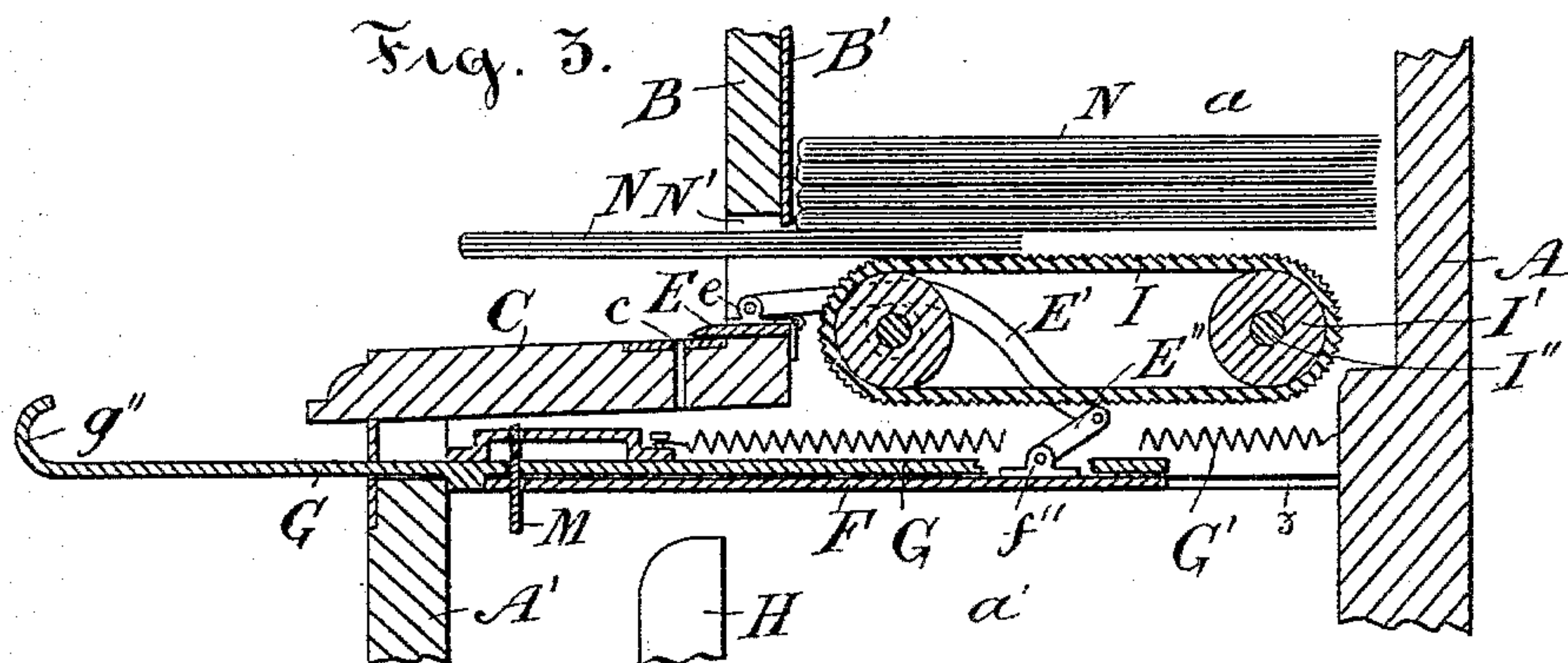
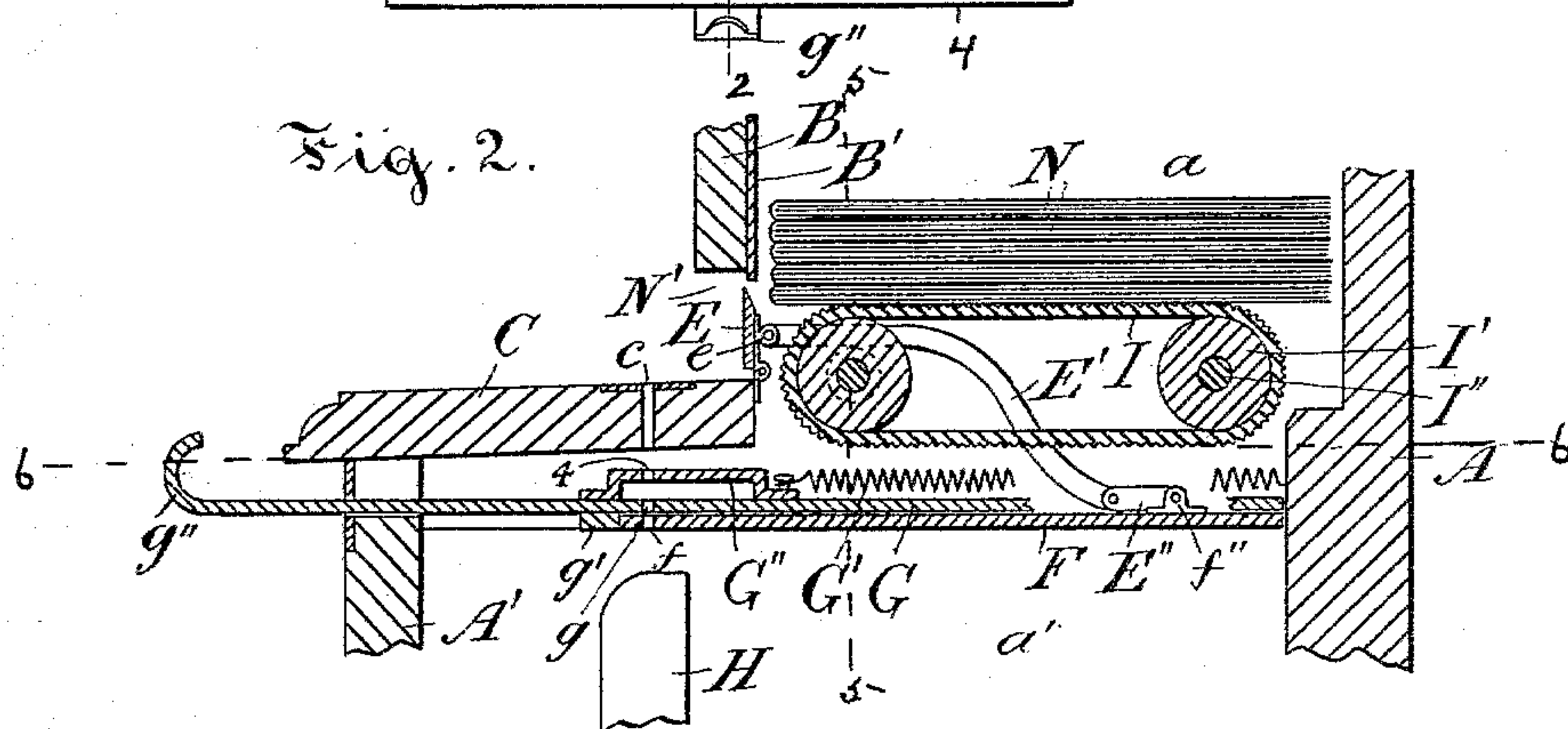
