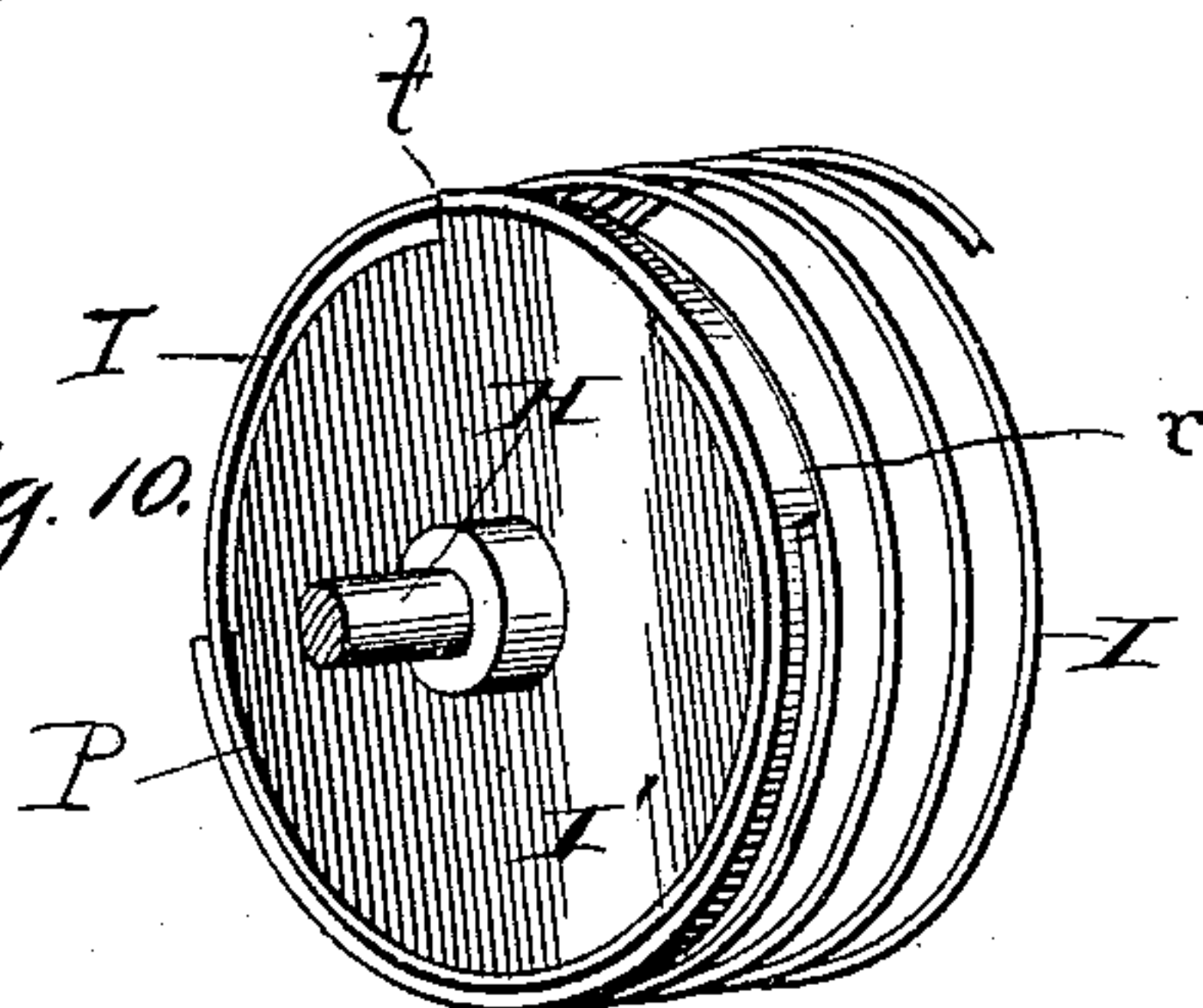


Fig. 8.

