

No. 689,106.

Patented Dec. 17, 1901.

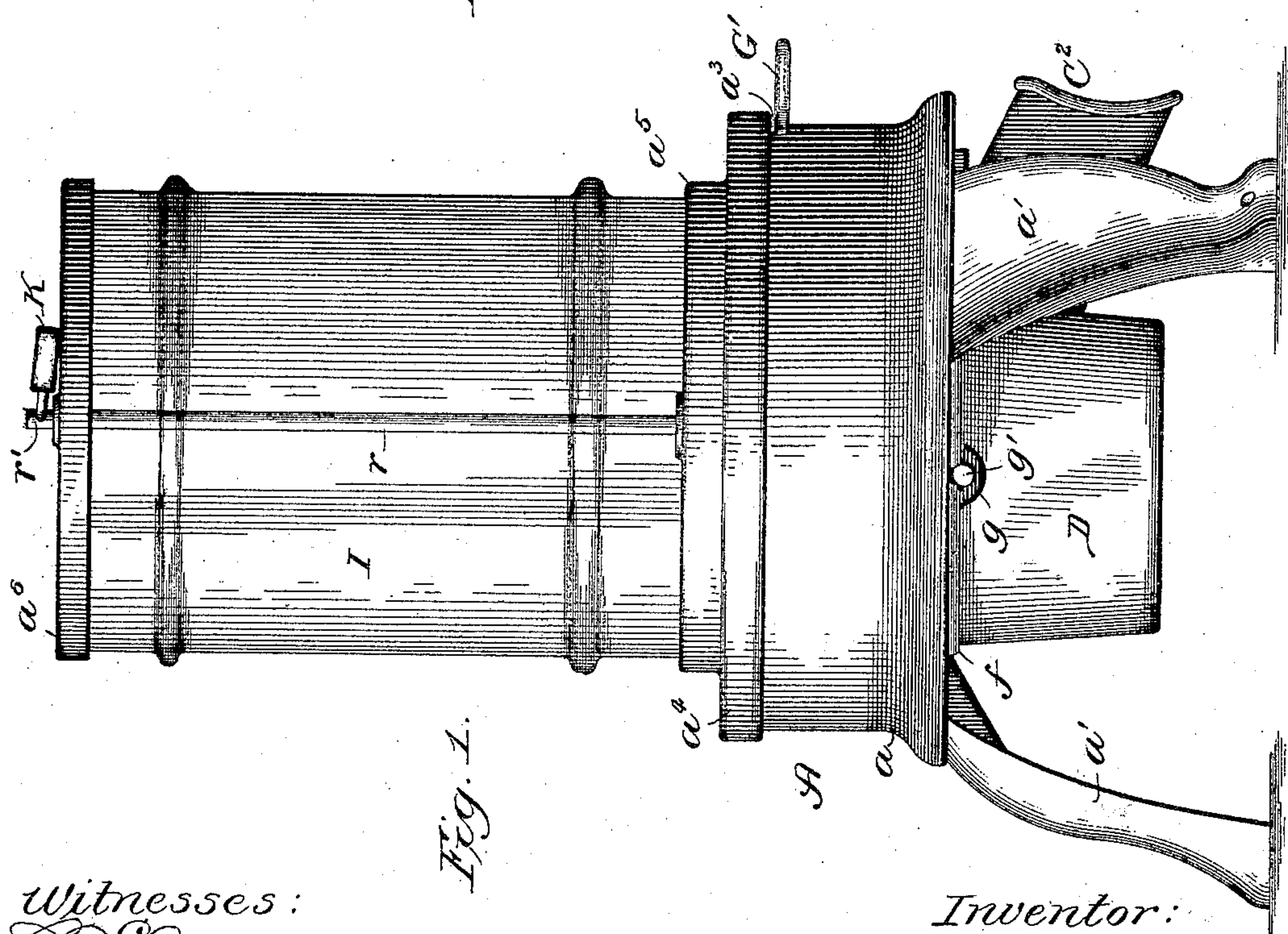
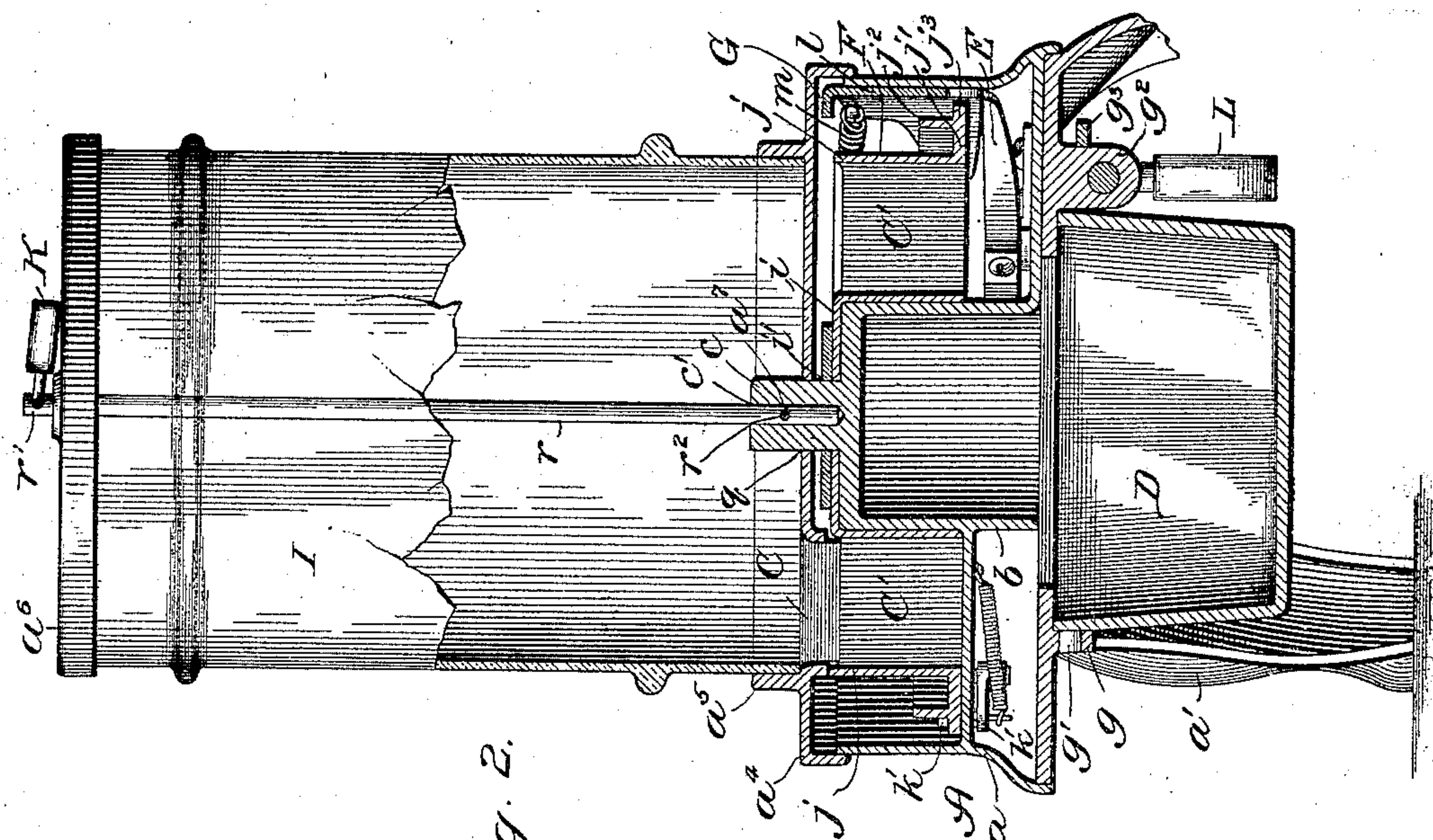
M. B. MILLS.

