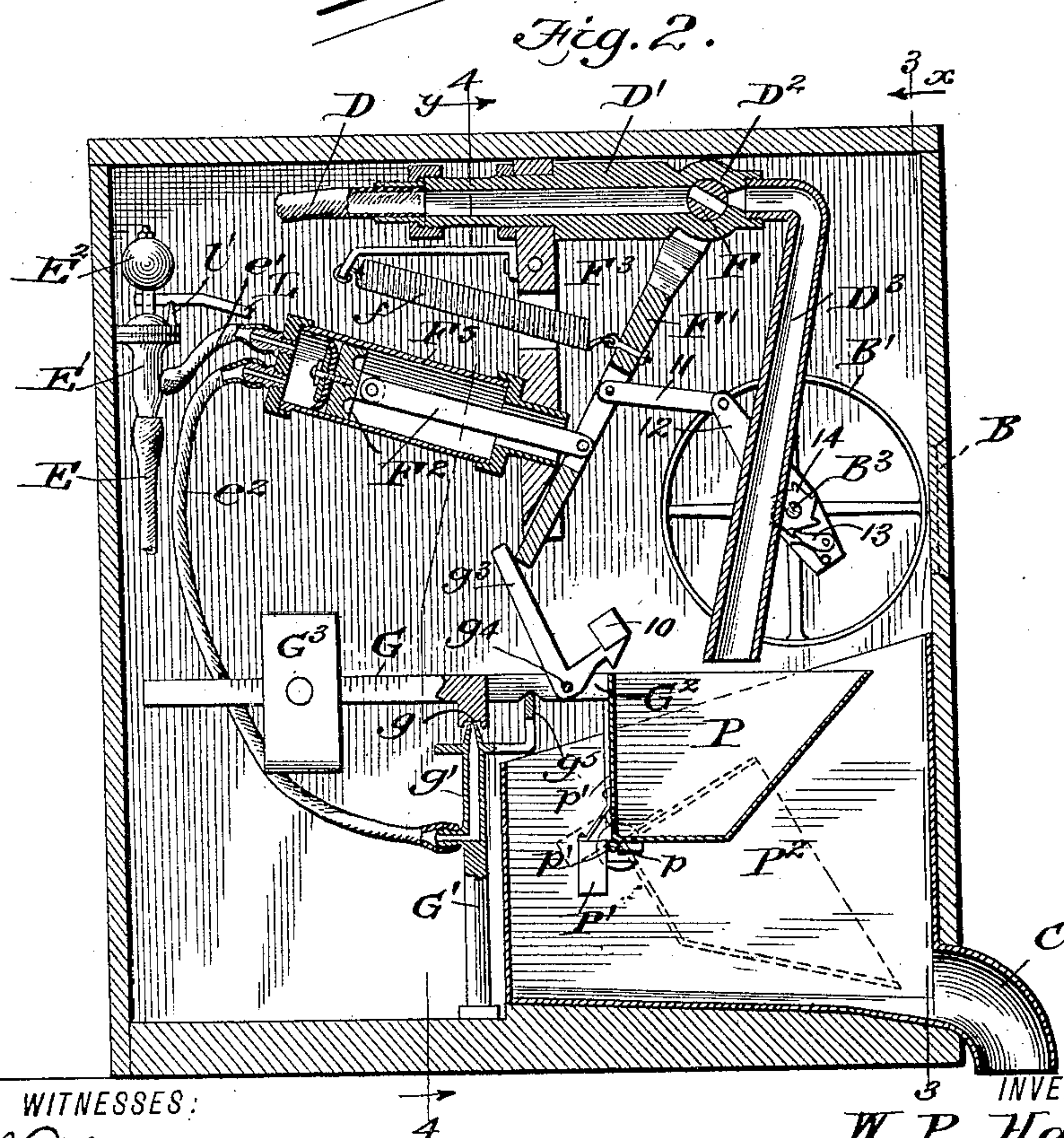
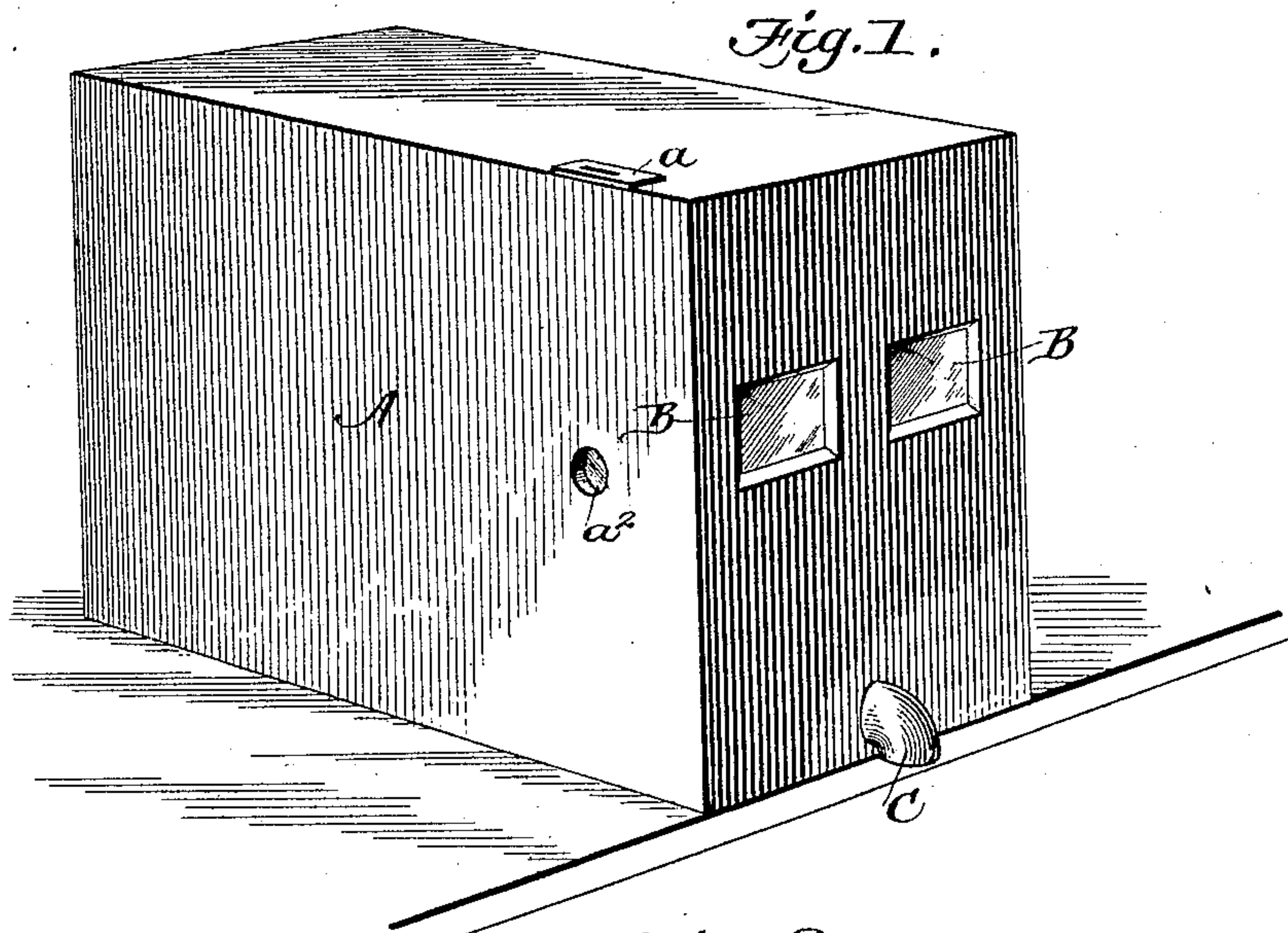


