

(No Model.)

2 Sheets—Sheet 1.

H. M. WILSON.

COIN OPERATED APPARATUS.

No. 412,315.

Patented Oct. 8, 1889.

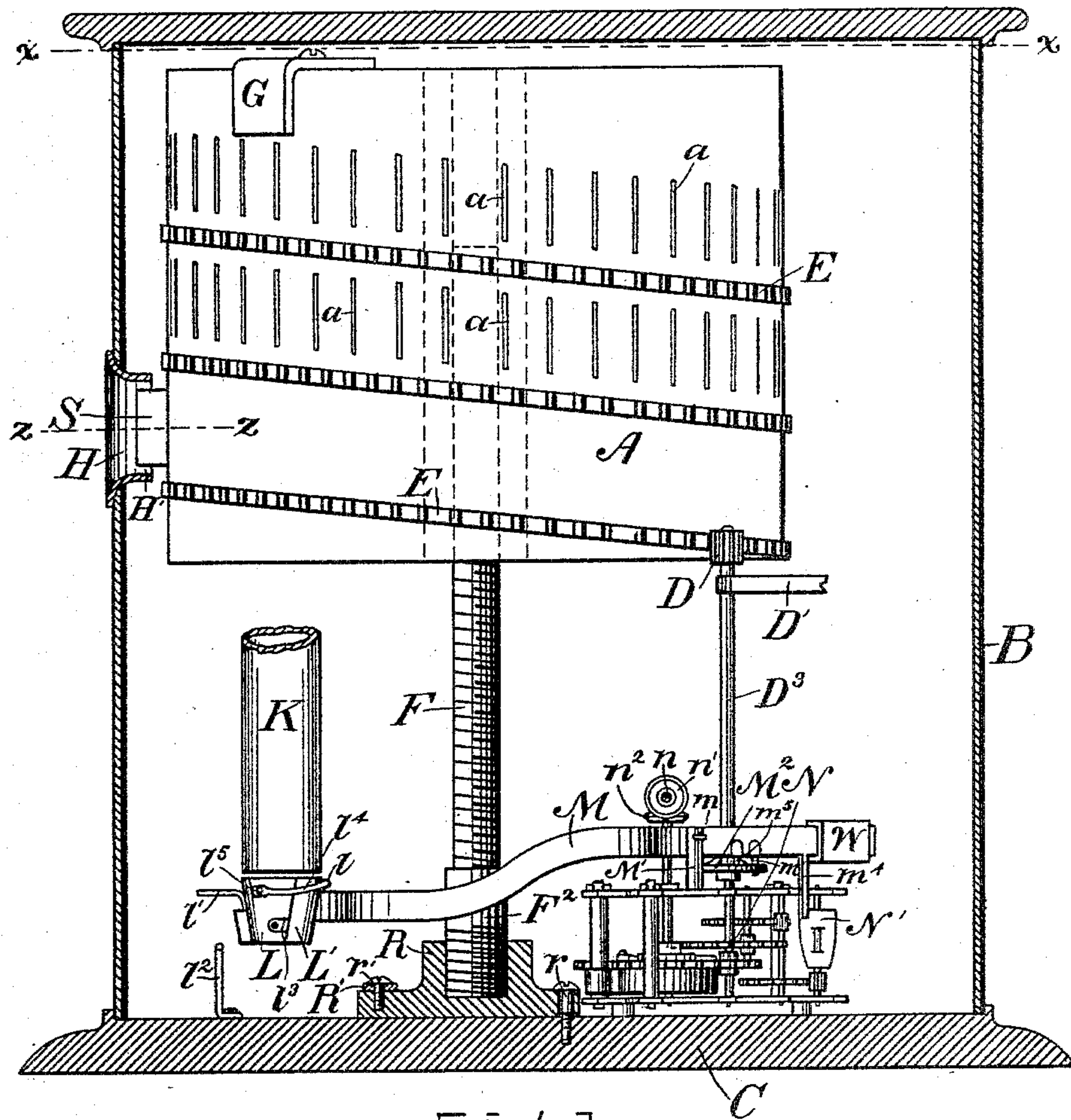


Fig. 1.