COIN OPERATED VENDING MACHINE.

(Application filed Mar. 5, 1901.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses:

Chas. C. Gaylord.
John Anders, Jr.

Inventor:

Mortimer B. Mills,
By Pyunfork, Pyunfork & Lee
Att'ys.

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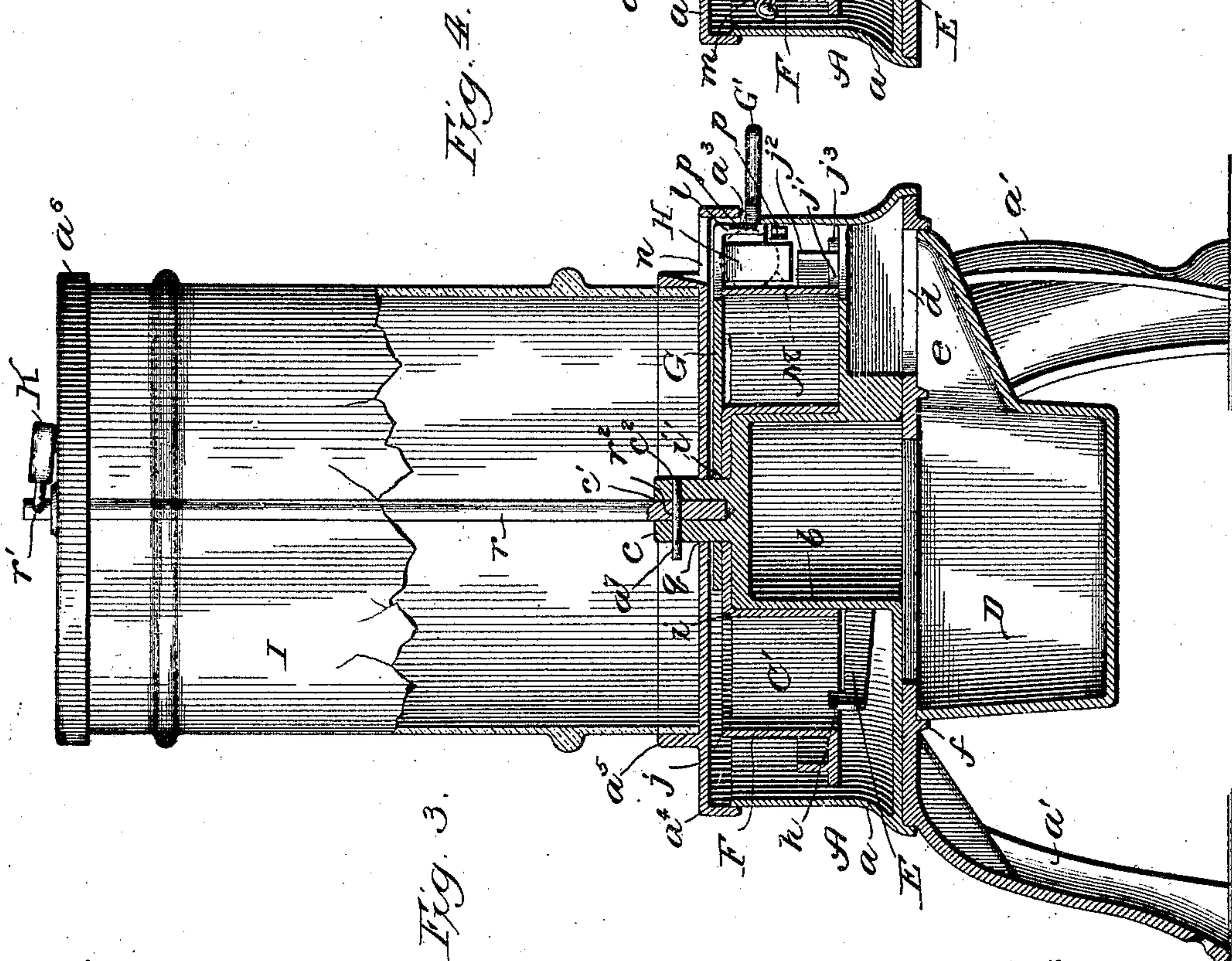
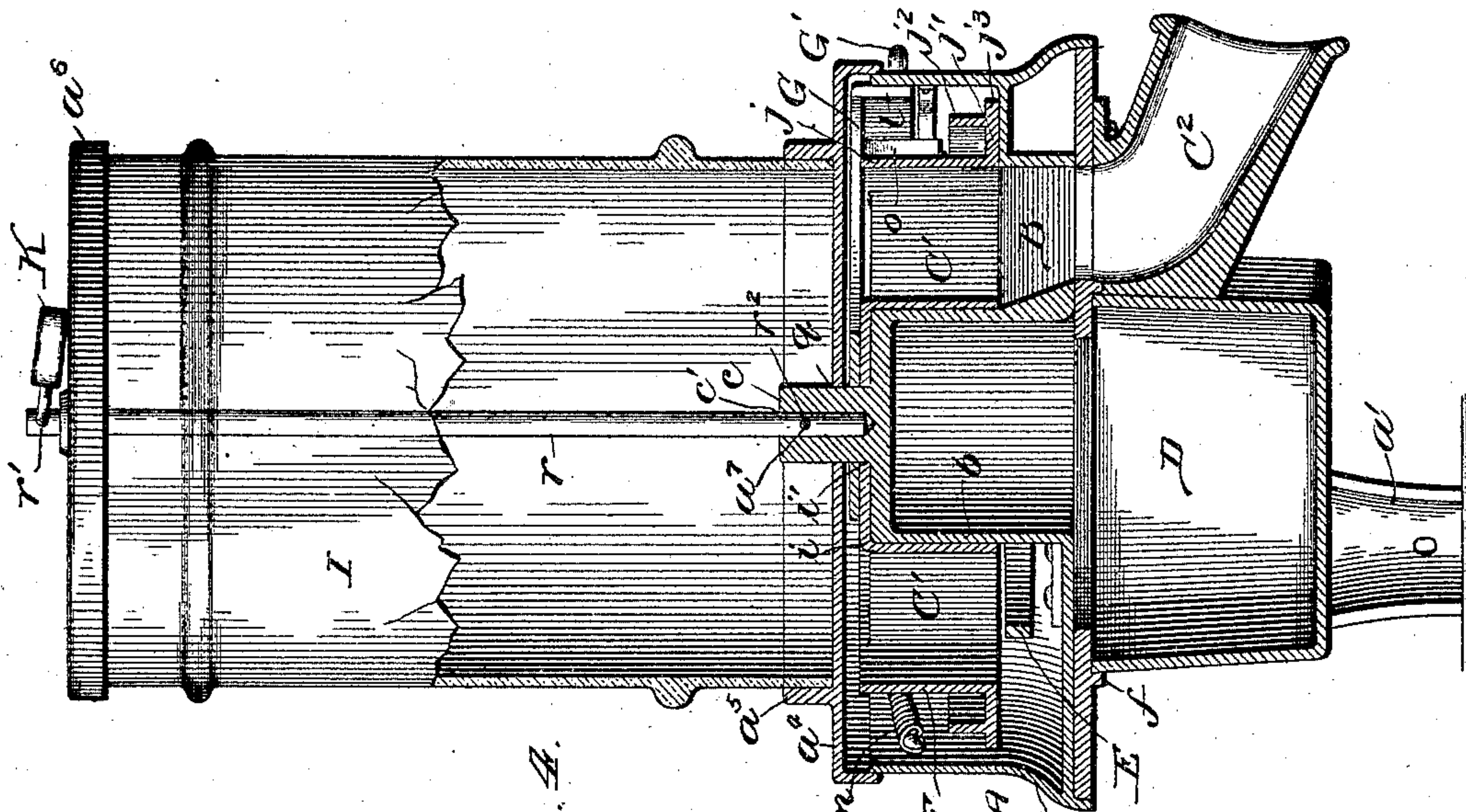
M. B. MILLS.

