No. 705,017. Patented July 22, 1902.

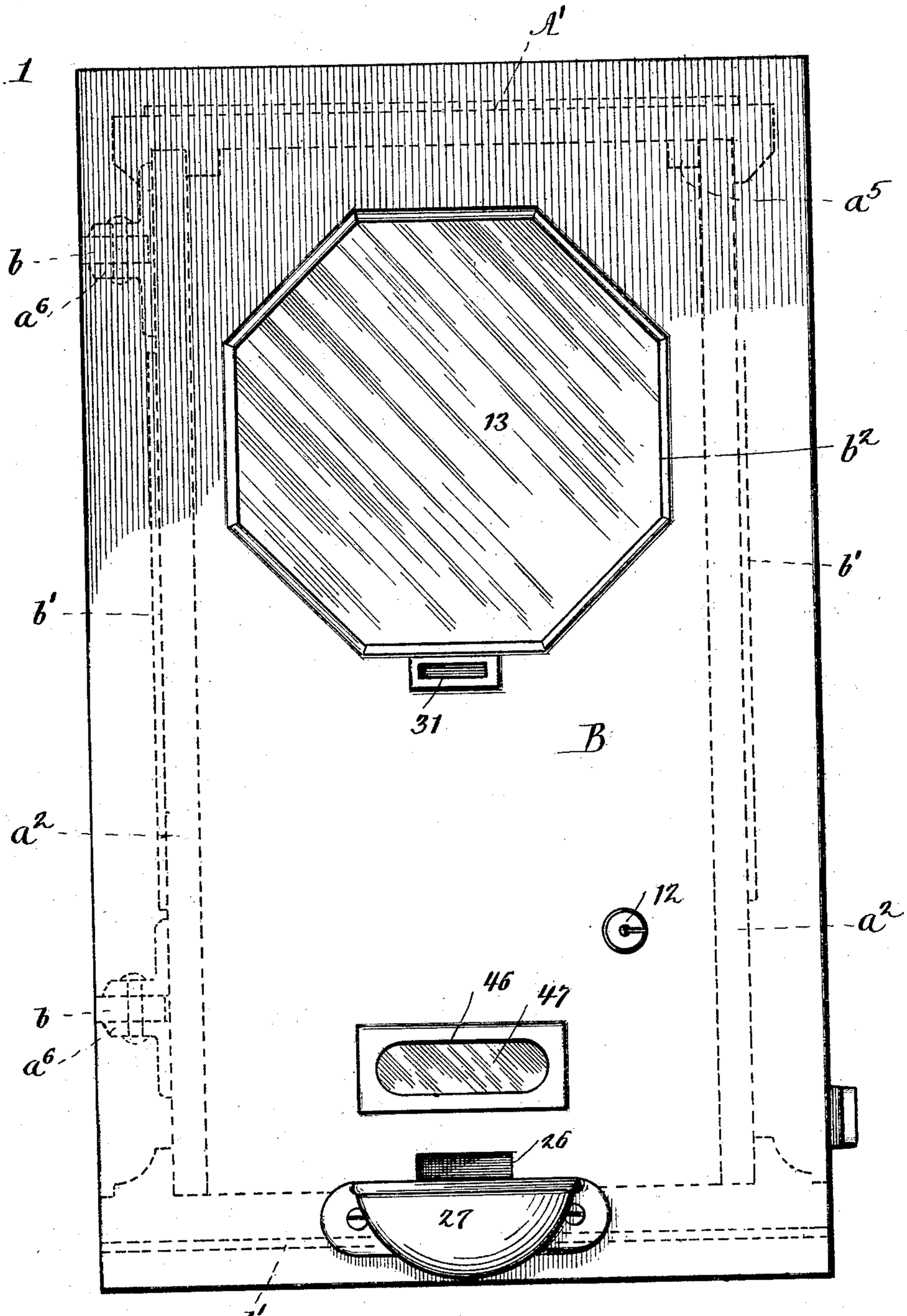
A. BAUMGARTEN.

COIN CONTROLLED APPARATUS.

(Application filed June 1, 1901.)

(No Model.) 5 Sheets—Sheet 1.