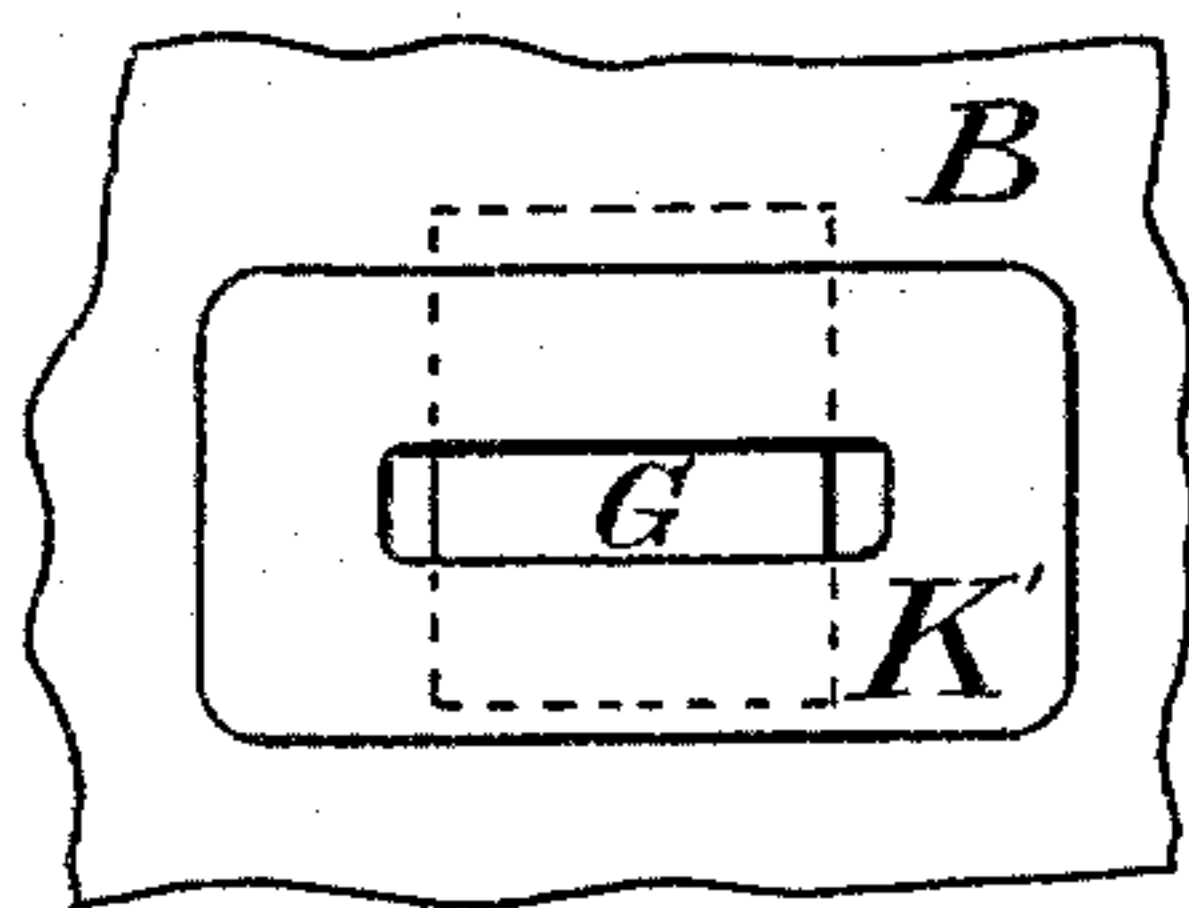


Fig. 2.