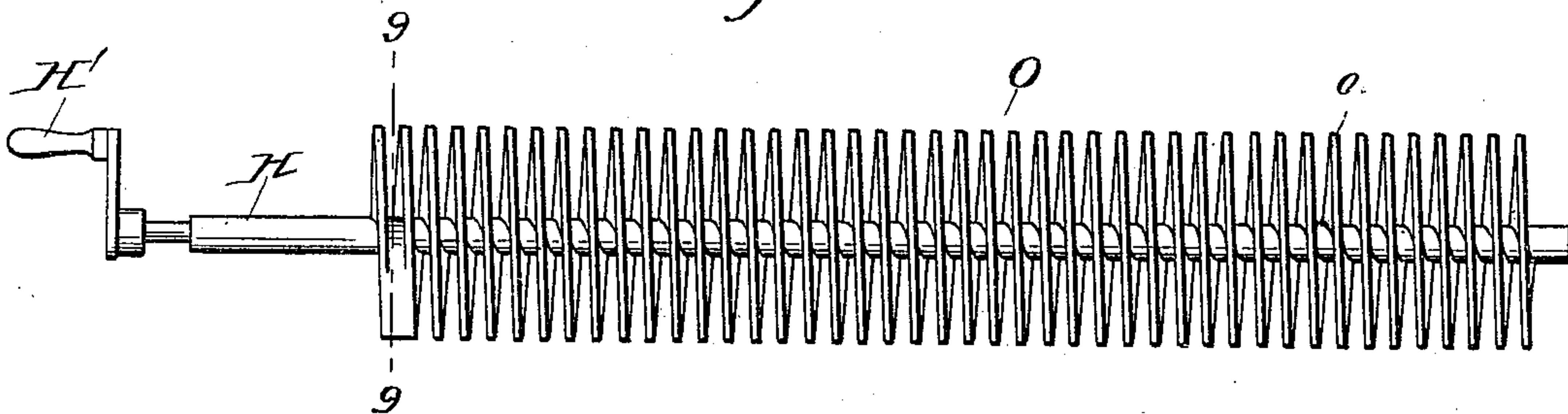
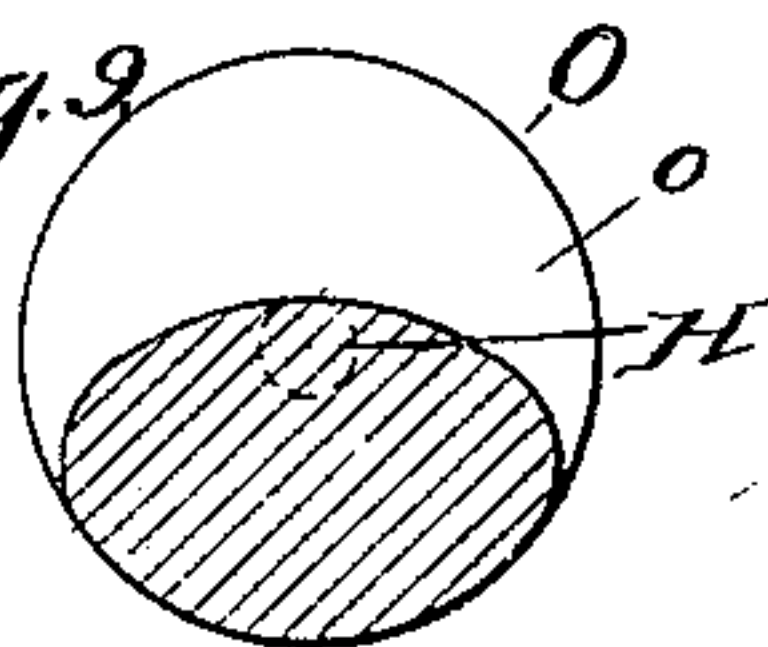


Fig. 2



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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 481,280, dated August 23, 1892.

Application filed May 7, 1892. Serial No. 432,154. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER S. KIBBY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Vending Apparatus, of which the following is a specification.

My invention relates to improvements in coin-controlled vending-machines; and it consists in certain peculiarities of the construction and novel arrangement and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to provide a neat and attractive yet inexpensive device for the sale and delivery of envelopes and other articles, which shall be simple in construction and effective in operation, and, second, a device for the above-named purpose in which the delivery of the article to the purchaser is controlled by the deposit of a coin of a specific value.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a plan view of my apparatus. Fig. 2 is a longitudinal view taken on line 2 2 of Fig. 1. Fig. 3 is a cross-sectional view taken on line 3 3 of Fig. 1, showing the coin after having been deposited and in position as it appears when the machine is ready to be operated. Fig. 4 is a similar view showing the position of the operating disk and cam after the coin has caused the delivery of the article and is in the act of dropping from the operating-disk. Fig. 5 is a rear view of the operating-disk. Fig. 6 is a plan view of the disk and a portion of its shaft. Fig. 7 is a perspective view of the apparatus, showing an envelope partially raised through the delivery-slot. Fig. 8 is a modification of the means employed for forcing forward and out of the slot the envelopes or other articles. Fig. 9 is a view in cross-section thereof, taken on line 9 9, and Fig. 10 is a perspective view of the ejecting-disk and a portion of the shaft and spiral carrier.