Fig. 1



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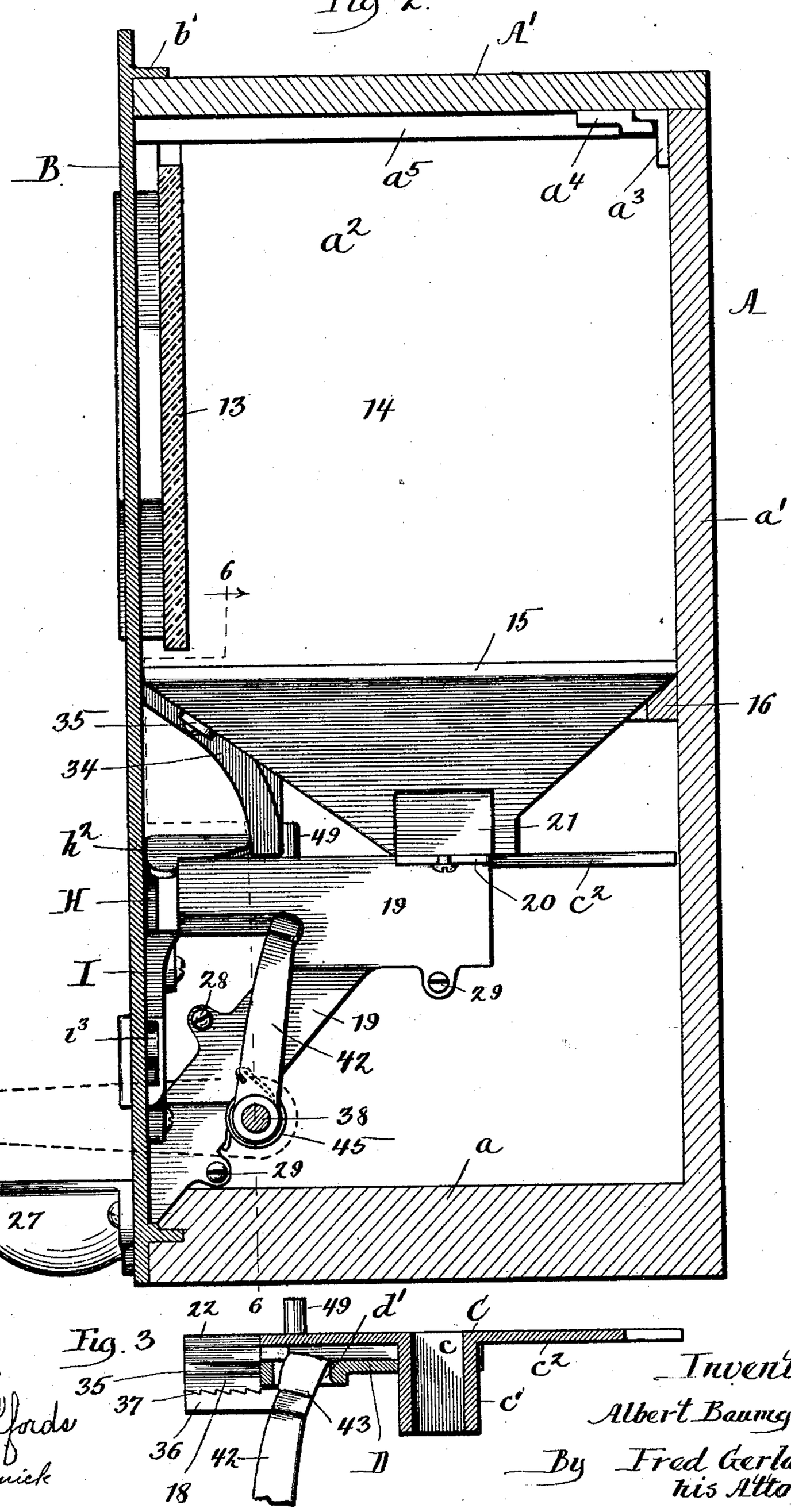
(No Model.) 5 Sheets—Sheet 2.