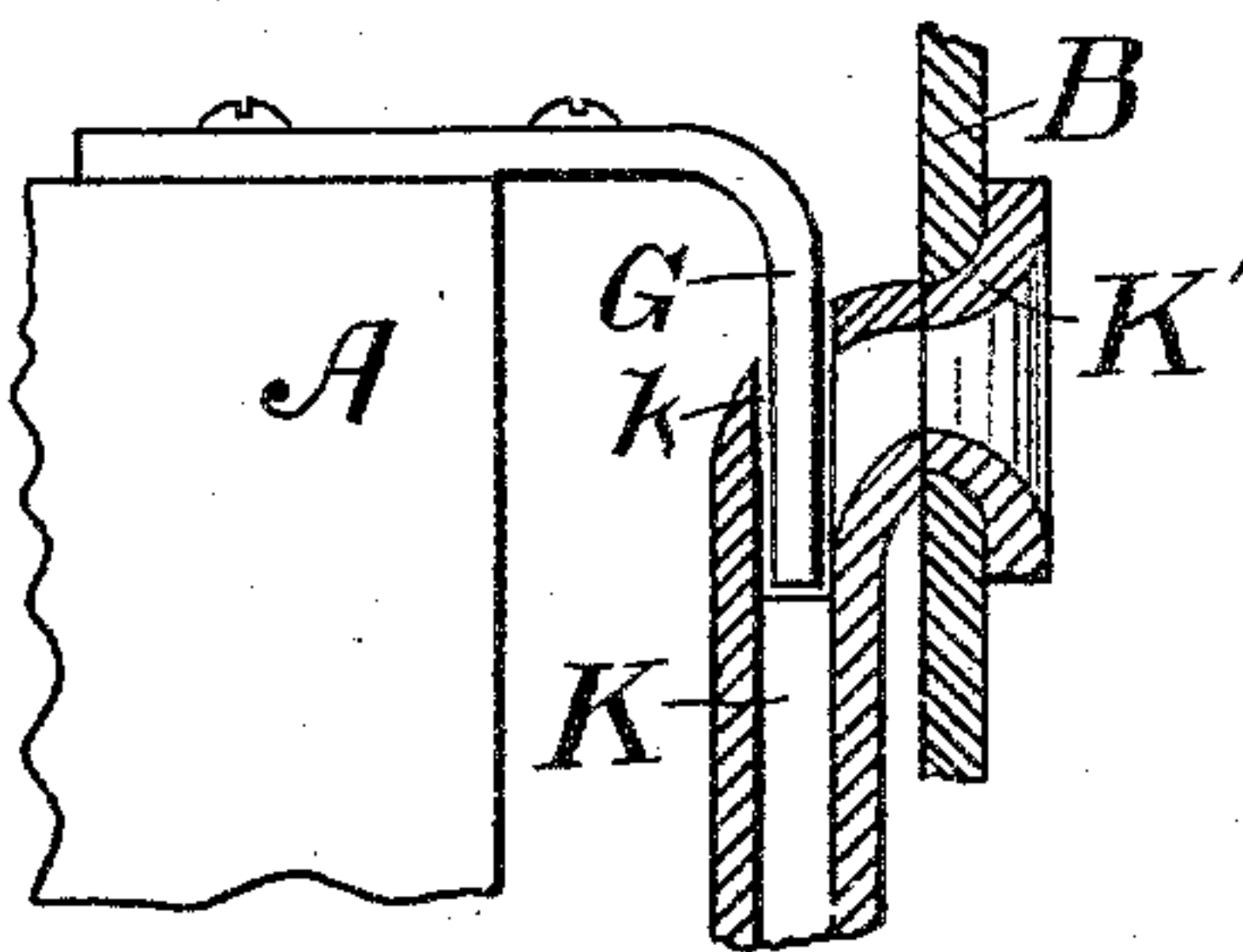


Fig. 3.

Witnesses

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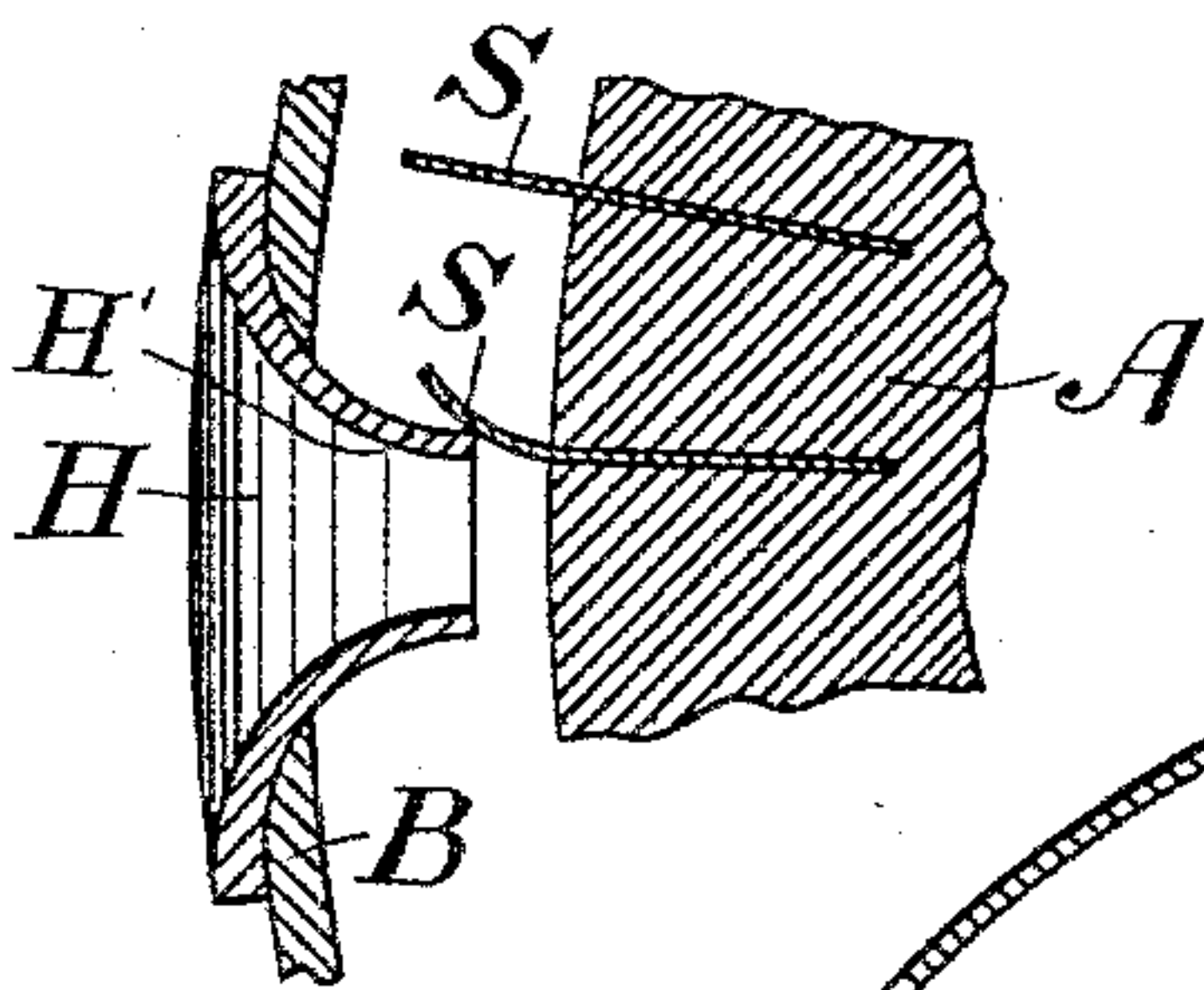