COIN OPERATED VENDING MACHINE.

(Application filed Mar. 5, 1901.)

(No Model.)

4 Sheets—Sheet 2.



Witnesses:

East & Gaylord,
John Enders Jr.

Inventor:

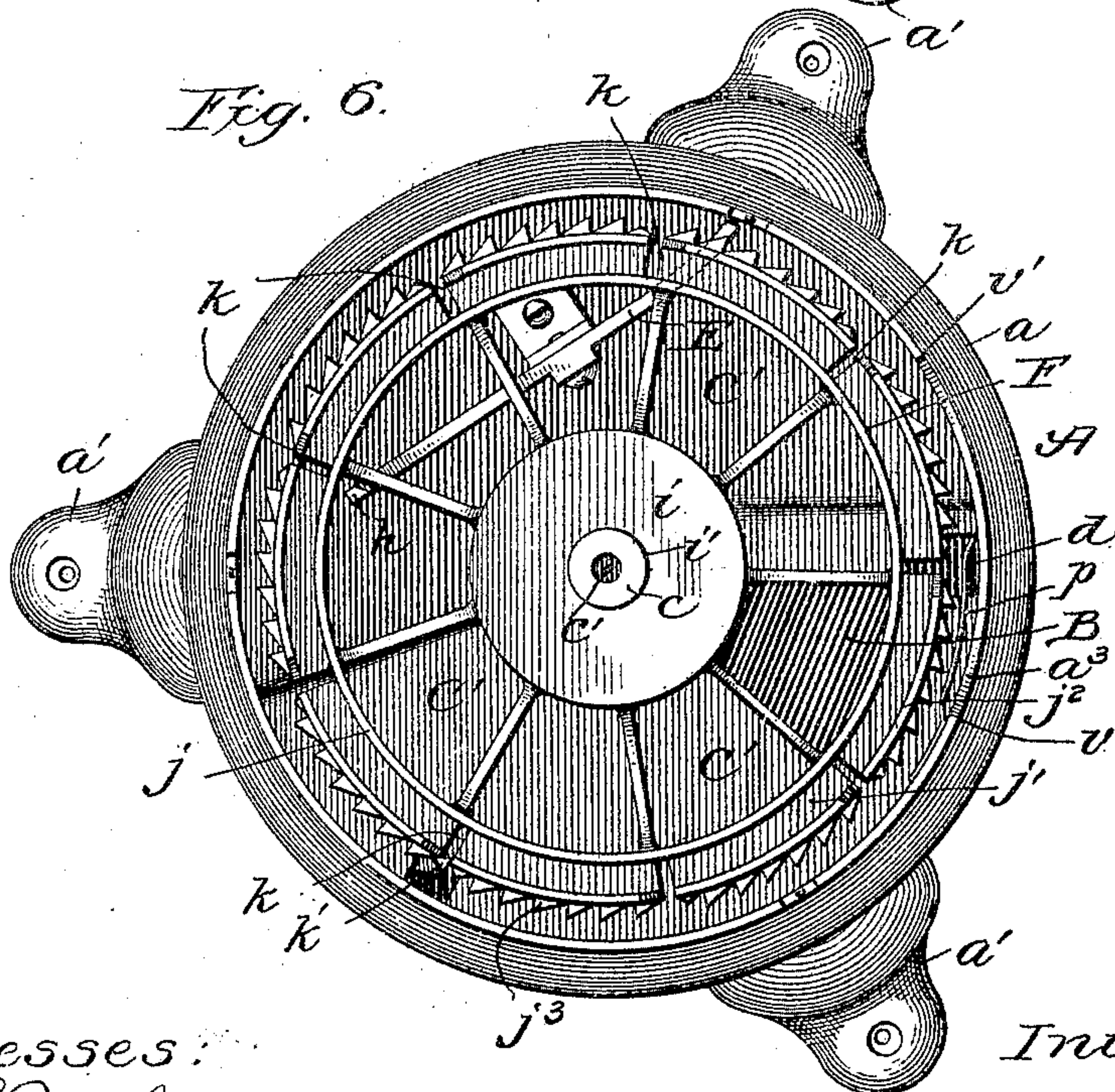
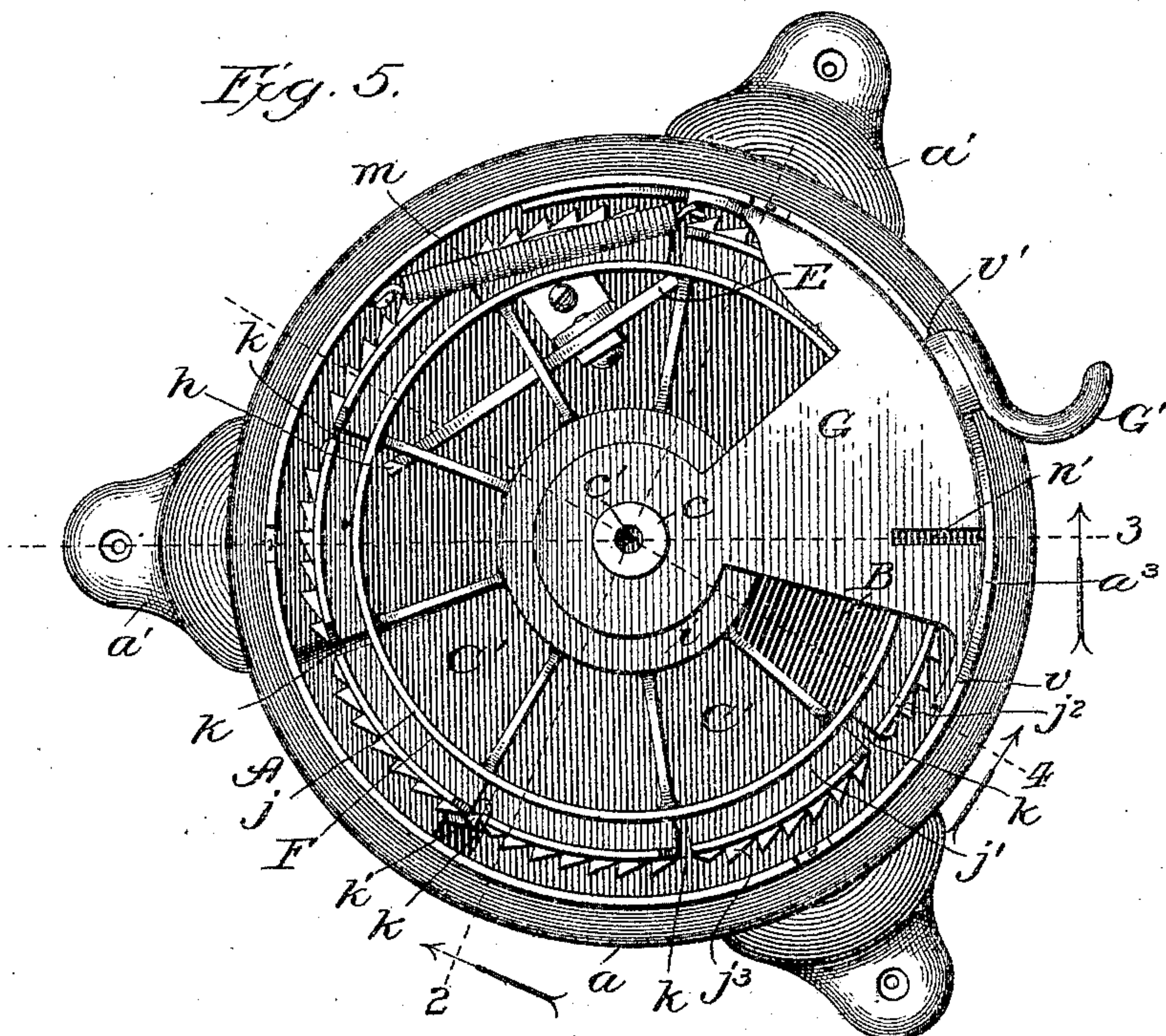
Mortimer B. Mills,
By Dyrenforth, Dyrenforth ^{Jr} & Sec;
Att'ys.