3 Sheets—Sheet 1.

COIN CONTROLLED APPARATUS FOR DISPENSING LIQUIDS.

Patented May 17, 1898.



INVENTOR
W. P. Hackett.
BY Munn & Co

ATTORNEYS.

(No Model.)

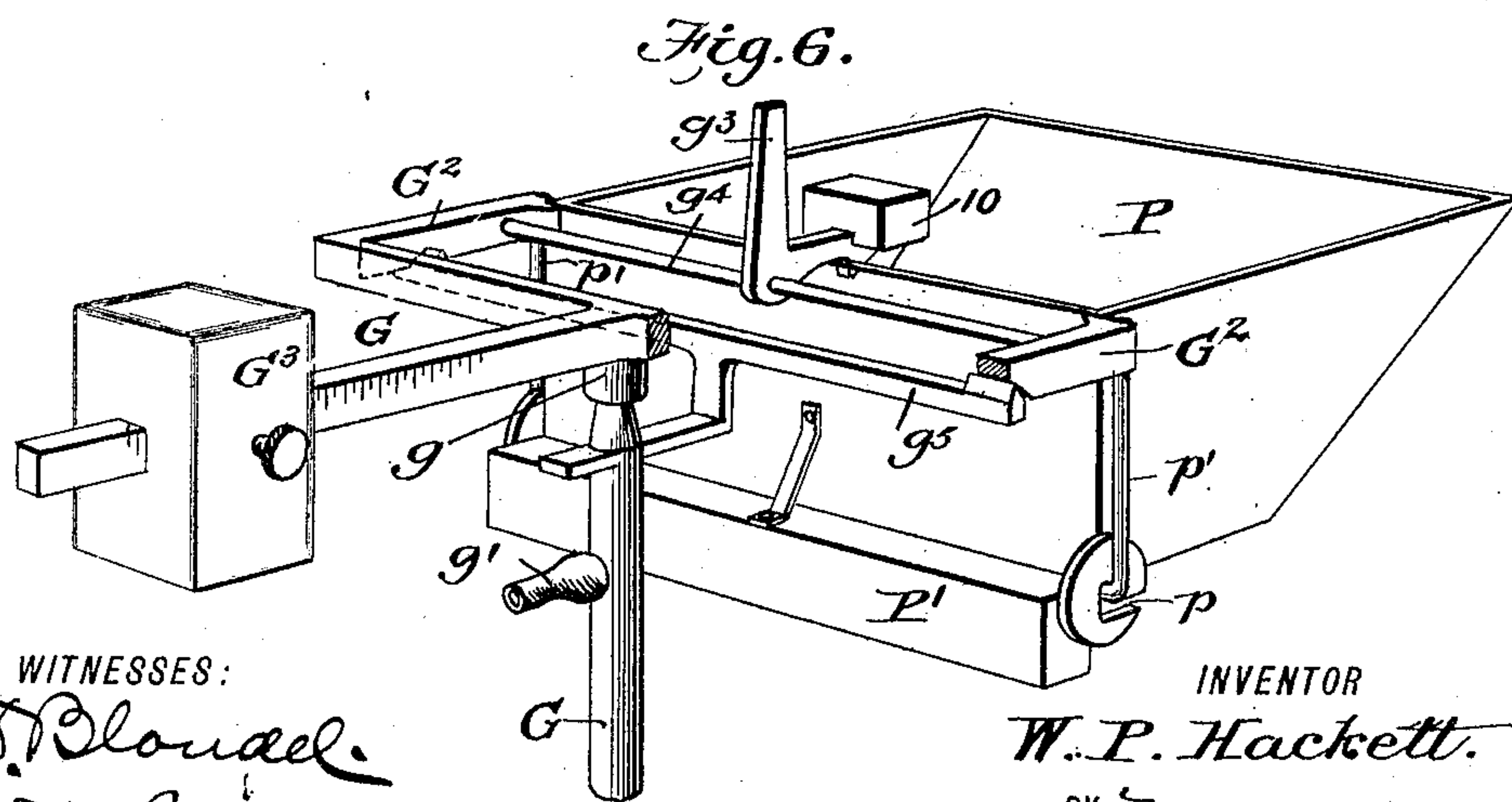
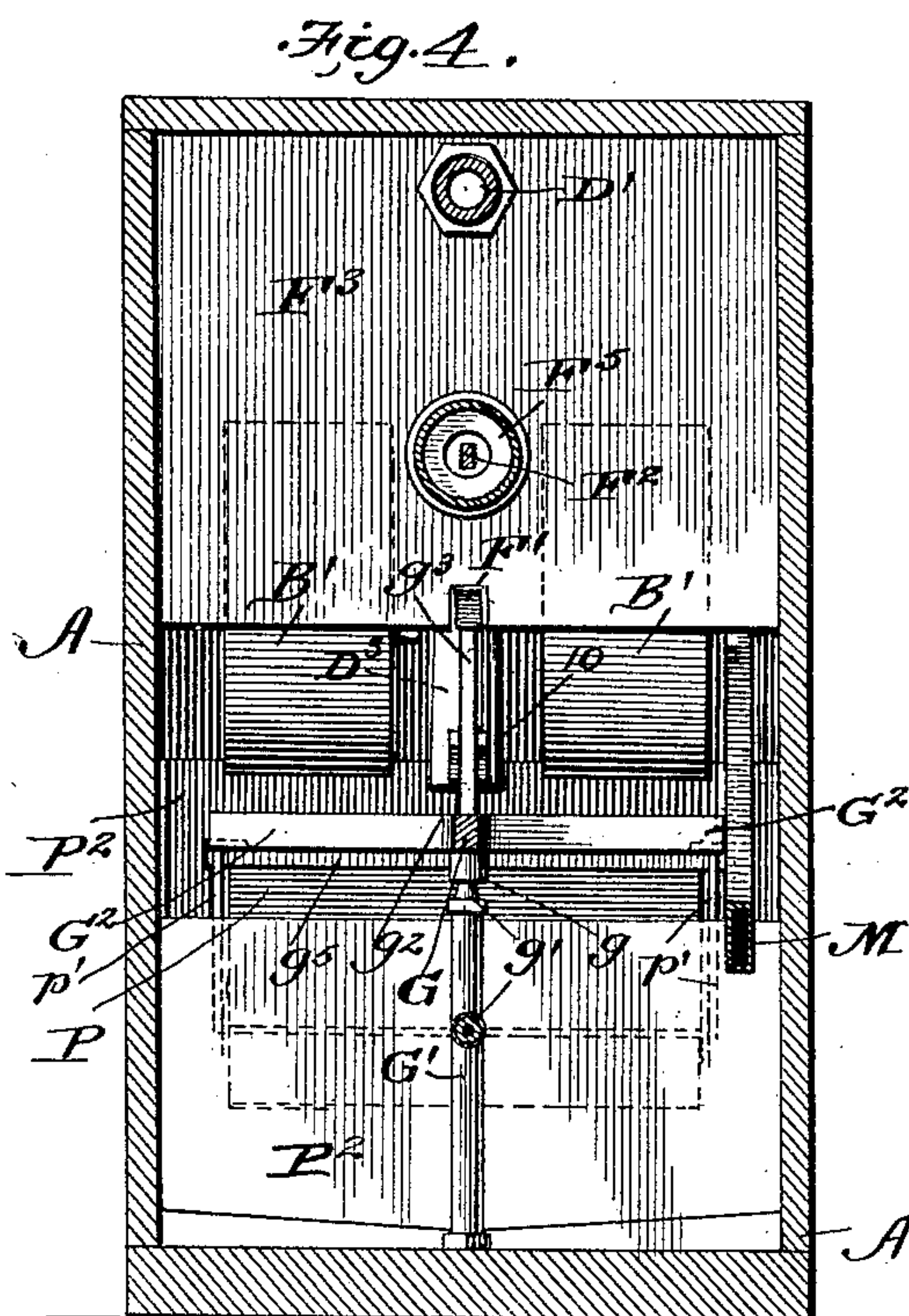
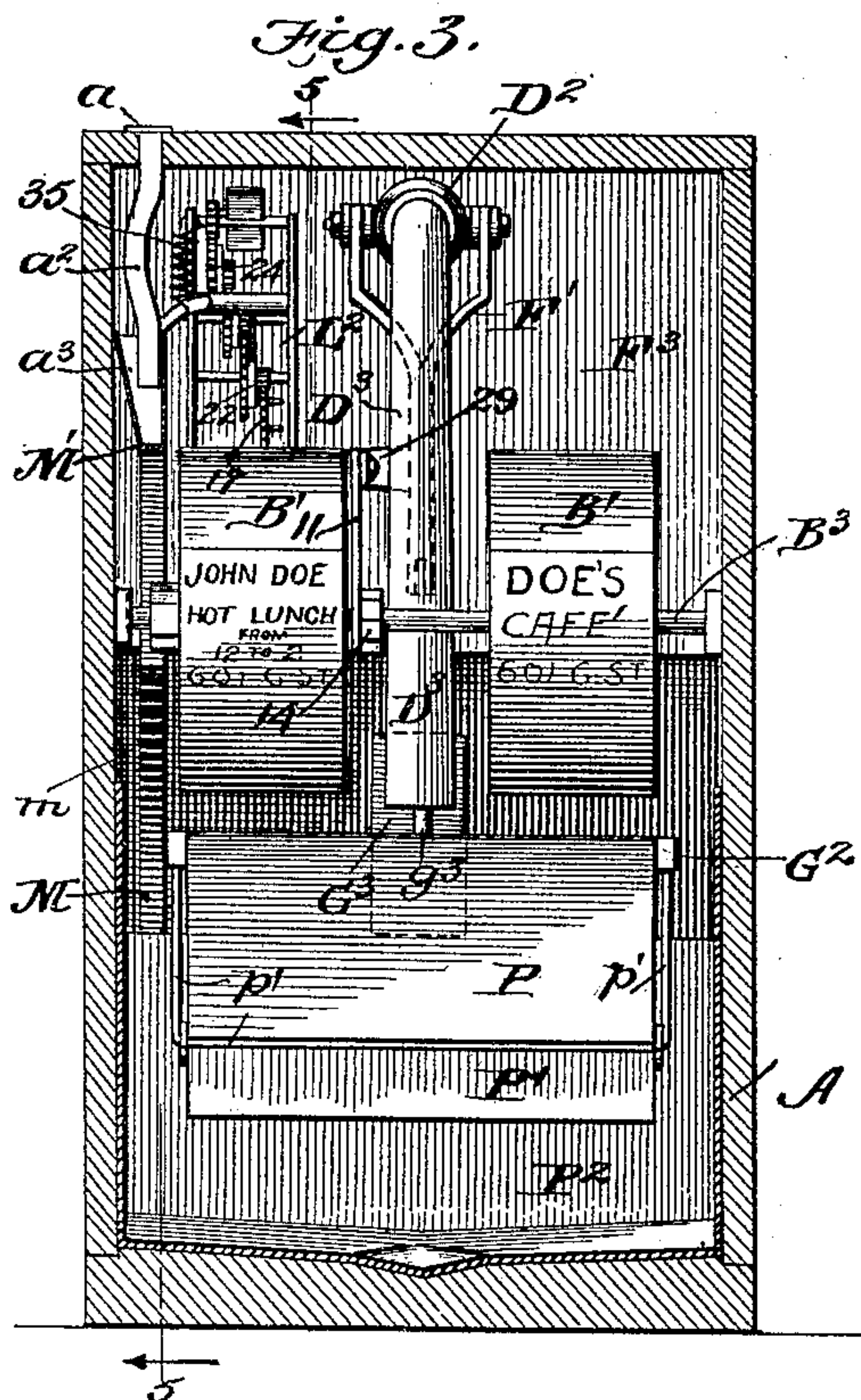
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W. P. HACKETT.