Fig. 7.

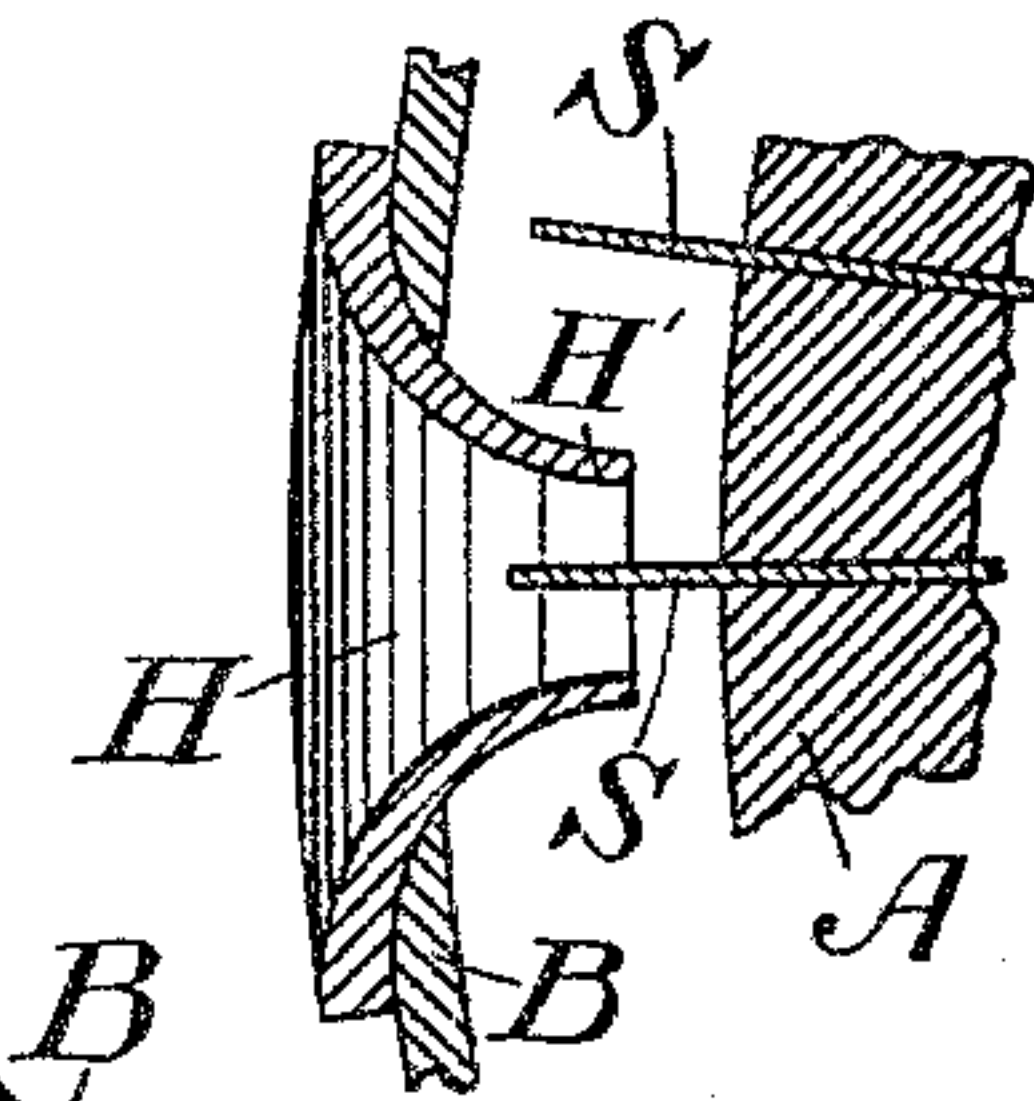


Fig. 8.