M. B. MILLS.
COIN OPERATED VENDING MACHINE.

(Application filed Mar. 5, 1901.)

(No Model.)

4 Sheets—Sheet 3.



Witnesses:
E. J. Gaylord,
John Enders, Jr.

Inventor:
Mortimer B. Mills,
By Dyrnforth, Dyrnforth & See,
Att'ys.

No. 689,106.

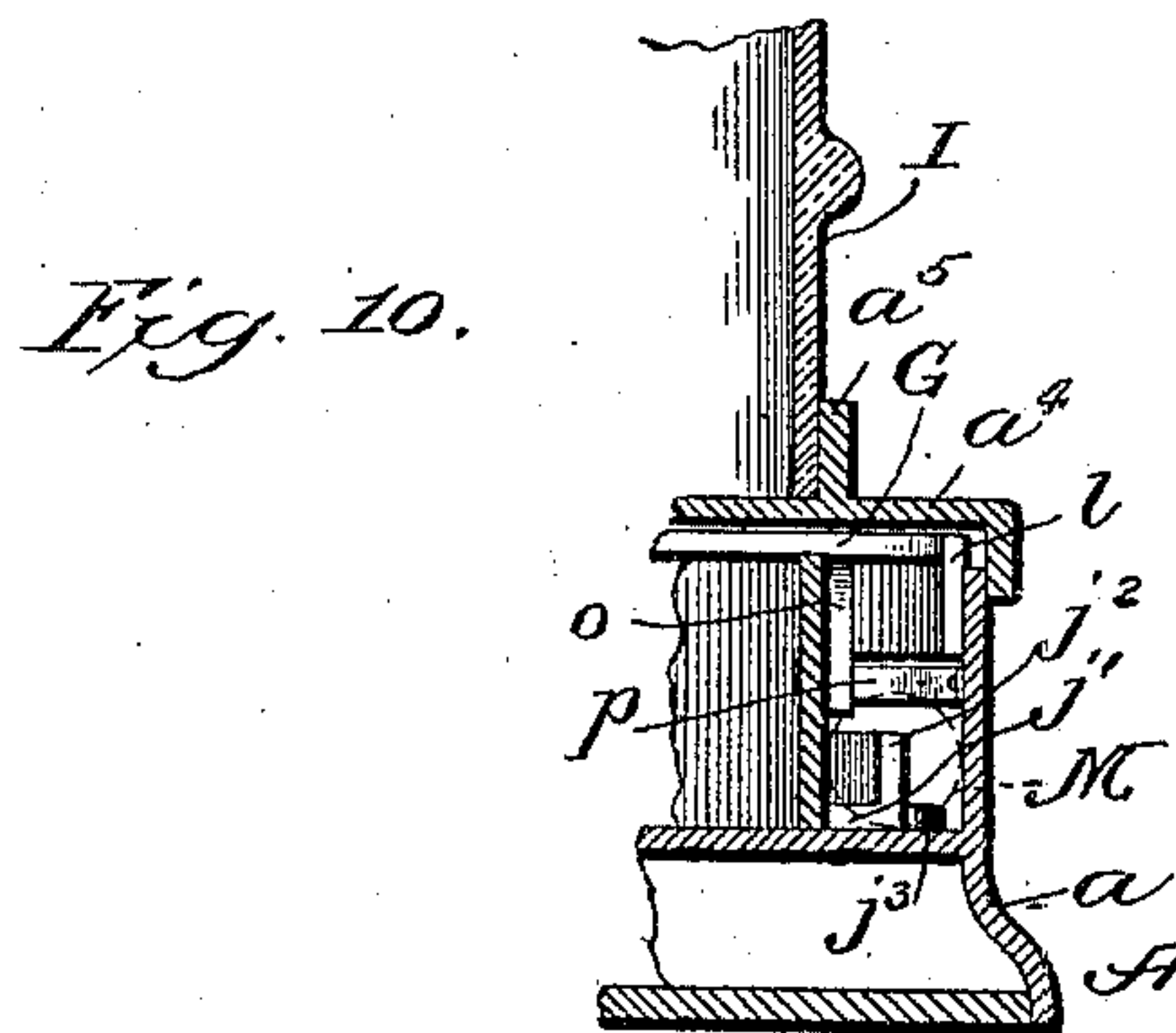
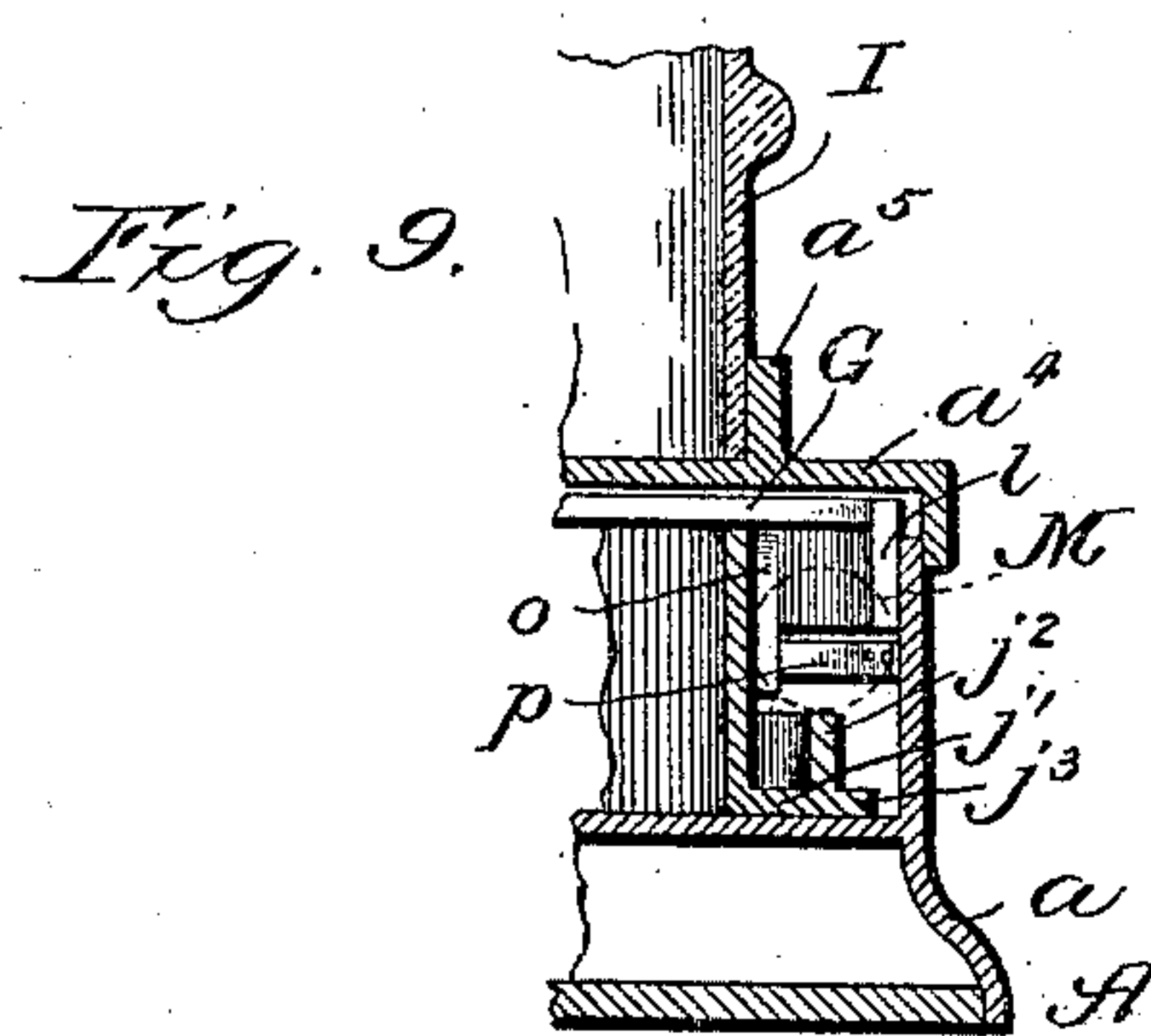
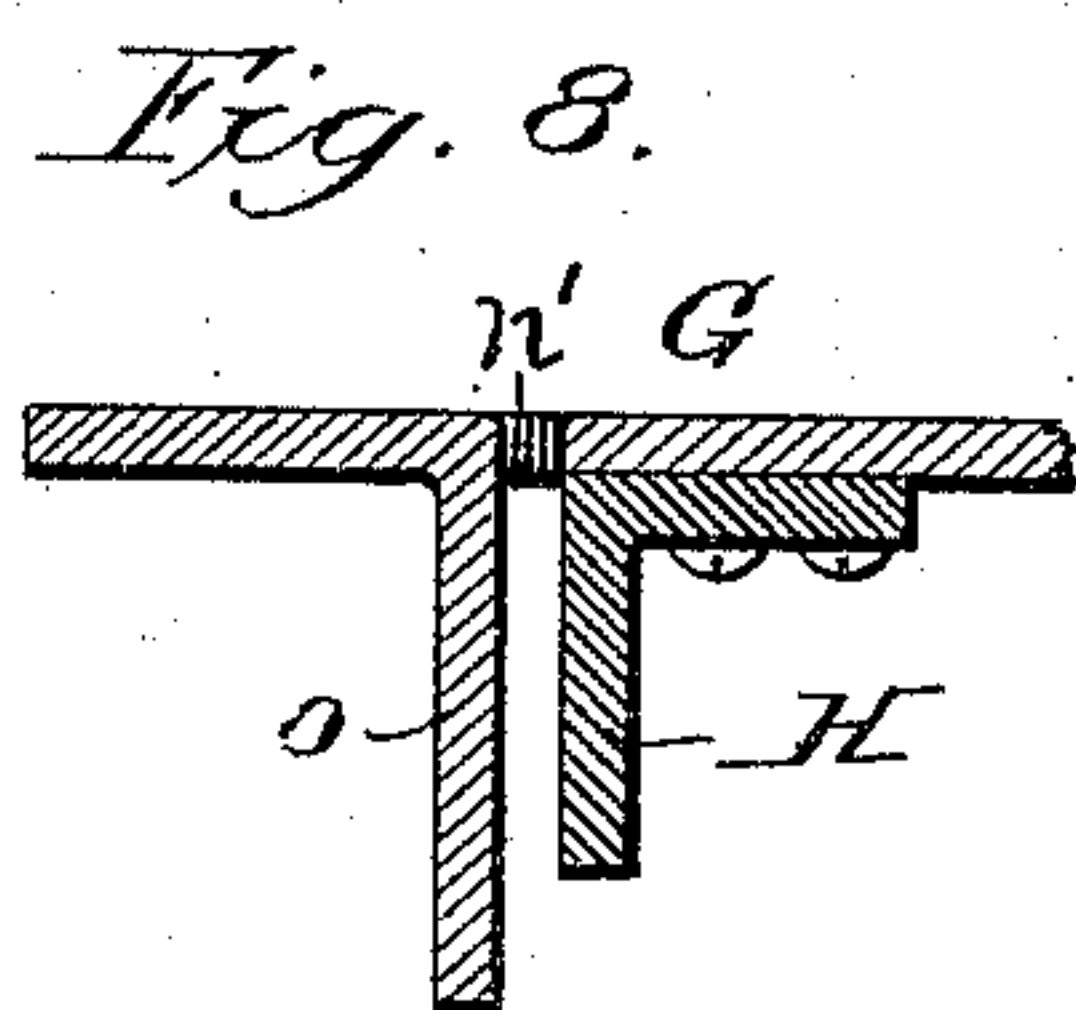
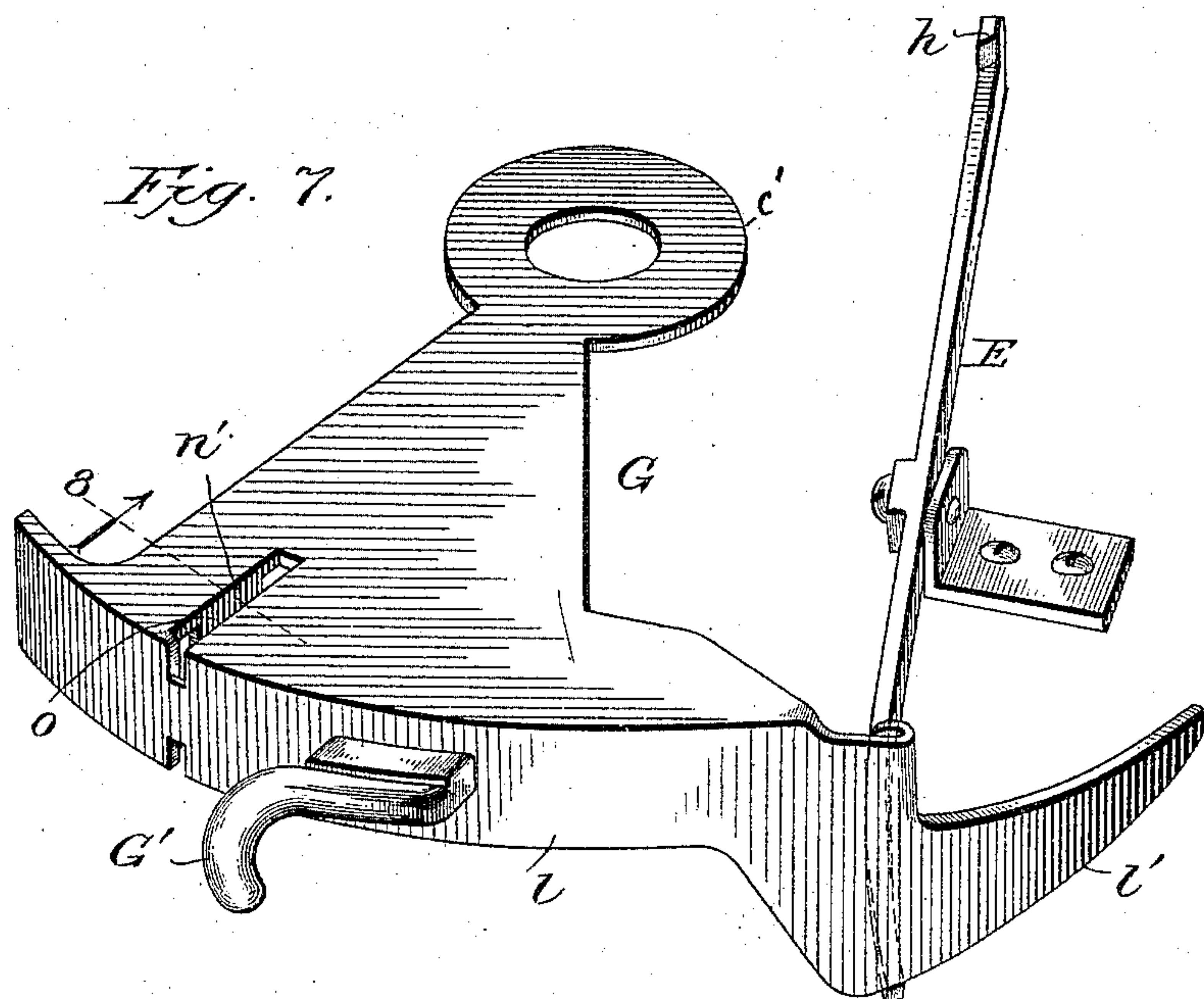
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M. B. MILLS.
COIN OPERATED VENDING MACHINE.