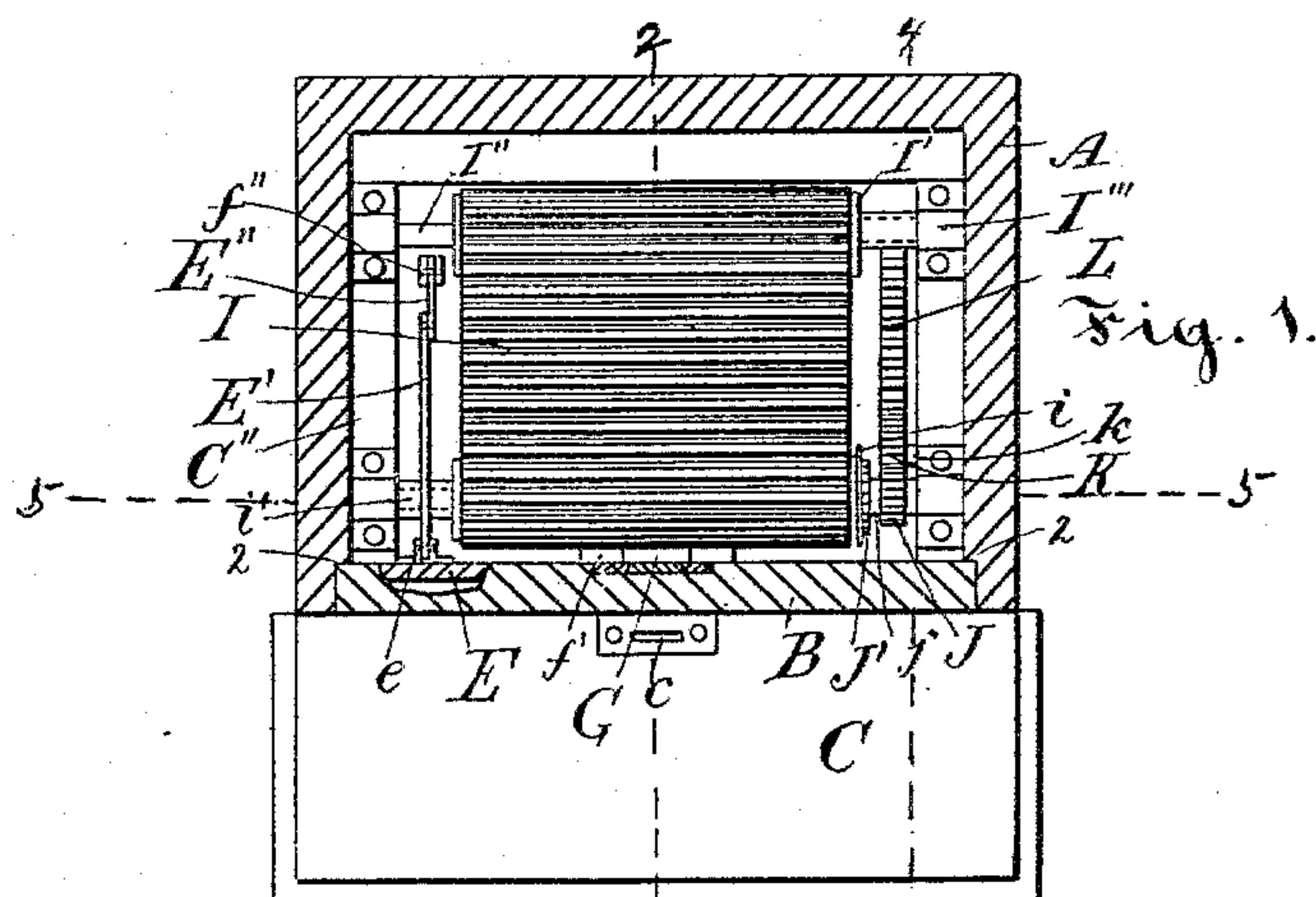