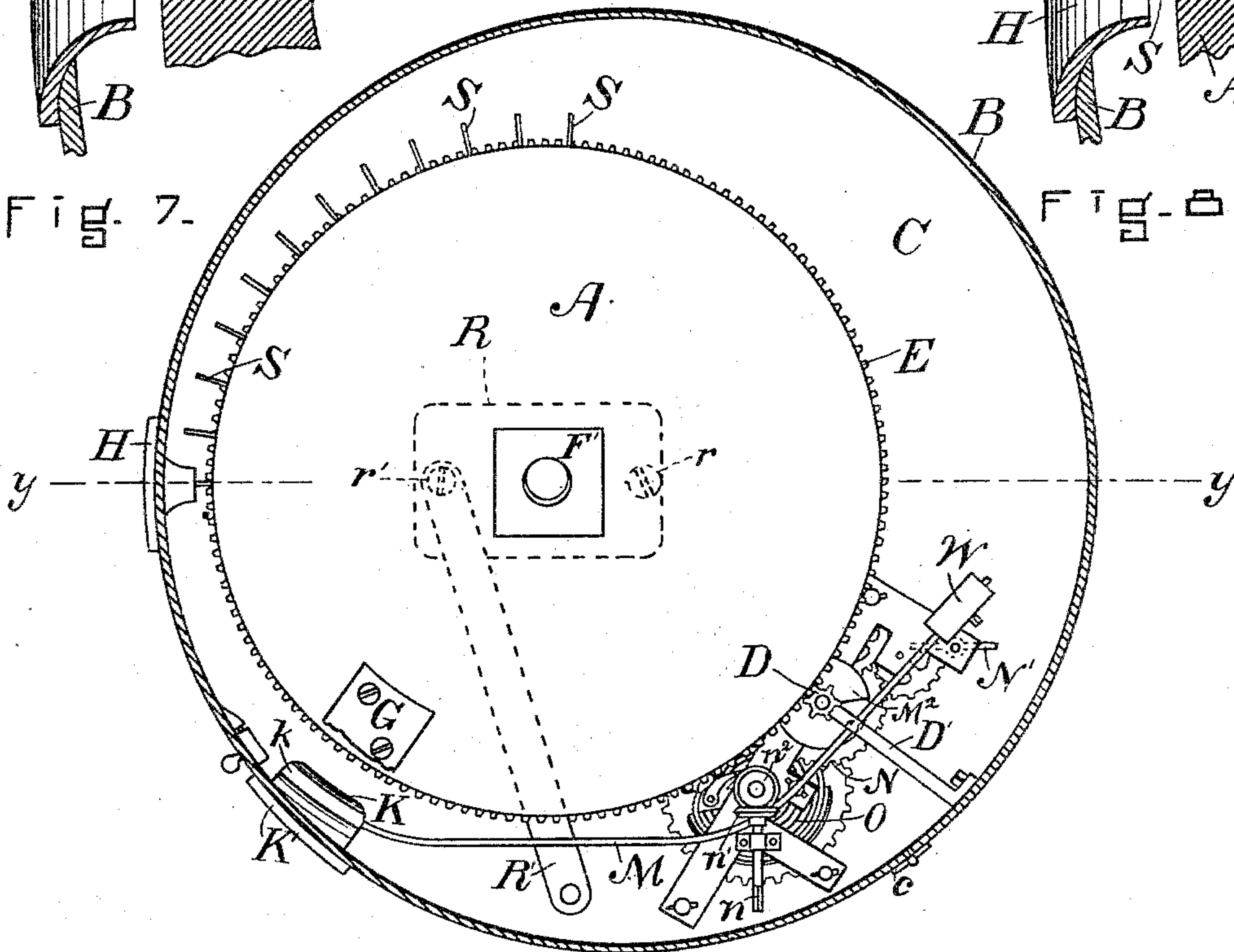


Fig. 4.