(Application filed Mar. 5, 1901.)

(No Model.)

4 Sheets—Sheet 4.



Witnesses:

Edw. Gaylord,
John Anders, Jr.

Inventor:

Mortimer B. Mills,
By Pyramforth, Pyramforth & See,
Att'ys.

UNITED STATES PATENT OFFICE.

MORTIMER B. MILLS, OF CHICAGO, ILLINOIS.

COIN-OPERATED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 689,106, dated December 17, 1901.

Application filed March 5, 1901. Serial No. 49,903. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER B. MILLS, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Coin-Operated Vending-Machines, of which the following is a specification.

My invention relates to an improvement in the class of coin-operated vending-machines in which the insertion is required of a coin of proper denomination to adapt the delivery mechanism to be actuated to perform its function, and it relates more particularly, though not exclusively, to improvement in the variety of such machines used for vending bulk articles from a magazine supplied therewith, such as peanuts, candies, popcorn, and the like.

The primary object of my improvement is to provide a greatly-simplified construction of such a machine whereby the operative parts shall keep in order irrespective of the extent to which the machine is used, whereby the operating parts shall be comparatively few and adapted to be made cheaply and to be readily assembled and held together at a single point, so that they may be quickly and conveniently taken apart and fastened together, and whereby the device shall take up comparatively little room.

My invention consists in the general as well as in the more specific construction of my improved vending-machine, whereby this and other objects are accomplished.

Referring to the accompanying drawings, Figure 1 is a view in elevation of the machine. Figs. 2, 3, and 4 are broken views of the machine in sectional elevation, the sections being taken, respectively, at the lines 2, 3, and 4 on Fig. 5 and viewed, as indicated by the arrows, to show different parts of the mechanism in their relative positions. Fig. 5 is a plan view of the machine with the magazine-surmounted cover removed to disclose the coin-operated mechanism; Fig. 6, a similar view with the operating-lever device removed to show the other parts of the coin-operated mechanism below it; Fig. 7, a perspective view of the operating-lever device in its normally relative position to a supplemental stop-lever; Fig. 8, a section taken at the line 8 on Fig. 7 viewed in the direction

of the arrow and enlarged; and Figs. 9 and 10 are similar views in sectional elevation of the coin-run portion of the machine, showing the coin by dotted representation in different positions to which it is brought by turning the operating-lever device by hand.

A is a stand, shown as a hollow circular base *a*, supported on legs *a'*, with a hollow boss *b* projecting upward from its center and terminating in a stud *c*. The bottom of the base *a* is thickened on its upper side throughout about one-half its area, the thickened portion, which is shown hollow, containing a triangular discharge-opening *B*, which leads to the delivery-chute *C*², extending from the bottom of the base, and the coin-delivery slot *d*, which leads to a coin-chute *e* on the coin-receptacle *D*. This coin-receptacle is a mere box, shown as of general rectangular shape, fitting about the edge of its mouth or open top in a rectangular frame *f*, formed of flanges cast on the under surface of the bottom of the base *a*. In the center of one of these flanges is cast a perforated lug *g*, and at the center of the opposite flange is cast a perforated lug *g*², with its perforation extending at a right angle to that in the lug *g*. From one side of the box *D* projects a stud *g'* to enter the perforation in the lug *g*, and from the opposite side of the box projects a slotted lug *g*³ to embrace the lug *g*². The coin-chute *e* projects from a side of the box *D* at right angles to the sides thereof from which the lugs project.