G. H. BOWIE.  
AUTOMATIC VENDING MACHINE.

No. 545,338.

Patented Aug. 27, 1895.



Witnesses:  
Chas. Raley.  
W. Hoffke.

Geo. H. Bowie  
Inventor  
by A. Harney  
his Attorney

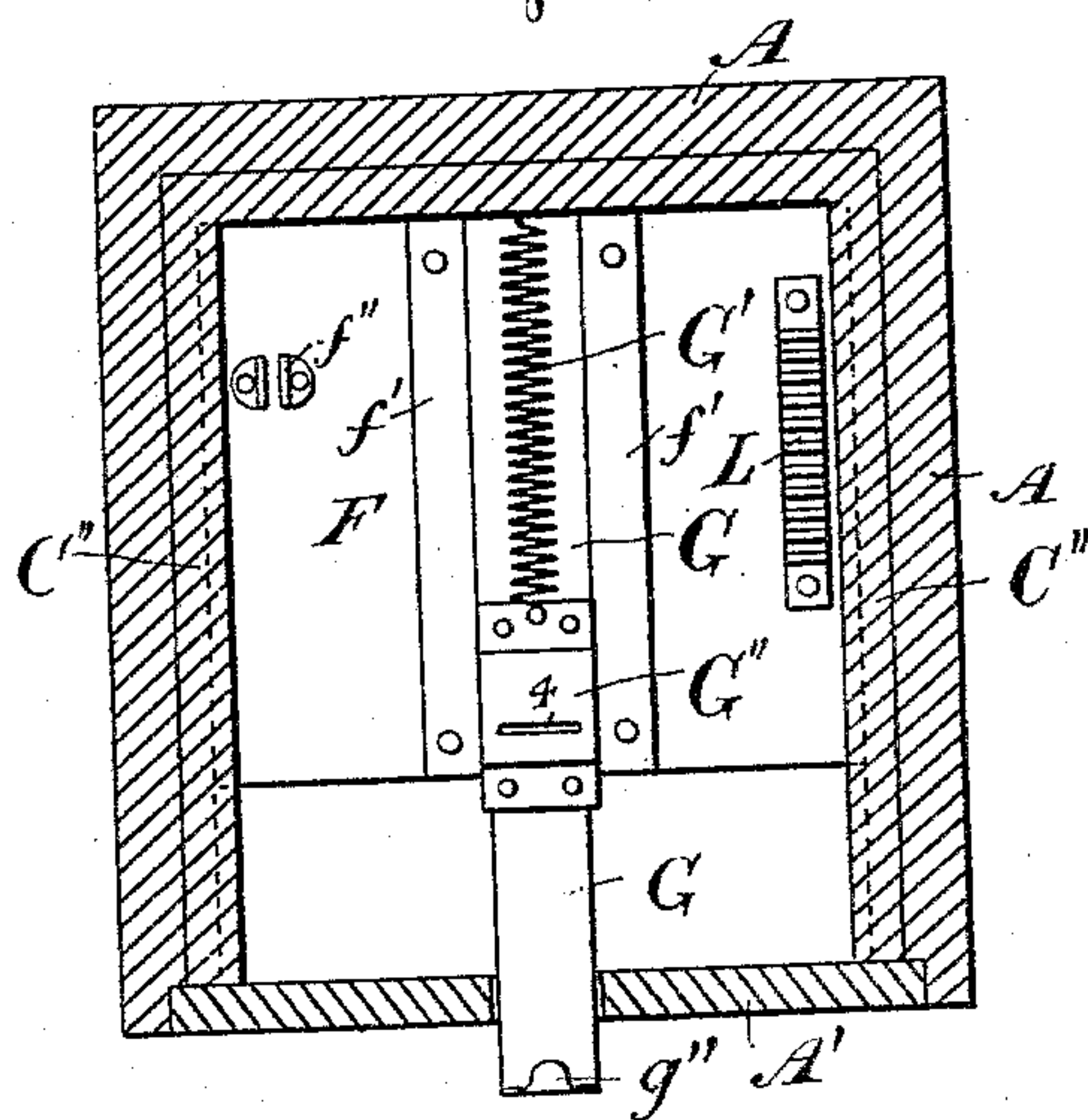