Similar letters refer to like parts throughout the different views of the drawings.

A represents a box or other receptacle for the operating mechanism and articles and may be made of any suitable size, form, and material, but preferably rectangular, as shown in the drawings. The upper portion of this box is provided with a lid B, which is preferably hinged to one side of the box A, as at *a*, and is provided with a glass or other transparent top C, through which the articles for sale or delivery may be seen and by which it may also be known when the box is empty. This glass top extends from the rear portion of the lid B to near the front end thereof, as is clearly seen in Figs. 1, 2, and 7, where it terminates, and the remainder of the top to the lid is formed, preferably, of a piece of opaque material C'. By reference to the last-named figures it will be seen that the pieces C and C', forming the top of the lid, are not united, but are left slightly apart, forming a delivery-slot D, through which the envelopes or other articles are forced by the spiral carrier, as will be presently explained.

A short distance from the front end of the box A and extending from side to side thereof and from the lid to the bottom is placed and secured in an upright position a partition E, the upper portion of which is formed with an enlargement or outward bevel *e*, the edge of which enlargement or beveled portion when in position in the box A is about flush or in alignment with the inner edge of the piece C', which inner edge forms one side of the delivery-slot D. As shown in Figs. 1 and 2, this partition E is placed a slight distance from the end of the box A and affords a compartment E' for the reception of the coins, which may be deposited in the operation of the device.

On the side of the partition E adjacent to the front end of the box are provided lugs *e'*, *e*², *e*³, and *e*⁴. To the lugs *e'* and *e*⁴ are secured, by means of screws or otherwise, a plate *e*⁵, which has its upper portion flush with the top of the partition E and its lower portion circular, as shown by dotted lines in Figs. 3 and 4. This plate is held a slight distance from the partition E by means of the lugs *e'* and *e*⁴, to which it is secured, and thus allows

the coin to pass between the lugs e' and e^2 , both of which are inclined to one side, as shown, in the drawings. On the opposite side of the lug e^2 from the side intended for the passage of the coin the said lug is formed vertically, and between it and the lug e^3 is placed and movably secured a bolt c , which is pressed against the disk G by means of a spring c' , which is secured at one end to the lug e^4 .

At a proper point the partition E is provided with an opening for the shaft H , upon which is mounted the disk G , and to the outer end thereof, which passes through an opening in the front end of the box A , is secured a crank-handle H' for revolving the disk G and the envelope-ejecting spiral and carrier. As shown in Figs. 5 and 6, the reverse side of the disk G , or the side adjacent to the partition E , is provided with an annular flange b , which partly encircles its periphery, and also that the said side of the disk is provided or formed with a lug b' , which extends from its periphery inwardly a slight distance, and on one side is inwardly beveled, as at b^2 , in a similar manner to the lug b^3 , as shown at b^4 . The annular flange b and the lugs b' and b^3 keep the disk G a slight distance from the front surface of the partition E , and the inward bevels b^2 and b^4 of the lugs b' and b^3 allow the coin of a greater circumference but less thickness than a coin of the requisite value required to operate the device to pass through without engagement with the sliding bolt c , as will be more fully explained.

To the front surface of the partition E , and near one side thereof, is pivotally secured a lever K , which passes above the shaft H and acts upon the cam H^2 , which may be made integral with the outer surface of the disk G , or may be closely fitted thereto on the shaft H . The lever K is held in position and pressed against the said cam by means of a spring k , which is secured at one end to the lug e^4 and at the other end to the free end of the lever K .

As is clearly seen in Fig. 4 of the drawings the periphery of the disk G is cut away, as shown at g and g' , and the flat part of the cam H^2 is about parallel with an imaginary line drawn from the point g to the point g' , so that when that portion of the cam is in contact with the lever K the cut-away portion of the disk G will be in a position to receive the coin L , which when deposited in the slot L' made therefor in the piece C' will glide between the lugs e' and e^2 and be caught or fastened between the edges of the lugs b' and b^3 , as shown in Fig. 3, when by turning the crank-handle H' the disk G will be revolved and the coin L will pass under and slightly raise the bolt c until the point g passes said bolt, when the disk G may be completely revolved, and the coin will be dropped therefrom, as shown in Fig. 4.