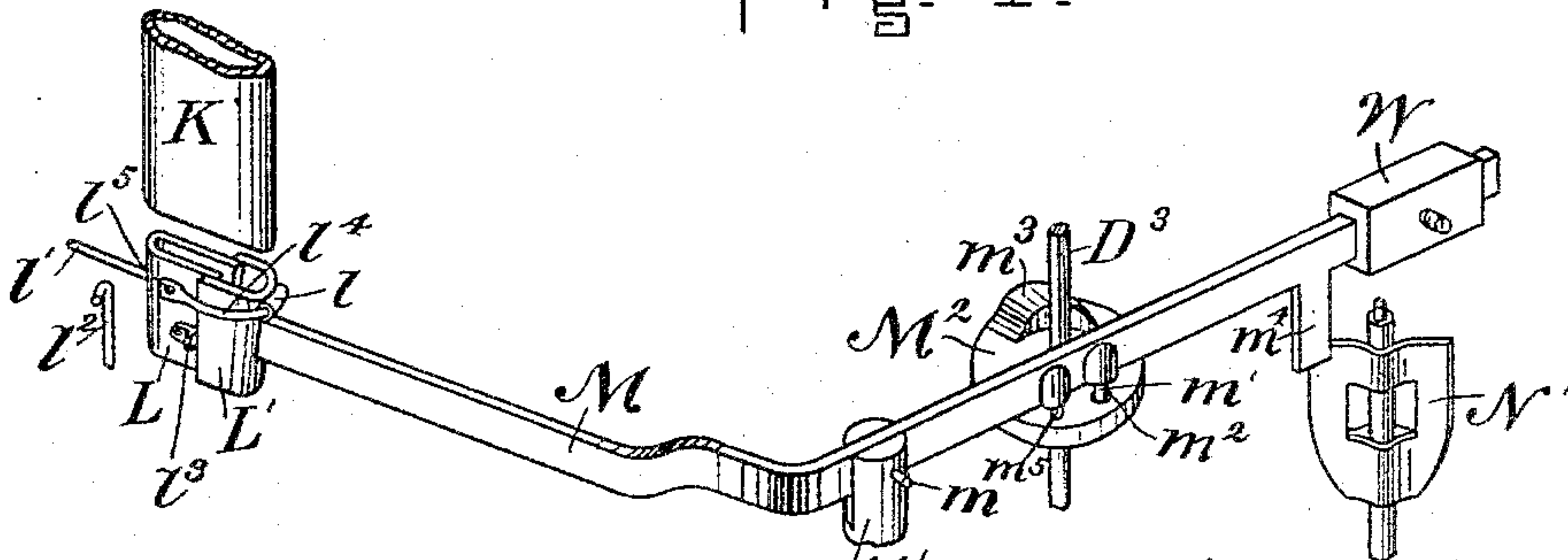


Fig. 5.

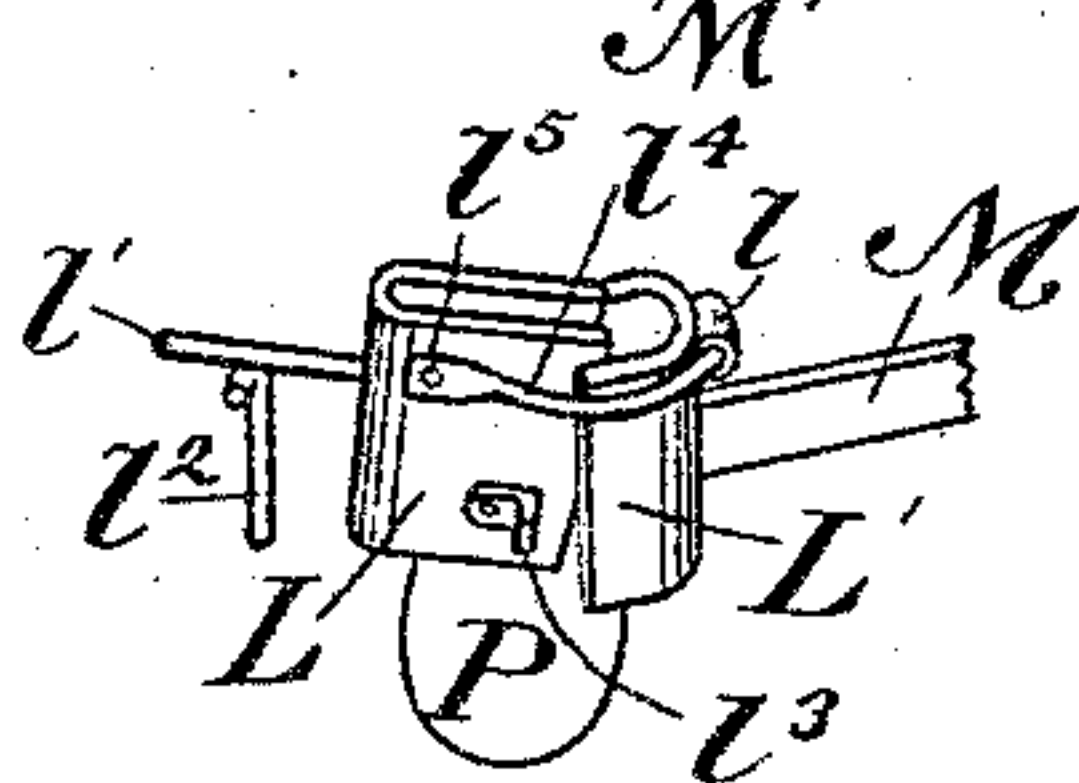


Fig. 6.