Fig. 2.



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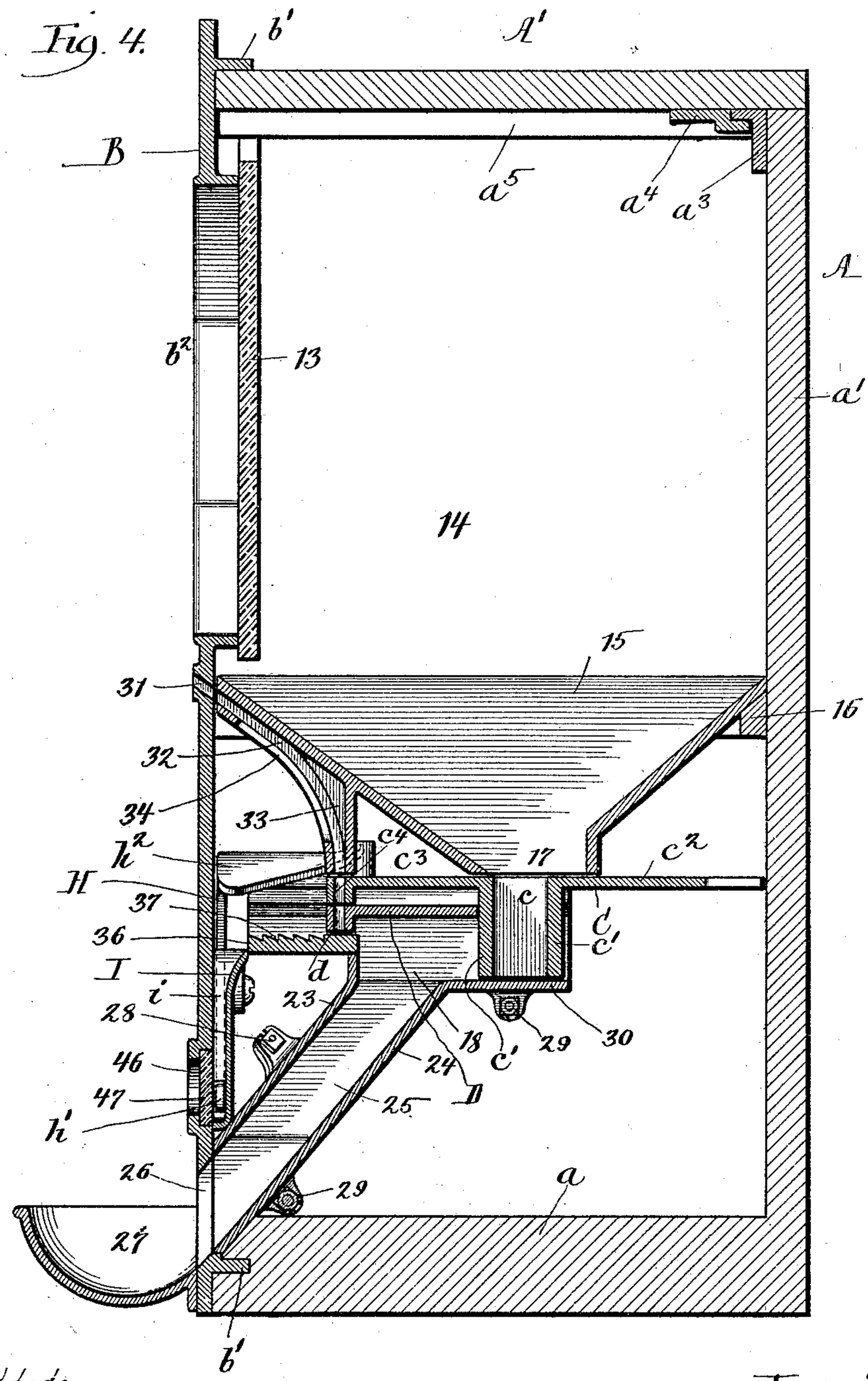
(No Model.) 5 Sheets—Sheet 3.