As before stated, the shaft H has its bearings in the front end of the box A and the partition E and passes slightly through said

partition, and has secured to its inner end a spiral-spring carrier I , which is preferably provided at its end adjacent to the partition E with a plate or disk I' , and is pivotally secured at its other end to the rear end of the box A by means of a screw or otherwise. As shown in Figs. 1 and 2 of the drawings, this spiral I is secured in the box A horizontally, at a suitable distance from the bottom of the box, and may have on each side thereof parallel pieces m , secured to the bottom of the box, upon which rest the lower edges of the envelopes M or other articles which are placed between the convolutions of the spiral carrier.

To one side of the inner surface of the box A , and near the rear portion thereof, is secured a piece N , which extends horizontally near the top of the box to the partition E and is adapted to guide the envelopes or other articles in their progress to the delivery-slot D . This piece, as shown in Fig. 1, is adjustably operated by means of the thumb-screw N' or a similar device, which has its bearing in the side of the box.

By reference to Fig. 3 it will be seen and understood that by turning the disk G by means of the crank-handle H' the coin L will raise the bolt c , that the cam H^2 will raise the lever K to the point indicated by dotted lines, and that the coin will retain the bolt c in a raised position, so that the said bolt will be disengaged from the point g of the lug b^3 in the revolution of the disk. It will also be seen and understood that if the coin was not deposited in the slot L' and between the lugs b' and b^3 the disk could be turned until the point g of the lug b^3 would strike or engage with the bolt c , which would prevent its further revolution, and that the spring-actuated lever K , resting on the apex of the cam H^2 , would cause the disk to return to the position indicated by continuous lines. (Shown in Fig. 3.)

In Fig. 6 I have shown a plan view of the operating-disk and a portion of its shaft and its cam, in which the lugs b' and b^3 are formed with bevels b^2 and b^4 , respectively, which construction of said lugs will allow a coin which is thinner than the coin of the requisite value required to operate the device to pass through, but which will catch and retain the coin of the proper dimensions until the delivery of the articles is made. Of course if the coin of a less diameter than that of the coin of the requisite value required to operate the apparatus is placed in the slot L' it will pass between the lugs b' and b^3 without having any effect upon the operation of the disk.

In Fig. 8 I have shown a modification of the spiral carrier, which I may sometimes employ instead of the spiral spring I (illustrated in Figs. 1 and 2.) In this modification the carrier O is a screw formed with deeply-cut threads o , between which threads are placed the envelopes or other articles and are carried forward and thrust out of the slot D by

the revolution of the screw, as is apparent. In this modification the shaft H extends the entire length of the screw and has at one end the crank-handle H' secured thereto and its bearing for the other end in the rear end of the box A. When this modification is employed, the pieces *m* must necessarily be raised till about level with the shaft H, in order to have the envelopes glide forward in an even and regular manner.

In Fig. 10 I have shown in detail the ejecting-disk I', to which is secured one end of the spiral-spring carrier I and which is mounted on and rigidly fixed to the end of the shaft H, which passes through and to the rear of the partition E. This disk is preferably formed, as shown in the drawings, with an annular flange P on its side adjacent to the partition E, which extends partially around its periphery and holds the disk slightly from the partition, as well as affords a nest or resting-place for a portion of the spiral I, which passes over to the other side of the disk through its broken-away portion, as at *f*.

On the opposite side of the disk I' is formed or provided a lug *r*, to which one of the convolutions of the spiral is attached, as shown, and which raises the envelope or other article through the slot D, as is apparent. It is evident that I may dispense with this disk I' and secure the spiral carrier to the inner end of the shaft H, when the spiral by reason of its progression will eject the envelope through the slot D. It is also obvious that I may sometimes dispense with the lever K and the cam H² without departing from the spirit of my invention; but I prefer to use them as well as the ejecting-disk.

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

1. In a coin-controlled vending-machine, the combination of the box A, having the slots D and L' and the partition E, with a spiral carrier and ejector secured at one end to the rear end of the box and its other end secured to the shaft H, by which it is adapted to be rotated, the shaft H, having the handle H', the disk G, mounted on the said shaft, having the annular flange *b* and the lugs *b'* *b*³, and the bolt *c*, adapted to engage the disk G and to be disengaged therefrom by a coin, substantially as described.