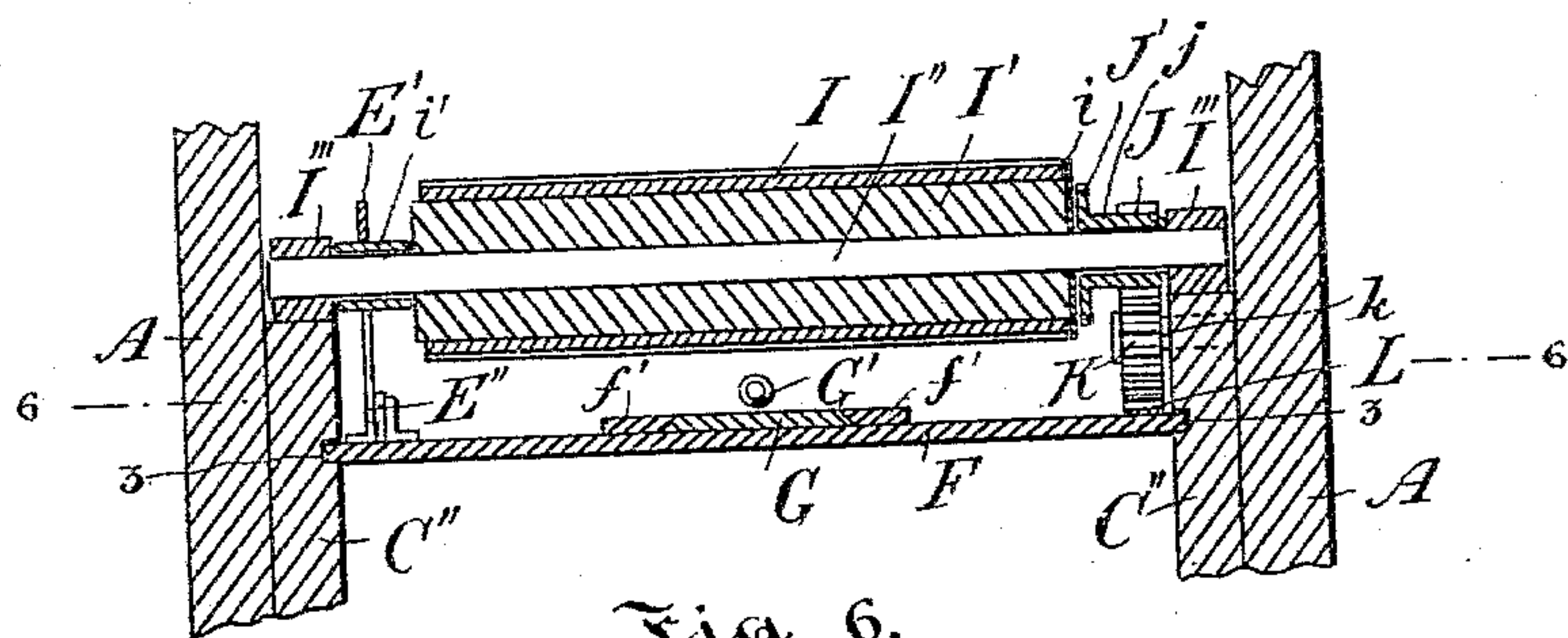
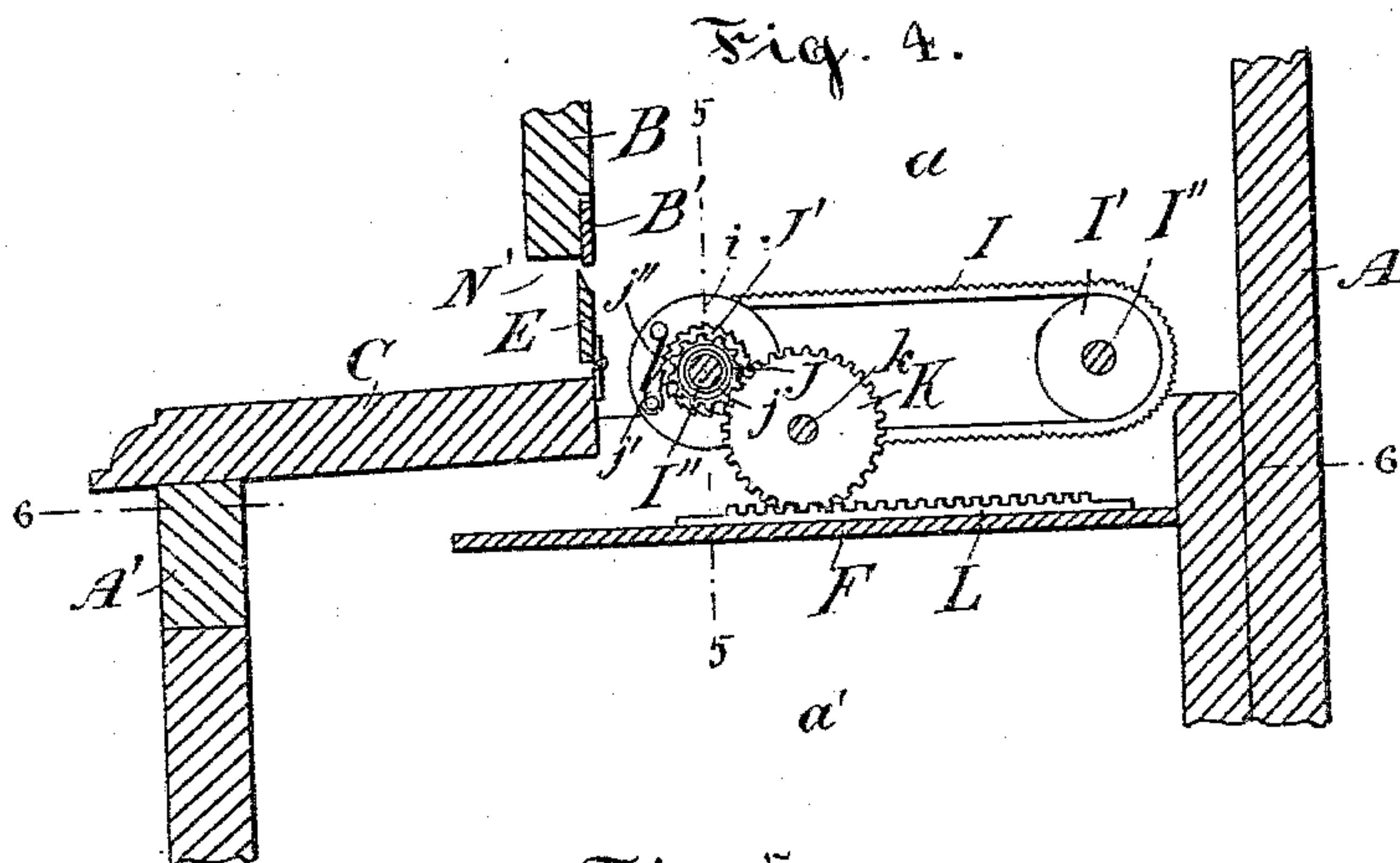
(No Model.)