Fig. 4.



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(No Model.) 5 Sheets—Sheet 4.

Fig. 5.

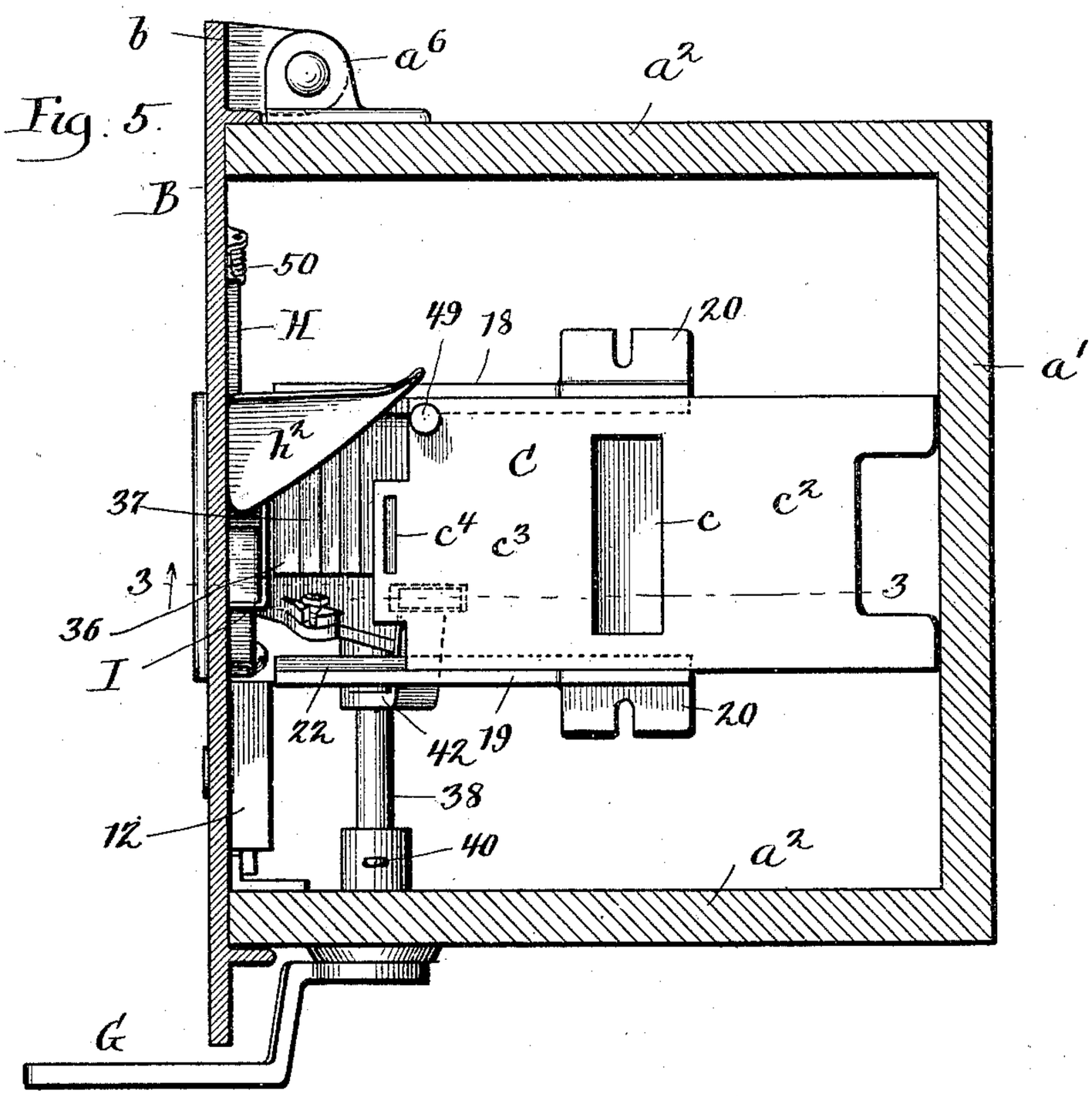
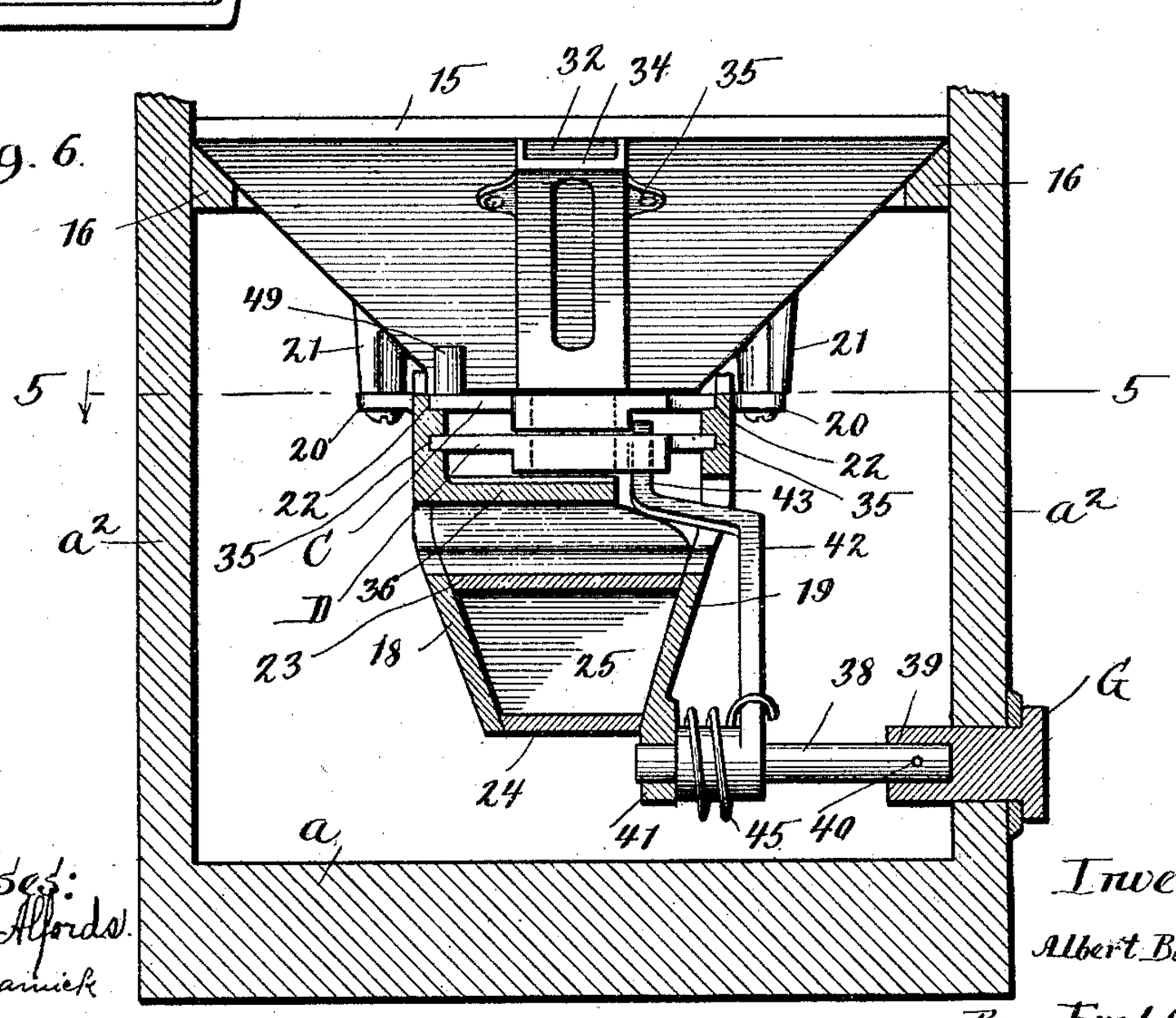