Witnesses

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Inventor

Horace M. Wilson
by W. H. Thompson
att'y.

UNITED STATES PATENT OFFICE.

HORACE M. WILSON, OF CAMBRIDGE, MASSACHUSETTS.

COIN-OPERATED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 412,315, dated October 8, 1889.

Application filed April 3, 1889. Serial No. 305,895. (No model.)

To all whom it may concern:

Be it known that I, HORACE M. WILSON, a citizen of the United States, residing at Cambridge, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and Improved Coin-Operated Apparatus, of which the following is a specification.

Of the accompanying drawings, Figure 1 shows in elevation the interior parts of my improved apparatus, the section through the casing being taken on yy , Fig. 4. Figs. 2 and 3 are front and sectional views, respectively, of the coin-slot closed by the shutter. Fig. 4 is a plan view of the interior parts, the section through the casing being taken on xx , Fig. 1. Figs. 5 and 6 are perspective views showing how the coin operates in starting and stopping the mechanism. Figs. 7 and 8 are detail sectional views on zz , Fig. 1, enlarged, showing how the stamp, card, ticket, or other article is delivered.

My invention consists of an improved apparatus for the delivery of stamps, cards, tickets, tags, and other like articles by the action of a coin dropped into a slot.

For convenience in explaining my machine and its operation I shall hereinafter assume that postage-stamps are to be delivered, although obviously my apparatus is adapted to deliver a great variety of articles.

The working parts of my apparatus are inclosed in a casing B, preferably tubular, secured to the circular base C and surmounted by the cover C', access to the interior being gained through a door at the bottom of the casing, hinged at c , of sufficient height and size to enable one to load the machine with stamps, to wind up the actuating clock-work, and to remove the coins from the interior.

A is a cylindrical drum provided with a series of radial slits a at regular distances apart along the periphery, the slits being of sufficient size to hold therein the desired number of stamps S to be delivered each time a coin is dropped into the machine and of such a depth that the stamps may project for some distance beyond the circumference of the drum. The slits a , which are sunk at intervals within the rim of the drum, are made with closed ends, whereby the stamps may be held in the slits when the drum is

mounted on a vertical axis, as here shown. The slits a , as herein shown, are arranged spirally around the drum A, the said drum having centrally secured thereto the nut F', running along its axis.

F is a threaded rod supported by the base of the machine in any desired manner, as by the block R, as shown, said rod fitting the nut F', so that the drum may revolve on the rod. The arrangement is such that the drum is eccentric to the casing, and on that part of the casing nearest the drum is brazed or otherwise secured to the outside of the casing the flanged mouth-piece H, extending within the casing nearly to the surface of the drum. It is through this mouth-piece that the stamp is delivered, the said mouth-piece being made wide and flaring on the outside, rounding in to a comparatively narrow slot, but of such a size and shape that the stamp may easily be removed from the slit in the drum by means of the fingers.

Spirally arranged around the drum A is the rack E, which meshes with the pinion D, this pinion being driven by the clock-work N, actuated by the spring O, the parts being so arranged and proportioned that as the drum revolves the slits a will pass accurately in front of the mouth-piece, the drum starting from near the top of the casing and descending as it revolves.

K is the coin-tube, terminating on the outside in a slot in the plate K', secured to the casing, the size of the slot and tube being such as to admit the coin of desired denomination.

M is a lever pivoted at m to a support M', said lever M bearing at one end the coin-bucket made in two parts L L', and at the other end provided with the weight W, which serves to counterbalance the weight of the coin-bucket and keep the same normally under the tube K.

The speed of the clock-work (which needs no description) is regulated by the fan-wheel N', against which bears, when the machine is at rest, the stop m^4 , projecting downward from the lever M, thus preventing the mechanism from moving. When in this position, the pin m^1 , secured to the lever M, is in the hole m^2 in the horizontal disk M², while the pin m^5 , also secured to said lever, is resting against

said disk, thus determining the height of the coin-bucket L L' when at its normal position.

The coin-bucket tapers from the top downward, being of such a size and shape as to hold therein a coin of the determined denomination, but which would allow a smaller coin to fall through it. One of the parts L is provided with a bail l^4 , secured thereto at l^5 , the said bail turning in the piece l , secured to the part L' of the bucket, the part L' being made to embrace the part L and bear against the stop l^3 thereon, so that the two parts L L' are pivoted together to open apart endwise.