COIN CONTROLLED APPARATUS FOR DISPENSING LIQUIDS.

No. 604,318.

Patented May 17, 1898.



WITNESSES:

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(No Model.)

3 Sheets—Sheet 3.

W. P. HACKETT.

COIN CONTROLLED APPARATUS FOR DISPENSING LIQUIDS.

No. 604,318.

Patented May 17, 1898.

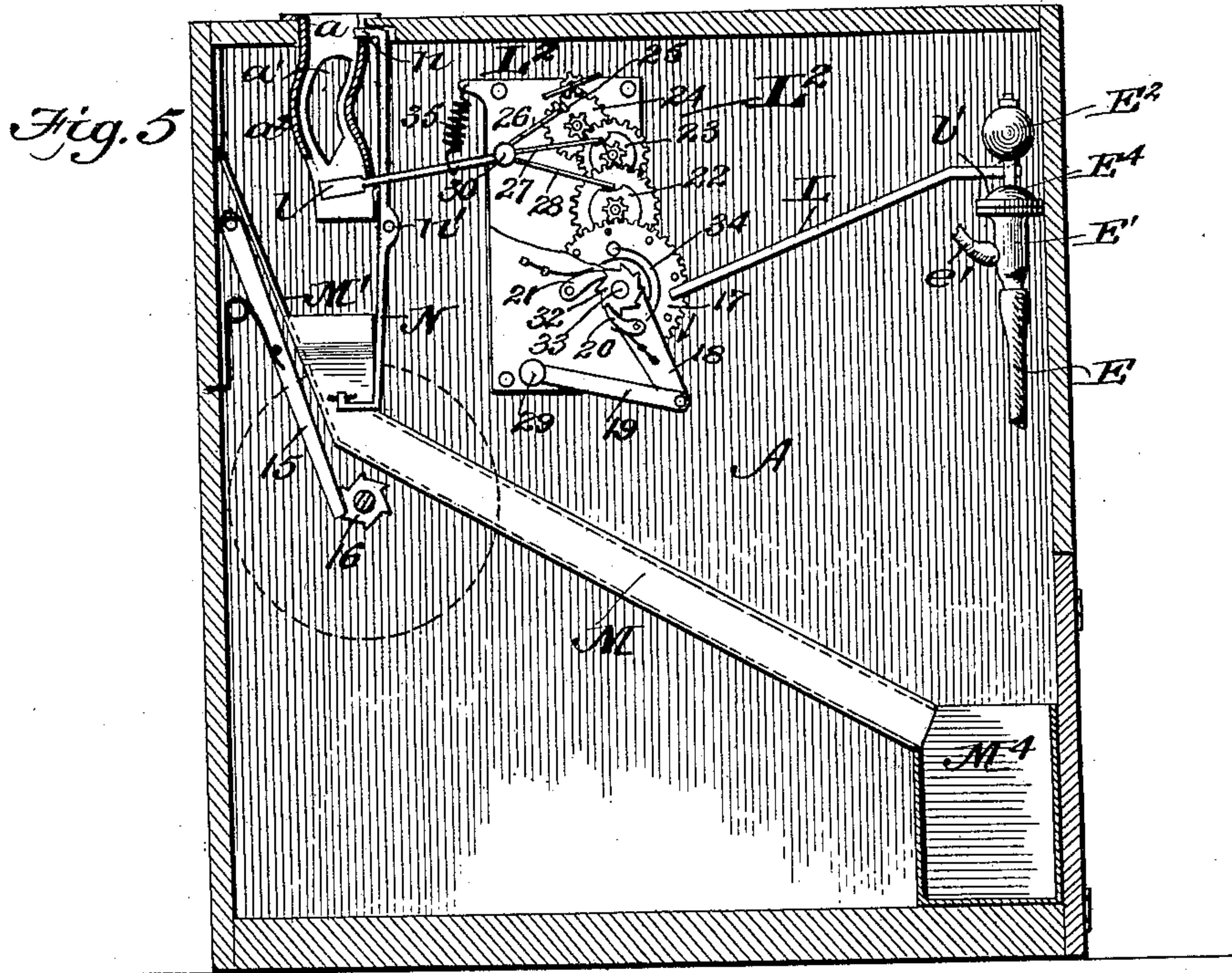


Fig. 7.

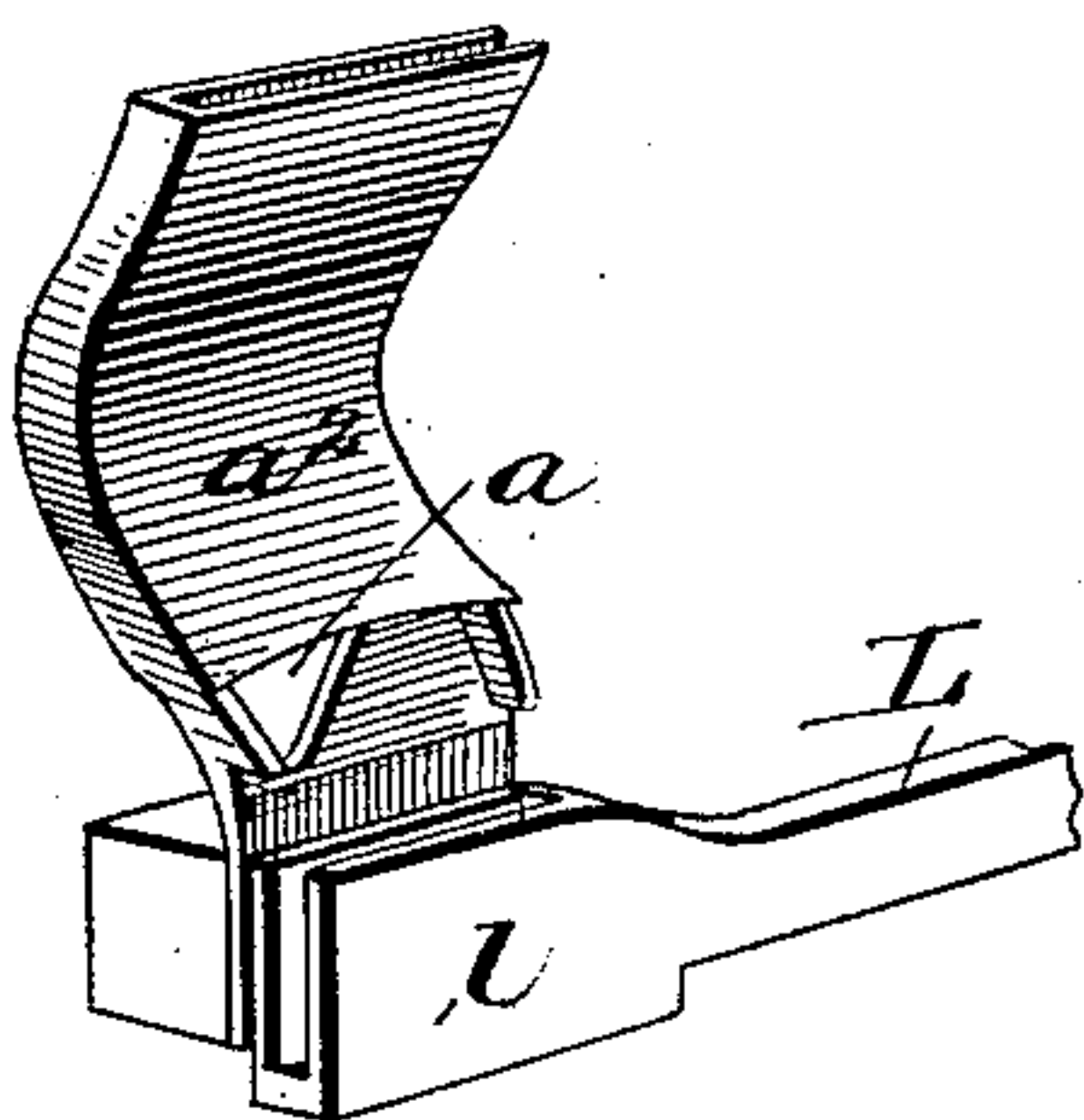


Fig. 8.