Fig. 6.



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(No Model.) 5 Sheets—Sheet 5.

Fig. 7.

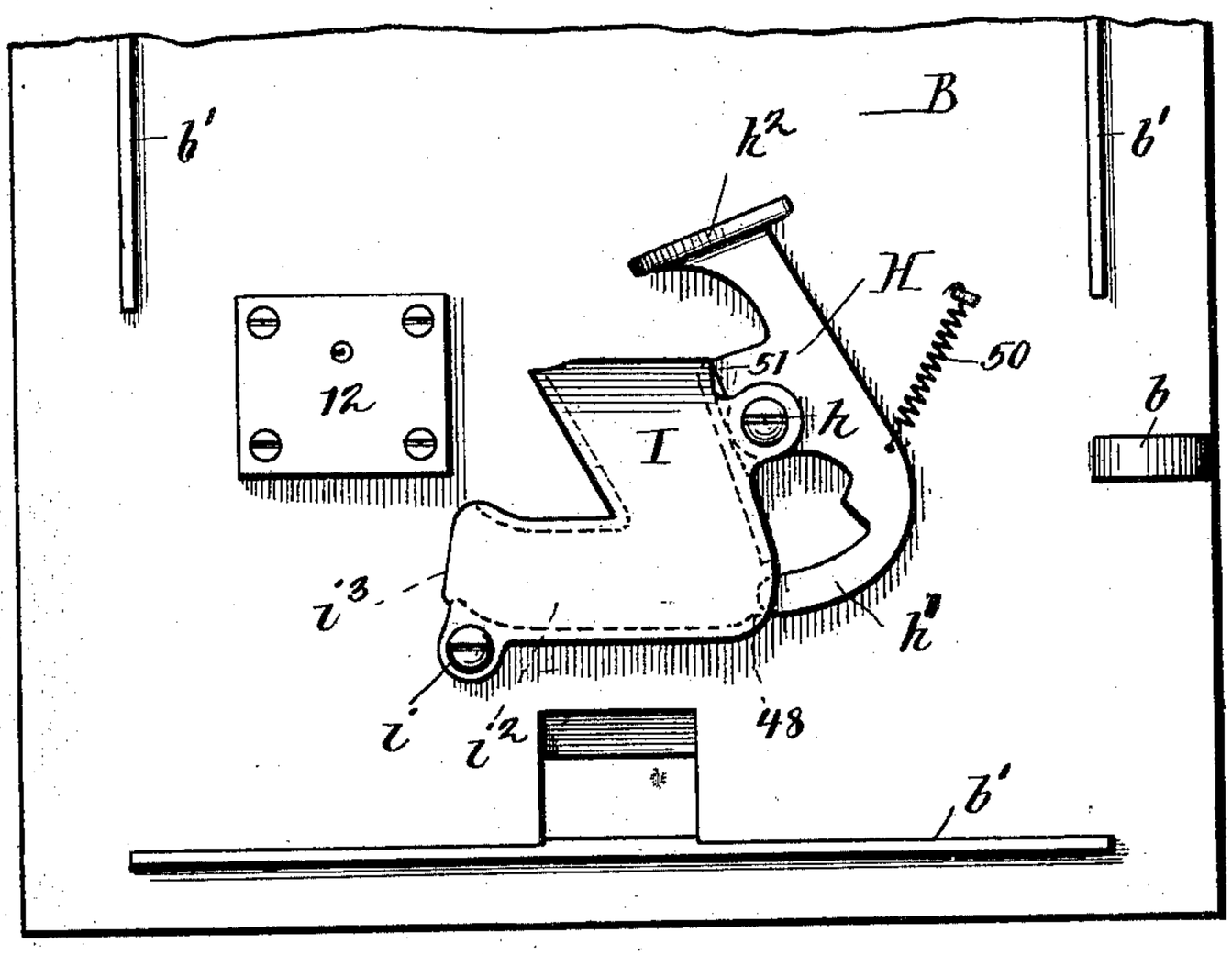


Fig. 8.

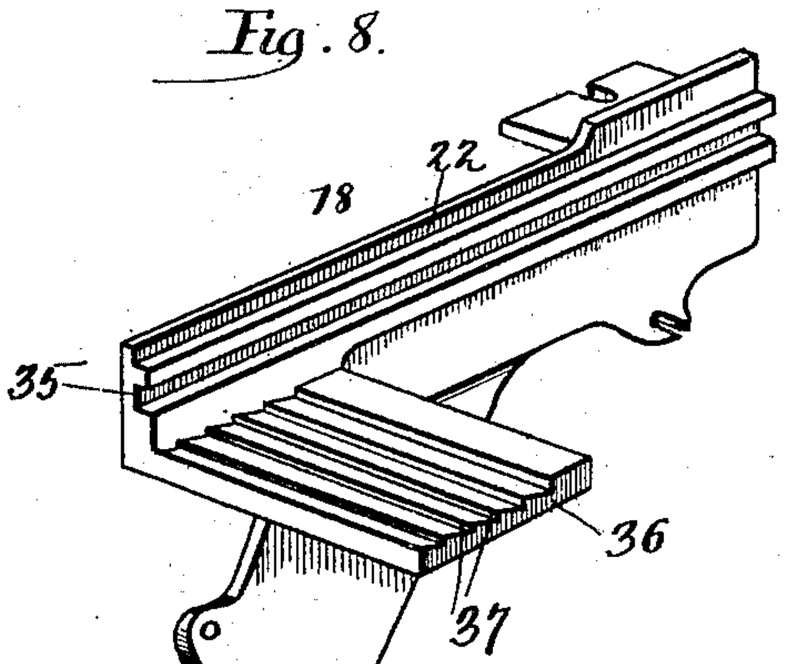


Fig. 9.