2 Sheets—Sheet 2.

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Witnesses:

Chas. Raley.

W. Moffke.

Geo. H. Bowie  
Inventor

by A. Harvey  
his Attorney



# UNITED STATES PATENT OFFICE.

GEORGE H. BOWIE, OF OTTAWA, CANADA, ASSIGNOR OF ONE-HALF TO  
JOHN CHARLES ROGER, OF SAME PLACE.

## AUTOMATIC VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,338, dated August 27, 1895.

Application filed May 13, 1895. Serial No. 549,116. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE H. BOWIE, of the city of Ottawa, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Automatic Vending-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part hereof.

My invention, which will be hereinafter fully set forth and claimed, relates to machines or devices for releasing or presenting a specific article, such as a newspaper, upon the insertion of a specific coin.

The object of my invention is the improvement of the construction of automatic vending-machines for which the present applicant, John C. Roger, and Thomas Larkin have received a joint patent, No. 537,811.

Figure 1 is a horizontal section of the casing of my improved automatic vender, showing a top view of the mechanism at rest. Fig. 2 is a longitudinal section of the same on line 2 2, Fig. 1, a pile of papers being imposed upon the endless apron. Fig. 3 is a similar section, but showing the mechanism in the act of delivery. Fig. 4 is a longitudinal section of the same on line 4 4, Fig. 1, showing the gearing. Fig. 5 is a transverse section of the same on line 5 5, Figs. 1, 2, and 4. Fig. 6 is a horizontal section of the same on line 6 6, Figs. 2, 4, and 5, showing the parts below the endless apron.