To adjust and support the coin-receptacle in place, the stud *g'* is inserted into the lug *g*, whereupon the receptacle is raised to bring its upper edge within the frame *f*, whereby the lug *g*³ embraces the lug *g*², through which a padlock *L* may be fastened to secure the coin-receptacle. In the adjusted position of the receptacle *D* the coin-chute *e* coincides with the coin-delivery slot *d* in the base *a*.

In the deeper or thinner section of the bottom of the base *a* is fulcrumed between its ends, for a purpose hereinafter explained, a lever *E*, provided at one end with an upward-projecting stop-lug *h*.

F is a wheel having a hollow hub *i* to journal on the boss *b*, with a hole *i'* in its upper end, through which the stud *c* projects. Between the hub and the rim *j* of the wheel extend radially-flaring pockets *C'*, open at top

and bottom and shown as nine in number and corresponding in shape with that of the discharge-opening B. About the base of the rim j extends a ratchet-toothed flange j' , from which rises a narrow outer rim j^2 , this rim and the flange carrying it being slotted radially, the slots k being provided at equal intervals apart adjacent to the partitions forming the pockets. Thus nine slots are shown to be provided. A spring-dog k' projects through the thicker portion of the base a to engage with the ratchet-teeth j^3 for the purpose of holding the wheel against backward turning.

G is the operating-lever, of general segment shape, having an annular hub c' on its inner end and provided on its outer arc-shaped edge with a downwardly-depending lip l , longer than the width of the outer edge portion of the lever to project beyond the opposite ends thereof, and the lever is spring-controlled, as by connecting it, as shown, with the circular wall a^2 of the base a through the medium of a spring m . The operating-lever is journaled at its hub c' upon the stud c , whereby the lip on its outer edge extends nearly to the inner surface of the circular wall a^2 , to which it conforms. In the top of the lever G is a coin-receiving slot n' to register with any slot k over which it may be brought by turning the operating-lever in the manner hereinafter described through the medium of a grip-handle G' , projecting outward from the lip l across a rectangular recess a^3 , formed in the upper edge of the wall a^2 , to afford at its opposite ends stops $v v'$ for limiting the extent of throw of the lever. From one side of the slot n' depends on the lower surface of the lever a flat lug o , which may be cast integral with the lever, and from the opposite side of the same slot depends a permanently-magnetic bar H, parallel with and flatwise opposed to the lug to form therewith a passage and a temporary confinement for the inserted coin, which, moreover, in case it is bogus and composed of metal attractively influenced by magnetism will be arrested by the magnet, as and for the purpose hereinafter explained.

Adjacent to the recess a^3 in the wall about the bed is fastened at its opposite ends to the inner side of the wall a flat spring p to project into the coin-run, as and for a purpose hereinafter explained.

The stand A is provided with a circumferentially-flanged cover a^4 , provided, preferably coincident with the wheel-rim j , with a circular collar a^5 on its upper side to afford a confining-seat for the lower end of the magazine I, which may be a glass jar provided on its upper end with a cover a^6 and firmly secured at its lower end, as by cementing, within the collar a^5 . A hole q is formed in the center of the cover a^4 to enable projection through it of the stud c , which has a socket c' formed vertically in its upper end to receive the lower end of a rod r , fastened into it, the rod ex-

tending upward through the center of the magazine and projecting through its cover a^6 , beyond which it contains an eye r' to receive the bolt of a lock, such as a padlock K, for securing the magazine-cover in place. The stand-cover a^4 is shown fastened down by a pin a^7 , removably inserted over it into a hole c^2 , formed horizontally in the side of the stud c , and this pin may likewise enter a hole r^2 in the side of the lower end portion of the rod r to fasten the latter in the socket c' . Adjacent to the inner side of the collar a^5 is provided in the stand-cover a^4 , which forms the bottom of the magazine, a discharge-opening C, preferably of the shape and cross-sectional dimensions of each wheel-pocket C', with one of which it always registers in the normal position of the operating-lever G. A coin-insertion slot n is also provided in the cover a^4 outside the collar a^5 to register with the slot n' in the lever G while the latter is in its normal position, wherein the operating-handle G' abuts against the stop v' at one end of the throw-limiting recess a^3 in the stand-wall a^2 .

By the described construction the parts are conveniently assembled by journaling the wheel in the stand, and then journaling the operating-lever on the stud c to cause the handle G' to project through the recess a^3 , connecting the spring m to the wheel and adjusting the magazine-mounted cover a^4 in place. Then the parts may be secured together by inserting the pin a^7 into the stud c at its hole c^2 and into the rod r , previously inserted into the stud-socket c' . When the magazine has been filled with the material to be vended, the magazine-cover a^6 is adjusted in place and locked in the manner described, and then the apparatus, which may, after unlocking the magazine-cover, be as conveniently taken apart as it was assembled upon withdrawing the pin a^7 , which locks the mechanism and permits it to be unlocked at a single point, is ready to be operated as follows: The wheel-pocket C', that registers with the discharge-opening C when the lever G is in the normal position at which it is resiliently held by the spring m , will be filled from the contents of the magazine by gravity through the discharge-opening. To effect the delivery of the contents of the filled pocket, the operator inserts a coin M of proper denomination into the coin-insertion slot n , whence it enters the coin-receiving slot n' of the lever G, then registering with it, and passes between the magnet H and lug o , lodging against the spring p . The operator thereupon turns the lever G by turning the handle G' toward the left until it is arrested by the stop v , thereby dragging the coin in the coin-run formed by the space between the wall a^3 and rim j along the confining-spring p until it clears the end of the latter. Then the coin drops on the upper end of the rim j^2 in this movement of the lever and enters the first slot k encountered