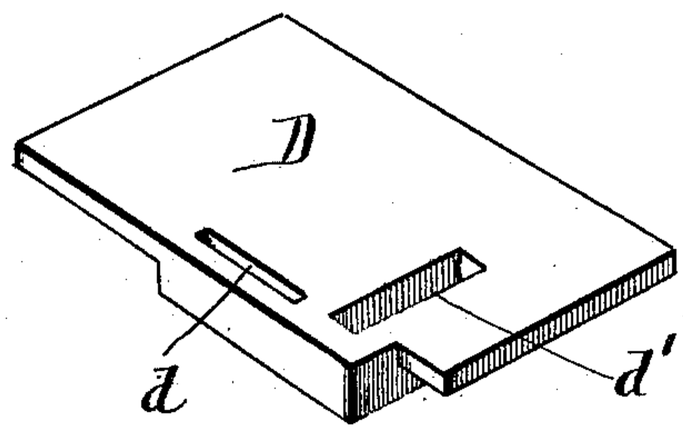


Fig. 10

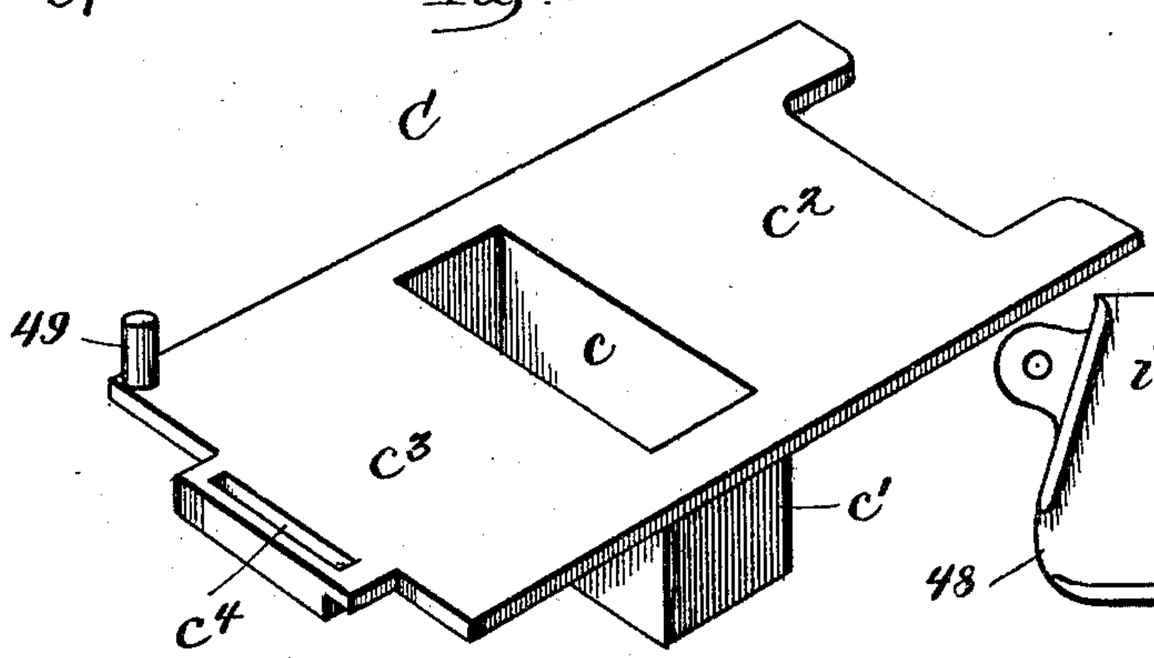
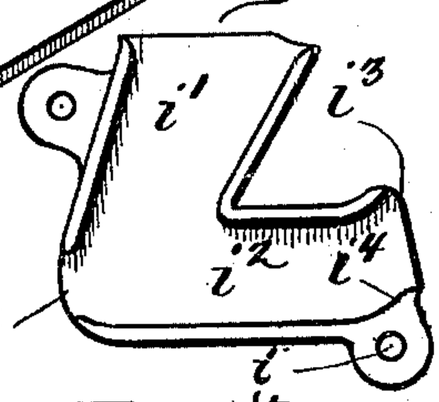


Fig. 11.



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UNITED STATES PATENT OFFICE.

ALBERT BAUMGARTEN, OF FREEPORT, ILLINOIS.

COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 705,017, dated July 22, 1902.

Application filed June 1, 1901. Serial No. 62,697. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BAUMGARTEN, a resident of Freeport, in the county of Stephenson, State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Apparatus, of which the following is a full, clear, and exact description.

The present invention relates more particularly to coin-controlled vending machines or apparatus.

The invention designs to provide a machine which can be produced at a low cost, is efficient in use, and is simple in construction.

With these objects in view the invention consists in the several novel features of construction hereinafter defined, illustrated in the accompanying drawings, and more particularly defined by claims at the conclusion hereof.

In the drawings, Figure 1 is a view in front elevation of a machine embodying the invention. Fig. 2 is a view in side elevation, the inclosing case being shown in section. Fig. 3 is a detail view, in vertical section, taken on line 3 3 of Fig. 5. Fig. 4 is a view in central vertical transverse section. Fig. 5 is a view in horizontal section, taken on line 5 5 of Fig. 6. Fig. 6 is a view in vertical section, taken on line 6 6 of Fig. 2. Fig. 7 is a rear elevation of a portion of the removable front door and the parts sustained thereby. Fig. 8 is a perspective view of one of the side frames whereby the operating mechanism is sustained. Fig. 9 is a perspective view of the slidable shifter whereto the operating-arm is connected. Fig. 10 is a perspective view of the valve for measuring and discharging the merchandise or material to be dispensed. Fig. 11 is a view in front elevation of the holder of the coin-detector.

A denotes a casing wherein the operating and dispensing mechanism are inclosed. The inclosing casing comprises a bottom a, a back wall a', and side walls a^2. For convenience in replenishing the supply of merchandise the top A′ of the case is removably secured by interlocking brackets or strips a^3 and a^4, secured, respectively, to the back wall and top A′ of the case. Cleats a^5 are secured to top A′, engage the side walls a^2, and secure the top against lateral movement in the case. The front of the case is formed by a door B, which is pivotally secured to the case at one side thereof by lugs b of the door B and brackets a^6, which form hinges about which the door can be swung when access to the parts within the case is desired. A suitable lock 12 secures the hinged door B in closed position against the case. The door B is provided with guard-ribs b', which fit snugly against the outside of the walls of the case. The upper horizontal guard-rib b' fits over the top A′, and the front door when closed holds the top against forward and upward movement. When the front door is open, the top can be drawn forwardly and upwardly until the interlocking strips a^3 and a^4 are disengaged, and the top can then be conveniently removed. The lower horizontal guard-rib b' is preferably fitted into a corresponding groove in the bottom a of the case. The upper part of case serves as a storage-compartment 14 for the merchandise to be dispensed. An opening b^2 is formed in the door B, behind which a glass or translucent plate 13 is held in grooves formed in the side walls a^2 of the case. Through said plate and opening the merchandise or material within the storage-chamber 14 is displayed.

Beneath the storage-compartment 14 a hopper 15 is sustained by strips 16, secured to the walls of the case. The hopper is provided with a discharge opening or outlet 17. The storage-compartment and hopper shown are adapted to dispense peanuts or similar articles in bulk.