2. In a coin-controlled vending-machine, the combination of the box A, having the slots D and L', with the partition E, having the lugs *e'*, *e*², *e*³, and *e*⁴, a spiral carrier and ejector, the shaft H, having the handle H', the disk G, mounted on the said shaft and having the cam H², annular flange *b*, the lugs *b'* *b*³, and recessed or cut-away portion *g g'*, the plate *e*⁵, secured over the lugs *e'* *e*², the spring-actuated bolt *c*, adapted to operate between the lugs *e*² and *e*³ and to engage the disk G and to be disengaged therefrom by a coin, and the lever K, pivotally secured at one end and having at its other end the spring *k*,

all constructed, arranged, and operating substantially as and for the purpose set forth.

3. In a coin-controlled vending-machine, the combination of the box A, having the slots D and L', with the partition E, having the lugs *e'*, *e*², *e*³, and *e*⁴, the spiral spring carrier and ejector I, the shaft H, having the handle H', the disk G, mounted on said shaft and having the annular flange *b*, the lugs *b'* *b*³ and recessed portion *g g'*, the plate *e*⁵, secured over the lugs *e'*, *e*², and *e*³, and the spring-actuated bolt *c*, adapted to operate between the lugs *e*² and *e*³ and to engage the disk G and to be disengaged therefrom by a coin, substantially as described.

4. In a coin-controlled vending-machine, the combination of the box A, having the glass top C and slots D and L', with the partition E, having the enlargement *e*, lugs *e'*, *e*², *e*³, and *e*⁴, the spiral spring carrier and ejector I, having the disk or plate I', the shaft H, having the handle H', the disk G, mounted on said shaft and having the annular flange *b*, the lugs *b'* *b*³, having the bevels *b*² and *b*⁴, respectively, and recessed portion *g g'*, the plate *e*⁵, secured over the lugs *e'*, *e*², and *e*³, and the spring-actuated bolt *c*, adapted to operate between the lugs *e*² and *e*³ and to engage the disk G and to be disengaged therefrom by a coin, substantially as described.

5. In a coin-controlled vending-machine, the combination of the box A, having a hinged lid B, glass cover C, and slots D and L', with the partition E, having the enlargement *e*, lugs *e'*, *e*², *e*³, and *e*⁴, a spiral carrier and ejector, the shaft H, having the handle H', the disk G, mounted on said shaft and having the cam H², annular flange *b*, the lugs *b'* *b*³, having the bevels *b*² and *b*⁴, respectively, and recessed portion *g g'*, the plate *e*⁵, secured over the lugs *e'*, *e*², and *e*³, the spring-actuated bolt *c*, adapted to operate between the lugs *e*² and *e*³ and to engage the disk G and to be disengaged therefrom by a coin, and the lever K, fulcrumed at one end to the partition and having at its other end the spring *k* to press it against the cam H², all constructed, arranged, and operating substantially as and for the purpose set forth.

6. In a coin-controlled vending-machine, the combination of the box A, having the slots D and L', with the partition E, having the lugs *e'*, *e*², *e*³, and *e*⁴, the spiral spring carrier and ejector I, the shaft H, having the handle H', the disk G, mounted on said shaft and having the cam H², lugs *b'* *b*³, and recessed portion *g g'*, the bolt *c*, adapted to operate between the lugs *e*² and *e*³ and to engage the disk G and to be disengaged therefrom by a coin, and the lever K, fulcrumed at one end to the partition E and having at its other end the spring *k* to press it against the cam H², all constructed, arranged, and operating substantially as set forth.

7. In a coin-controlled vending-machine, the combination of the box A, having the slots D and L', the pieces *m*, and adjustable guide N,

with the partition E, having the enlargement e , lugs e' , e^2 , e^3 , and e^4 , the spiral spring carrier and ejector I, the shaft H, having the handle H', the disk G, mounted on said shaft
5 and having the annular flange b , the lugs b' and b^3 , having the recessed portion g and g' , the plate e^5 , secured over the lugs e' e^2 e^3 , and the spring-actuated bolt c , adapted to operate between the lugs e^2 and e^3 and to engage the disk G and to be disengaged therefrom by a coin, substantially as described.

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