A coin of the requisite size and weight being dropped into the slot, it passes through the tube K and drops into the coin-bucket L L', which, by the weight of the coin, drops sufficiently to lift the pin m' out of the hole m^2 in the disk M^2 , and at the same time lift the stop m^4 from its engagement with the fan-wheel N'. The clock-work at once starts, causing the pinion D to revolve, which in turn rotates the drum A. As the disk M^2 revolves, the cam-shaped protuberance m^3 on the top of the disk engages with the pin m' , lifting up the weighted end of the lever and depressing the coin-bucket until the pin l' , projecting from the part L, comes in contact with the stop l^2 , thus opening apart the bucket endwise, as shown in Fig. 6, and releasing the coin therefrom. When the spindle D^3 , bearing both the pinion D and the disk M^2 fixed thereon, has made one revolution, the hole m^2 again comes under the pin m' , and the said pin drops into the hole under the influence of the weight W, the stop m^4 again engaging with the fan-wheel N', thus stopping the mechanism. As the coin-bucket rises again after the release of the coin, under the influence of the weight W, the parts L L' close together again, the part L' being secured directly to the lever M, while the part L is counterbalanced in such a manner as to normally close in the position shown in Figs. 1 and 5, ready to receive another coin. During one revolution of the pinion D the surface of the drum A moves through a space equal to the distance between two of the slits a . As the drum rotates, the stamp S, coming in contact with the inwardly-projecting edge H' of the mouth-piece H, is bent, as shown in Fig. 7, till the end of the stamp passes by the edge H', when it straightens itself within the slot of the mouth-piece, as shown in Fig. 8, and will preferably be in the middle of the said slot when the mechanism stops. It may then be readily removed from its slit a in the drum by means of the thumb and finger.

At the top of the drum A, I preferably secure the shutter G, which consists of a plate so arranged that when the last slot at the top end of the spiral reaches the mouth-piece H the said shutter G will enter an opening k in the top of the coin-tube K and close the coin-slot, as shown in Figs. 2 and 3, thereby preventing any one from putting in a coin without getting a stamp therefor, and at the same

time indicating when the stamps are exhausted. I have indicated the shutter as secured to the top of the drum A, though it may obviously be secured thereto in a variety of ways.

The clock-work is wound up by means of the spindle n , on which a key may be fitted, n' n^2 being miter-wheels that transmit motion from the spindle n to the spindle that winds the spring.

Means should be provided for easily throwing in and out of gear the pinion D with the rack E. To this end I pivot the block R, in which is seated the screw F, to the base C of the apparatus at one side, as at r , while at the other side of the block is pivotally secured thereto the arm R', by which the block R may be swung around on its pivot and the rack of the drum moved out of gear with the pinion. When this is done, the said drum may be turned by hand. The drum starts from the top of the casing when full of stamps, as was said above, one slot at a time moving its stamp or stamps into the opening of the mouth-piece in exchange for a coin in the manner described. When the last stamp has been removed, the drum, as will be understood, is at its lowest position on the screw F. It is then thrown out of gear with the pinion D, and the slits a are filled, turning the drum by hand until it is once more at the top of the casing, when it is thrown into gear ready for use again.

Instead of employing the spiral rack E, as herein shown, I may, if desired, run the rack only once around the drum horizontally at the bottom of said drum, thus forming virtually a horizontal gear-wheel, in which case the pinion D would be elongated downward, so as to mesh with said rack whatever be its height on the screw F. Moreover, instead of having the drum provided with slits arranged spirally and adapted to screw up and down, as shown, the drum may be arranged to simply turn on a plain vertical spindle and to have a single series of radial slots running horizontally around its periphery and a horizontal gear-wheel fixed to said drum at the bottom thereof to mesh with the pinion D. I prefer, however, to use a drum having spirally-arranged slits, as the machine may be made in this form to hold a much larger supply of stamps than the simpler horizontally-slitted drum, thus requiring less attention.

I claim—

1. In a coin-operated apparatus, a drum having slits spirally arranged around its periphery, substantially as described.

2. In a coin-operated apparatus, a revolvable delivery-drum provided with a supporting-screw, in combination with a protecting-casing provided with a mouth-piece, all arranged and operating substantially as and for the purposes described.

3. In a coin-operated apparatus, a counter-balanced lever provided with a coin-bucket made in two parts L L', pivotally secured together, one of which is provided with a pin

5 l' , in combination with a stop l^2 and a revoluble disk M^2 , provided with a cam-shaped protuberance engaging with a pin m' on said lever, all arranged and operating substantially as and for the purposes described.

10 4. In a coin-operated apparatus, a revoluble drum having a shutter, in combination with a coin-tube provided with a shutter-receiving opening k , whereby the said tube is automatically closed, substantially as and for the purposes described.

5. In a coin-operated apparatus, a delivery-

drum having slits spirally arranged around its periphery, in combination with a protecting-casing provided with a mouth-piece, and 15 mechanism whereby, when a coin is inserted, the drum is caused to revolve spirally, substantially as and for the purposes described.

In witness whereof I have hereunto set my hand.

HORACE M. WILSON.

Witnesses:

WM. B. H. DOWSE,

ALBERT E. LEACH.