The stationary supporting-frame for the operating mechanism comprises side frames 18 and 19, suspended from the hopper and secured thereto by screws and lugs 20 and 21 at each side of hopper.

A slidable valve C comprises a measuring-chamber c, formed between integral vertical walls c' thereof, a cut-off c^2, and a forwardly-projecting web c^3, wherein a coin-slot c^4 is formed. The valve lies beneath the hopper and is sustained by side frames 18 and 19 in manner free to slide horizontally in ways or guides 22, formed in the side frames. The measuring-chamber is positioned normally beneath opening 17 of the hopper and to receive the materials from the hopper. The side frames 18 and 19 are extended downwardly to form, together with walls 23 and 24,

a chute 25 for directing the material from the valve to a discharge-opening 26 in the front door B and into a receiver or cup 27, secured to the front door. Front wall 23 of the chute 25 is secured to the side frames by screws, as at 28. Rear wall 24 of the chute is secured to the side frames by screws, as at 29, and is extended rearwardly and horizontally, as at 30, to form a valve-bottom, which retains the material in the measuring-chamber until the valve is shifted forwardly thereof to discharge the material into chute 25.

A coin-slot 31 is formed in the front door, and a coin-channel 32 is formed between a guide-rib 33, formed integrally with the hopper, and a channel-plate 34, secured to the hopper by screws, as at 35. The coin-channel 32 terminates immediately above the coin-slot c^4 in the valve and directs the deposited coins to said slot. Beneath the valve a supplemental shifter D is held in manner free to slide horizontally in guide-grooves 35 in the side frames, is provided with a coin-slot d, extending vertically therethrough and normally beneath coin-slot c^4 of the valve, and is extended to normally engage the front wall c' of the valve-chamber c. A stationary coin-support 36 is integrally formed with and projects laterally from the side frame 18, is located beneath the path of travel of coin-slot d, and is provided with ratchet-teeth 37, over which the lower edge of a deposited coin will ride as the supplemental shifter is moved forwardly. Support 36 serves to retain the coin in operative position during shift of the coin, and teeth 37 prevent retraction of the coin to effect repeated operation of the valve by a coin.

The operating mechanism comprises a handle G at the side of the case and journaled therein, a shaft 38, secured in a socket 39 of the hub of operating-handle G by a cotter-pin 40 and having its inner end journaled in a lug 41 of side frame 19, and a crank-arm 42, having its upper end bent, as at 43, and projected through a slot d' (see Fig. 3) in the supplemental shifter D. A coil-spring 45 engages crank-arm 42 and holds the operating mechanism and parts shifted thereby in normal position and restores them to such position after operation thereof.

The coin-detector, whereby an attendant can ascertain whether a genuine or bogus coin has been deposited, comprises a coin-holder I, secured to the inner side of the front door by a screw, as at i, an ejector-lever H, pivotally secured at h to the front door of the case, and a sight-opening 46, provided with a translucent plate 47, through which the coins in the holder can be seen from the ontside of the case. The coin-holder is formed with an upwardly-extending channel i, whereinto the coins will fall from the coin-slots in the valve and supplemental shifter after these have been shifted and the coin has passed beyond coin-support 36. A horizontal channel i^2 is of sufficient length to contain and display a number—say three—deposited coins, and at one side thereof an exit i^3 is formed, through which the coins are successively ejected. A projection i^4 prevents the coins from rolling out of the holder. The ejector H is provided with a finger h', extending through a slot 48 in the wall of holder I, and an integrally-formed cam h^2, projecting inwardly from the door and into the path of travel of a stud or lug 49, integrally formed on the valve C, which stud serves to shift the ejector a sufficient distance to eject one coin from the holder. A spring 50 holds the ejector in normal position against the holder, as at 51, and restores the ejector to normal position after operation.

The operation of the machine will be as follows: Assuming the parts to be in normal position, as shown in the drawings, the purchaser will deposit a coin of proper denomination into coin-receiving slot 31. The coin will descend through coin-channel 32 into coin-slots c^4 and d of the valve and supplemental shifter, respectively, and rest upon coin-support 36. The deposited coin will lock the shifter D and valve C. The purchaser will then depress handle G, and such shift will rock shaft 38 and arm 42 against the force of spring 45 and shift the slidable shifter D and valve C forwardly until the front wall c' of valve encounters the fixed coin-support 36. During such shift the supply of material from hopper will first be cut off by web c^2, and the material in the valve-chamber c will later be discharged into chute 25 and will thence pass through opening 26 and fall into receiver 27. When the coin has passed over support 36, the coin will fall into channel i' of the coin-holder I. During the forward movement of the valve C stud 49 will engage cam h^2 and rock the ejector laterally about its pivot and in a plane parallel to the inner face of the door B and cause finger h' to displace one coin from the holder I and through exit i^3 into the case. At the outset the coins will accumulate until the desired number are within the holder, and the ejector will thereafter during each shift thereof positively advance the coins and displace one coin over projection i^4, thus providing a space into which the last-deposited coin can fall and be displayed through sight-opening 46. Upon release of the operating-handle spring 45 will retract the handle, crank-arm 42, and the shifter D, and said shifter will engage front wall c' of the valve-chamber and shift said valve, thus restoring all these parts to normal position. Upon retraction of stud 49 ejector H will be free to be restored to normal position by spring 50. The valve when in normal position will again receive a measured quantity of material from the hopper 15 and the parts will be in readiness for further operation. When the supply of material in the storage-compartment is to be replenished, the bolt of lock 12 will be withdrawn, so the front door can be swung away from the case. The top A' can then be removed for conven-

ience in pouring the material into the storage-compartment.