by it, the depth of which, however, is not sufficient to take the coin entirely below the depending lug *o*, (which extends somewhat lower than its companion, the magnet *H*,) so that the coin forms an abutment projecting upward from the wheel *F* into the return-path of the lug, but below the plane of the spring *p*. The right-hand extension of the depending lip *l* on the operating-lever is in the nature of a cam *l'*, normally depressing the adjacent end of the lever *E* to raise the stop *h* on its opposite end into the path of the wall of a pocket *C'*, that may be against it, and thus prevent undue turning toward the right, in the manner hereinafter described, of the wheel *F*, and which is not obstructed by the spring-dog *k'* engaging the ratchet-teeth *k*³. When, however, the lever *G* is turned toward the left to eventually lodge the coin in a slot *k*, the cam *l'* is withdrawn from one end of the wheel-locking lever *E*, thereby permitting its heavier locking end to drop, and thus remove the lug *h* below the path of the pocket-walls to release or unlock the wheel. After turning the lever *G* by hand toward the left, as described, the operator releases the handle to permit the lever to be retracted by its controlling-spring *m*, which in pulling it back until it is arrested by the handle engaging the stop *v'* drags around with it the wheel *F* through the medium of the coin projecting from a slot *k* into the path of the lug *o*. In this way the filled pocket *C'*, which was covered on its bottom by the base *a*, is brought coincident with the discharge-opening *B*, through which the contents of the pocket empty into the delivery-chute *C*², at which they may be received in the operator's hand or otherwise. When the filled pocket reaches its discharging position, the coin-receiving slot *n'* coincides with a slot *k*, then registering with the coin-delivery slot *d*, that leads to the coin-chute *e*, so that the coin thereupon drops through the coin-chute into the receptacle *D* and the apparatus is ready for another operation to discharge the contents of the next pocket that has been automatically filled from the supply in the magazine and which was arrested in the turning movement of the wheel to register with the discharge-opening *C* by the cam *l'* riding over and depressing the adjacent end of the lever *E* to raise the stop *h* on its opposite end into the path of the pocket-walls and by engaging one of them positively stop the wheel. If a bogus coin be inserted of metal that will cause it to be attracted by the magnet *H*, it will fail to enable the machine to be operated to effect the delivery, because it will be held by the magnet instead of dropping into a slot *k* and forming the connecting-abutment between the wheel and operating-lever, and therefore when the lever *G* after turning it toward the left is released it will fly back without turning the wheel. However, while such a bogus coin remains between the magnet and lug *o* it will not prevent the subse-

quent insertion of a coin, for the act of subsequent insertion will depress the bogus coin in its path beyond the influence of the magnet past the yielding coin-stop afforded by the spring *p* and through the coin-delivery slot and coin-chute into the receptacle.

The details of construction and particular combinations of parts shown and described may be variously departed from without departure from my invention, which, therefore, is not intended to be limited thereto.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a coin-operated vending apparatus, the combination of a hollow covered stand having a delivery-opening for the material to be vended, a coin-delivery slot and a coin-insertion slot, a slotted pocket-containing wheel journaled in said stand, a magazine opening into said wheel, an operating-lever having a coin-receiving slot by which it is adapted to be connected by an inserted coin with said wheel at a slot therein to turn it, a magnet depending from said lever at its slot, and a coin-receptacle to which said coin-delivery slot leads, substantially as and for the purpose set forth.

2. In a coin-operated vending apparatus, the combination of a hollow covered stand containing delivery mechanism and having a delivery-opening, and a coin-insertion slot and a coin-delivery slot registering with each other, an operating-lever journaled in said stand and having a coin-receiving slot registering with said coin insertion and delivery slots when the lever is in its normal position, a yielding coin-stop in the coin-path through said slots and a coin-receptacle into which said coin-delivery slot leads, substantially as and for the purpose set forth.

3. In a coin-operated vending apparatus, the combination of a hollow covered stand containing delivery mechanism and having a delivery-opening, and a coin-insertion slot and a coin-delivery slot registering with each other, an operating-lever journaled in said stand and having a coin-receiving slot registering with said coin insertion and delivery slots when the lever is in its normal position, a yielding coin-stop in the coin-path through said slots, a passage having a side formed with a magnet depending from the lever at its slot, and a coin-receptacle to which said coin-delivery slot leads, substantially as and for the purpose set forth.

4. In a coin-operated vending apparatus, the combination of a hollow covered stand having a delivery-opening for the material to be vended, a coin-delivery slot and a coin-insertion slot, a pocket-containing wheel rotatably supported on a journal in said stand, said journal being extended through the stand-cover, and provided with a transverse opening and a socket in its upper end, an operating-lever fulcrumed on said journal and having a coin-receiving slot at which it is adapted to be connected by an inserted coin

with said wheel to turn it, a covered magazine supported on said cover and opening through it into said wheel, a rod in the magazine extending at its lower end in said socket
 5 and provided therein with a transverse opening and passing at its upper end through the magazine-cover, a lock on the upper end of the rod for securing the magazine-cover, a pin inserted through said openings in the journal
 10 and rod to fasten the latter and secure the stand-cover, thereby fastening the mechanism in the stand, and a coin-receptacle to which said coin-delivery slot leads, substantially as and for the purpose set forth.

15 5. In a coin-operated vending apparatus, the combination of a hollow covered stand surmounted by a magazine opening into it through its cover, a delivery-opening in the stand-base for the material to be vended, a
 20 coin-delivery slot in said base and a coin-insertion slot in the cover, a pocket-containing flanged wheel journaled to rotate horizontally in said stand and provided with slots at intervals through the flange, a spring-controlled
 25 operating-lever journaled in said stand and having a coin-receiving slot and a lug depending thereat, and a spring for the lodgment of an inserted coin in the coin-run formed between the wall of the stand and the
 30 wheel, substantially as and for the purpose set forth.

6. In a coin-operated vending apparatus, the combination of a hollow covered stand surmounted by a magazine opening into it
 35 through its cover, a delivery-opening in the stand-base for the material to be vended, a coin-delivery slot in said base leading to a coin-receptacle below the stand, and a coin-insertion slot in the cover, a pocket-containing
 40 flanged wheel journaled to rotate horizontally in said stand and provided with slots at intervals through the flange and with circumferential ratchet-teeth, a spring-dog engaging said teeth, a stop-lever fulcrumed be-
 45 tween its ends and provided at one end with

a lug to project into the path of said pockets, a spring-controlled operating-lever journaled in said stand, having a coin-receiving slot and a lug depending thereat and provided
 50 with a depending lip having a cam extension at one end to engage with said stop-lever, and a spring for the lodgment of an inserted coin in the coin-run formed between the wall of the stand and the wheel, substantially as and
 55 for the purpose set forth.

7. In a coin-operated vending apparatus, the combination of a hollow covered stand surmounted by a magazine opening into it through its cover, a delivery-opening in the
 60 stand-base for the material to be vended, a coin-delivery slot in said base leading to a coin-receptacle below the stand, and a coin-insertion slot in the cover, a wheel journaled to rotate horizontally in said stand and formed
 65 with pockets extending between its hub and inner rim and having a circumferential flange provided with ratchet-teeth and with an outer rim in the coin-run formed by the space between said inner rim and the wall of the
 70 stand, slots formed at intervals through said flange and outer rim, a spring-dog engaging said teeth, a stop-lever fulcrumed between its ends and provided at one end with a lug to project into the path of said pockets, a
 75 spring-controlled operating-lever journaled in said stand, having a coin-receiving slot and a lug depending thereat and provided with a depending lip having a cam extension at one end to engage with said stop-lever, a spring
 80 for the lodgment of an inserted coin in said coin-run, a recess in the stand-wall forming stops at its opposite ends, and a handle on the operating-lever projecting through said recess, the whole being constructed and ar-
 85 ranged to operate substantially as described.

MORTIMER B. MILLS.

In presence of—

D. W. LEE,

ALBERT D. BACCI.