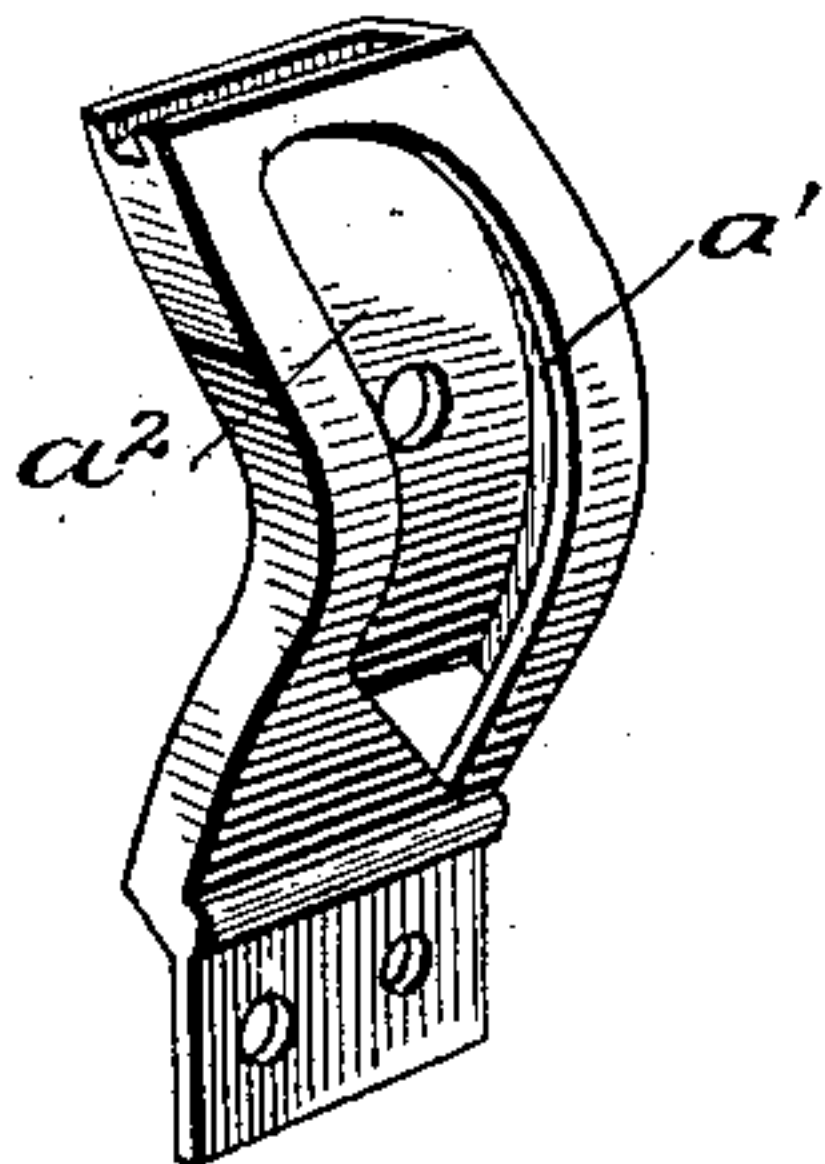


Fig. 10.