The invention possesses several advantages. The construction throughout is a simple one, and the parts can be produced at little cost and quickly assembled. By removing cotter-pin 40 and detaching the operating-handle the entire dispensing and operating mechanisms, which are sustained by the hopper, can be withdrawn, and, furthermore, the entire mechanism can be conveniently assembled before it is placed in the case. The construction of the coin-ejector and the mechanism for operating the same are such that the ejector can be secured by the removable door and be removable therewith and such that no direct connection with the operating mechanism therefor is necessary. The particular manner of connecting the operating crank-arm with the coin-controlled parts provides a construction which is simple in construction, low in cost, and positive and efficient in operation.

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

1. In a vending-machine, the combination with a case provided with a storage-compartment, a hopper, and a slidable valve beneath said hopper, of mechanism for shifting said valve, said mechanism comprising a slidable coin-shifter, a crank-arm connected to said shifter, and an operating-handle, said valve and shifter having corresponding coin-slots so arranged that a deposited coin will cause the unison shift of the valve and shifter, a coin-support beneath said coin-slots and side frames in which said valve and said shifter are held, said side frames being secured to said hopper, said frames and hopper being removably held in said case.

2. In a vending-machine, the combination with a case provided with a storage-chamber, a hopper and a slidable valve, of a slidable coin-shifter, vertically-extending side frames secured to said hopper, a horizontal guideway for said shifter, formed in each of said side frames, a horizontal guideway for the valve and formed in each of said side frames, said guideways for said valve and shifter being arranged one above the other and separated from each other, and an operating-handle suitably connected with said shifter, corresponding coin-slots in said valve and shifter arranged so a deposited coin will cause the unison shift of said slide and valve, and a coin-support beneath said slots.

3. In a vending-machine, the combination with a case provided with a storage-chamber, a hopper and a slidable valve, of a slidable coin-shifter, vertically-arranged side frames secured to said hopper, a guideway for the valve and formed in each of said side frames, a guideway for the shifter and formed in each of said side frames, and below said valve-guides and separated therefrom, said valve and shifter being provided with corresponding coin-slots arranged so that a deposited coin will cause the unison shift of said shifter and said valve, a slot extending vertically through said shifter, a crank-arm having its upper terminal extended in the direction of its length and through said slot, an operating-handle connected with said crank-arm and a coin-support beneath said coin-slot.

4. In a vending-machine, the combination with a case provided with a storage-compartment, a hopper and a slidable valve, of mechanism for shifting said valve, said mechanism comprising a slidable coin-shifter, a crank-arm connected to said slide, and an operating-handle, said valve and said shifter having coin-slots so arranged that a deposited coin will cause the shifter and valve to move in unison, side frames in which said slide and valve are held, and a fixed coin-support beneath coin-slots and integrally formed with one of the side frames.

5. In a vending-machine, the combination with a case provided with a storage-chamber, a hopper and a slidable valve, of mechanism for shifting said valve, said mechanism comprising a slidable coin-shifter, a crank-arm connected to said shifter and an operating-handle, said valve and said shifter having coin-slots so arranged that a deposited coin will cause the shifter and valve to move in unison, side frames in which said slide and valve are held, and a fixed and toothed coin-support beneath coin-slots and integrally formed with one of the side frames.

6. In a vending-machine, the combination with a case provided with a storage-chamber, a hopper and a slidable valve, of mechanism for shifting said valve, said mechanism comprising a slidable coin-shifter, a crank-arm connected to said slide, and an operating-handle, said valve and said shifter having coin-slots so arranged that a deposited coin will cause the shifter and valve to move in unison, side frames in which said slide and valve are held, a chute for directing the discharged material to outside of the case, said side frames being extended to form the side walls of said chute, and a fixed coin-support beneath said coin-slots.

7. In a vending-machine, the combination with a case provided with a storage-chamber, a hopper and a slidable valve, of mechanism for shifting said valve, said mechanism comprising a slidable coin-shifter, a crank-arm connected to said slide, and an operating-handle, said valve and said shifter having coin-slots so arranged that a deposited coin will cause the shifter and valve to move in unison, side frames in which said shifter and valve are held, a chute for directing the discharged material to outside of the case, said side frames being extended to form the side walls of said chute, and a fixed coin-support beneath said coin-slots, integrally formed with one of said side frames.

8. In a vending-machine, the combination with a storage-compartment, a hopper and a

movable valve, of coin-controlled mechanism for shifting said valve, a coin-detector comprising a holder and an ejector provided with an inwardly-projecting cam, said ejector being arranged to positively shift a coin from said holder, and a stud on said valve and arranged to engage said cam and shift said ejector.

9. In a vending-machine, the combination with an inclosing case provided with a removable door, a storage-compartment, a hopper and a movable valve, of coin-controlled mechanism for shifting said valve, and a coin-detector carried by said door and comprising a holder and an ejector provided with an inwardly-projecting cam, said ejector being arranged to positively shift a coin from said holder, and a stud on said valve and arranged to engage said cam and shift said ejector.

10. In a vending-machine, the combination with an inclosing case provided with a removable door, a storage-compartment, a hopper, a slidable valve and coin-controlled mechanism for shifting said valve, of a coin-detector carried by said door, and comprising a coin-holder and an ejector, pivotally sustained to swing parallel to the door-face, and provided with an inwardly-projecting cam, said ejector being arranged to positively shift a coin from said holder, and a stud on said valve and arranged to engage said cam to shift said holder, said valve being movable transversely to the travel of said ejector.

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