A casing with hinged door B having adjustable bottom or gage B'. The projecting lower part A' of the casing is covered by a top C, extending into the interior of the upper part a only about as far as the thickness of the door and leaving a space forming a delivery-slot N' between its upper surface and the adjustable bottom or gage of the door. In said top C the coin-slot c is provided. Near the rear edge of said top and so that its inner face is approximately flush with the inner face of the door-gage B' is hinged the lip E, so as to close the slot N', abutting inwardly on the vertical door rabbets 2 and having its upper inner edge beveled.

F is a sliding bottom or partition running in grooves 3 in the side linings C' and being of such a depth from front to rear as to allow of a forward movement, dividing, when in its normal position, the upper part a of the casing from the lower part a'. In said movable bottom is slidably secured between guides f' a slide G, which passes through a slot in the front A' and projects beyond it sufficiently to afford a finger-hold g''. It is drawn rearward by a spring G' secured to it and to the back of the casing, and is adapted to move independently in the sliding partition or bottom F, or together with it when specially connected. A stop g' on the slide G, abutting on the front edge of the bottom F, moves the sliding bottom F back with the slide G after it has been drawn out. Both slides F and G are provided with corresponding slots f and g, transverse to the line of their motion, which also register with the slot c in the top C, all three adapted to pass a certain coin M. This coin forms the connection between the slides F and G. Being inserted in the slot c it drops into the slots f and g, clearing the top C, but remaining in the slides F and G, where it is sustained by the rib H, secured to the bottom of the lower part of the casing. The upper surface of the slide G comes to within a short distance of the lower surface of the top C, and to form a further guide for the coin to find its way from the slot c to the slot g a bridging-piece G'' is secured to the top of the slide G, over the slot g, and provided with a slot 4 registering with the slots c, f, and g, the upper surface of said bridging-piece coming close up to the lower surface of the top C.

Upon the upper edges of the side linings C' are journaled in boxes I''' the transverse axles I'' of two rollers I', which latter carry an endless apron I. Said apron has a transversely fluted or corrugated surface—i. e., its corrugations are at a right angle to the direction of its motion. It is preferably of rubber, but may be of any other suitable material, and the diameter of the rollers and the height of their centers are such that the upper surface of said apron is about the thickness of an article N, which it is intended to carry and



deliver below the bottom edge of the door B, or rather its gage B'. Upon the axle of the front roller, between the end of the roller and the journal of the axle, is journaled a sleeve 5 *j*, having fast upon it a spur-pinion J and a ratchet-wheel J'. The latter is adjacent to the end *i* of the roller, which has a pawl or detent *j'* pivoted to it and operated by a spring *j''* to gear with said ratchet-wheel. The pin- 10 ion J gears into a spur-wheel K, which is journaled upon a stud *k* secured to the side C'', and which gears into a rack L secured upon the sliding bottom F. When the latter is moved forward the rack turns the wheel K, 15 and this in turn the pinion J, and with it the ratchet-wheel J' and the front roller I' and the apron I. When the bottom F moves backward the direction of the movement of the ratchet-wheel is reversed and its teeth slip 20 over the detent *j'*, leaving the roller I' and apron I stationary.

To open and close the hinged lip E it has pivoted to a pair of lugs *e* on its inner face a pitman E', which is connected by a link E'' 25 to a lug *f''* at the rear of the bottom F. The pitman E' is suitably curved and bears upon a collar *i'* upon the axle of the front roller between the end of the latter and the journal-box at the end opposite the gearing. At the 30 commencement of the forward movement of the bottom F the link E'' lies flat upon it. As the bottom proceeds to move forward the pitman pushes the upper edge of the lip outwardly, and it must swing downwardly, and 35 the pitman bearing on the collar *i'* its rear end is raised and with it the link E'', which, assuming an angle with the pitman, allows the bottom to proceed forward without tend- 40 ing to push the pitman further than is necessary for the full opening of the lip. The latter is closed as the bottom F recedes by a reverse movement.