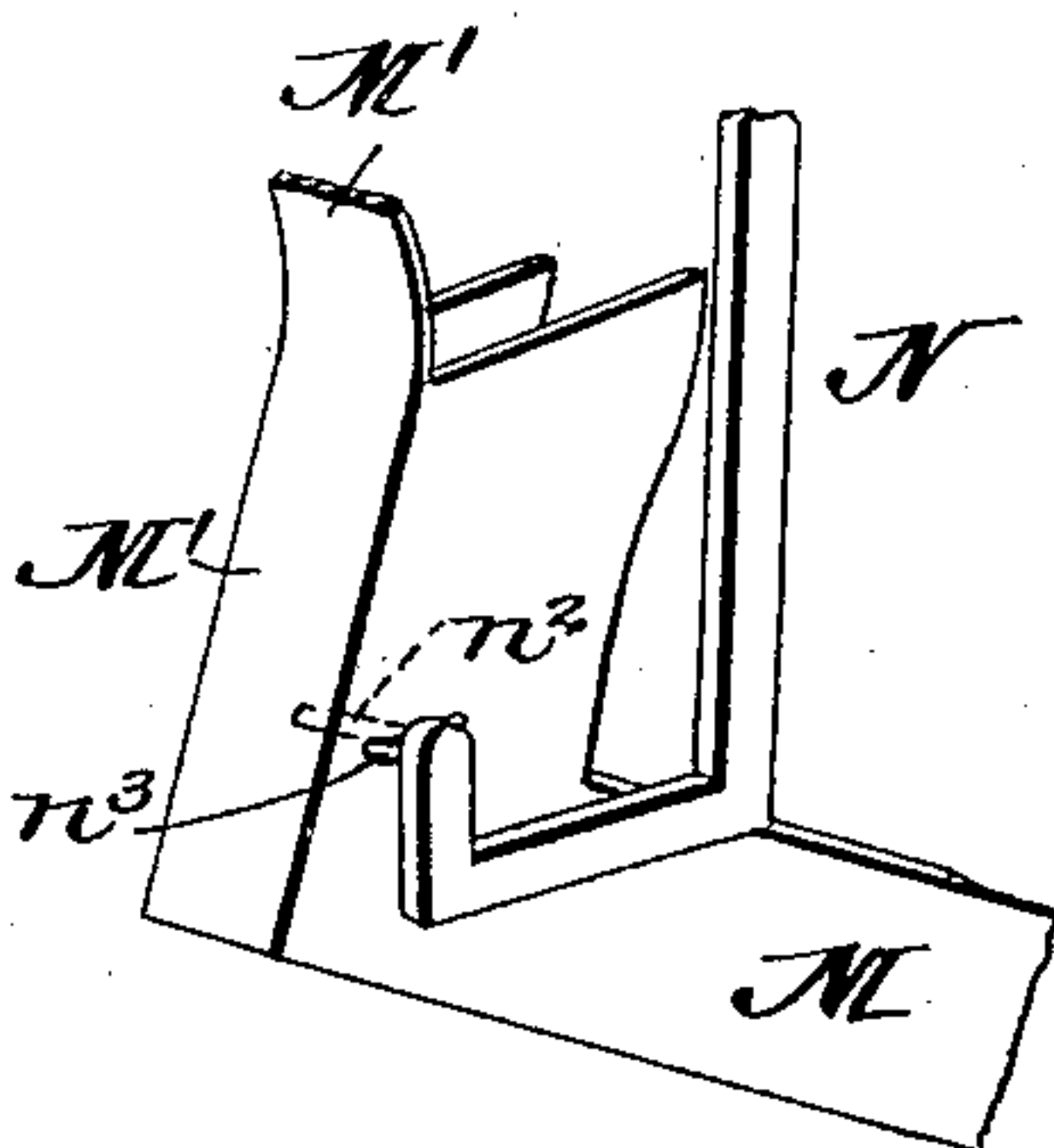
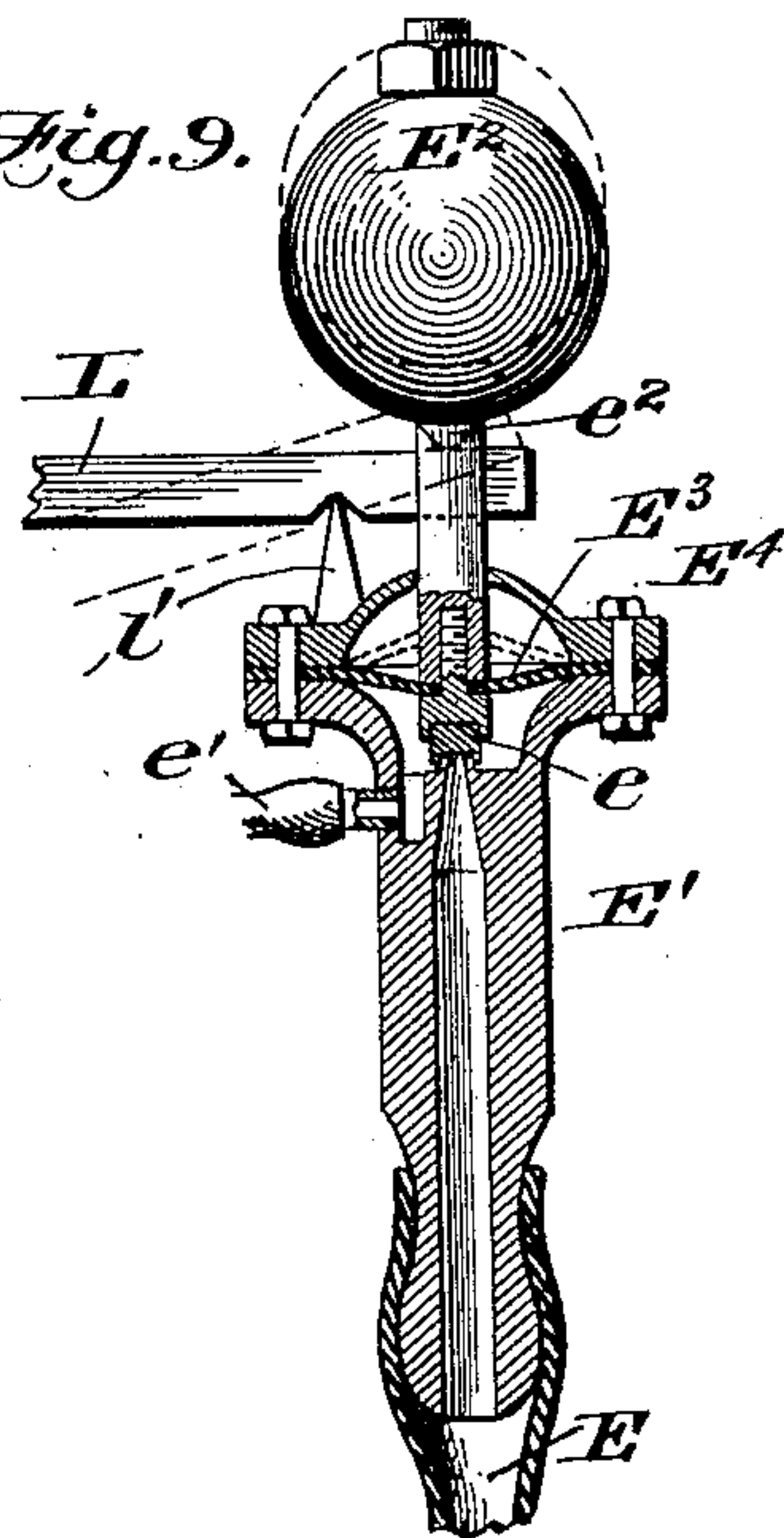


Fig. 9.



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UNITED STATES PATENT OFFICE.

WILLIAM P. HACKETT, OF WINCHESTER, KENTUCKY.