The bottom F is moved forward by pulling out the slide G, the necessary coin M having 45 first been inserted in the slot *c* and allowed to drop, passing through the slot *d* and being retained in the slots *g* and *f* by the rib H. The upper run of the apron I being thus caused to move forward and its surface being more 50 or less adhesive takes with it and pushes out of the delivery-slot N' the lowermost of the papers or other articles N, of which a pile is placed upon the said apron. Upon releasing the slide G it is drawn back by the spring G', 55 pulling back with it the bottom F, but, although the rack L turns the pinion J, the latter does not turn the roller I', as said pinion now turns loose upon the axle I''. The forward movement of the bottom F will also have 60 caused the opening and closing on the slot N' by turning the lip E upon its hinges.

I claim as my invention—

1. In an automatic vending machine for newspapers and similar articles, the combi- 65 nation with a suitable casing having a trans-

verse delivery slot, of an endless apron with adhesive surface having its upper face opposite said slot and adapted to travel in a direction toward said slot, a pair of rollers suit- 70 ably journaled upon which said apron is mounted, a sleeve journaled upon the axle of one of said rollers adjacent to one of the ends, a pinion upon said sleeve, a ratchet wheel upon said sleeve, a spring detent at the end of the roller gearing into said ratchet wheel, 75 a wheel journaled upon a stud secured to the sides and gearing into said pinion and into a rack below, a rack secured upon a movable piece below said apron and gearing into said wheel and a bottom held slidably below said 80 apron and carrying said rack, substantially as set forth.

2. In an automatic vending machine for newspapers and similar articles, the combination with a suitable casing having a trans- 85 verse delivery slot for said articles, of a lip or flap hinged at the bottom of said slot so as to close the same when raised, shoulders at the interior of the casing against which said lip abuts when raised and prevent it being 90 pushed inwardly, a sliding bottom below said delivery slot, a link pivoted to the rear of said bottom, a pitman pivoted to said link and to the inner face of said lip and a support for the forward end of said pitman near its con- 95 nection with said lip, substantially as set forth.

3. In an automatic vending machine for newspapers and similar articles, the combination with a suitable casing having a lower 100 forward projecting part covered by a top, a delivery slot above the rear edge of said top and the adjustable bottom or gage of a door, a bottom having its front edge extending partly under said top of the projecting part 105 and adapted to be moved forward, a slide made movable in said bottom and projecting through the front of said projecting part and adapted to be automatically retracted, registering transverse slots in said top slide and 110 sliding bottom, a rib under said slots adapted to support a coin in the slots of said bottom and slide and allow it to drop when said parts have been moved forward, an endless apron 115 having an adhesive surface and having its upper surface opposite the delivery slot, rollers upon which said apron is mounted and means of causing said apron to travel forward when the sliding bottom moves forward and to remain stationary when said bottom 120 slides back, substantially as set forth.

4. In an automatic vending machine for newspapers and similar articles, the combination with a suitable casing having a trans- 125 verse delivery slot above the top of the lower projecting part of the casing, of a flap or lip pivoted to said top and closing said slot, a sliding bottom below said top, a pair of rollers journaled above said bottom, an endless apron having its upper part opposite said de- 130



livery slot, a link pivoted to the rear of said  
bottom, a curved pitman pivoted to said flap  
or lip and to said link and supported upon  
the axle of the front roller and means of moy-  
5 ing said bottom forward by means of an au-  
tomatically retracted slide movable in said  
bottom and having a slot registering with  
slots in said top and bottom and adapted to

be connected by a coin inserted in said slot,  
substantially as set forth. 10

In testimony whereof I have signed in the  
presence of the undersigned witnesses.

GEORGE H. BOWIE.

Witnesses:

A. HARVEY,

L. PETER.