COIN-CONTROLLED APPARATUS FOR DISPENSING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 604,318, dated May 17, 1898.

Application filed July 21, 1897. Serial No. 645,312. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. HACKETT, of Winchester, in the county of Clark and State of Kentucky, have invented a new and
5 useful Improvement in Coin-Controlled Apparatus for Dispensing Liquids, of which the following is a specification.

The object of my invention is to provide an apparatus whereby beer or any other beverage or liquid may be dispensed in an automatic manner by the mere insertion of a coin into the apparatus to pay for the same; and it consists in the peculiar construction and arrangement of the devices constituting the
10 apparatus, as hereinafter more fully described with reference to the drawings, in which—

Figure 1 is a perspective view of the exterior of the apparatus. Fig. 2 is a vertical central longitudinal section. Fig. 3 is a vertical transverse section taken through line 3 3 of Fig. 2, looking in the direction of the arrow x . Fig. 4 is a vertical transverse section of Fig. 2, taken through line 4 4 and looking in the
25 direction of the arrow y . Fig. 5 is a vertical longitudinal section taken on line 5 5 of Fig. 3 and looking in the direction of the arrows on said figure. Fig. 6 is a perspective view, partly in section, of the liquid weighing and
30 discharging devices. Fig. 7 is a perspective view of the coin-throat shown in relation to the coin-transferring lever. Fig. 8 is a perspective view of the external side of the coin-throat. Fig. 9 is a sectional detail of the faucet-working air-valve, and Fig. 10 is a detail
35 in perspective of the coin-retaining devices.

Referring to Fig. 1, A represents the case of the apparatus, which may be of any desired shape and ornamentation. This case has
40 a slot-plate a in the top, through whose slot the coin is inserted, and an inspection-window a^2 , opposite which a good coin is held for inspection until the next coin is inserted.

In the front of the case are two glazed windows B B, through which the advertising-wheels are visible, while at the lower edge is the discharge-spout C, through which the liquid that is to be dispensed is delivered.

Within the top of the case (see Fig. 2) is
50 arranged the beer-faucet D' D² D³, whose por-

tion D' is provided with a coupling for connecting with a pipe D, leading to the beer-keg, while its front portion D³ is bent downwardly and is adapted to discharge into the pan P, which receives the liquor and weighs
55 it before discharging it into the receptacle P², whence it is delivered to the consumer through the spout C.

Within the portion D² of the faucet there is the rotary valve-plug F, turning about a
60 horizontal axis and having a port through it by which, according to the position of said plug, the beer is allowed to pass or is cutoff. This plug is attached to and operated by a lever crank-arm F', which is jointed at its
65 lower end to the end of a piston-rod F², carrying a piston within a cylinder F³. This cylinder at its back end has two pipes e' e^2 , of which e' connects with a valve-chamber E', to which compressed air is admitted through
70 a pipe E, leading to the ordinary compressed-air reservoir, such as is used by beer-saloons. The other pipe e^2 extends to an air-nozzle g' , arranged within the top of a standard G', mounted on the bottom of the casing. This
75 standard is provided near its top with a rigidly-attached fulcrum-frame g^5 , (see Figs. 4 and 6,) having at its outer ends knife-edge bearings, upon which are fulcrumed the bifurcated ends G² G² of the scale-beam lever
80 G, bearing at one end the weighing-pan P and at the other end the adjustable weight or poise G³. For connecting the pan to the branches G² of this lever the outer ends of said branches are provided with a down-
85 wardly-extending bail p' , upon which the pan is pivoted by means of the right-angularly-slotted end disks p , a counterweight P' being attached to the pan on the opposite side of its axial fulcrum on the bail, so as to hold
90 the pan up when empty. Underneath the scale-beam G there is attached a valve g , closing the air-nozzle g' when the scale-beam G and weight G³ are in their lower or horizontal positions, and a latch g^3 is arranged on
95 the opposite end of the scale-beam and is fulcrumed upon a rod g^4 , extending between the arms G² G² of the scale-beam, which latch is adapted to lock over the upper rear edge of the pan P from the gravity of its weight 10
100

and hold said pan in a horizontal position until it is tripped to discharge the contents of the pan. This latch is arranged to be operated upon by the lower end of the crank-arm F' on its backward movement to lift the latch from the pan P . The object of this construction and arrangement is to lock the pan P in a horizontal position until it has received and weighed a given quantity of beer and then allow it in a perfectly automatic manner to be tripped and tilted to discharge the beer into the receptacle P^2 and thence through the spout C into the consumer's glass and immediately afterward to be restored to and locked in its horizontal position ready to receive another portion. This is effected by an impulse of compressed air through pipe e^2 , which raises the valve g , tilting lever G on its fulcrum-bearings g^5 at a prescribed weight in the pan P , and as the lever-arm F' moves back it strikes the upwardly-extending arm of the latch g^3 , lifting the hooked end of the latch and releasing the pan, which, being now overbalanced by its weight of beer, turns on its own fulcrum-bail p' , as indicated by dotted lines in Fig. 2, discharging the beer and raising the balance-weight P' . As soon as freed from its quantity of beer, the weight P' brings it to its horizontal position again, and its upper edge passes under and is retained by the hooked end of the latch g^3 again. To accomplish this result automatically by the insertion of a coin, (see Fig. 5,) a lever L is arranged inside of the case and is fulcrumed upon a bearing l' on the valve-chamber E' E^4 . The long end of this lever is operated upon by a spring tripping-gear L^2 , set in motion by a coin-receiver l , which plays between the coin-throat a^2 and the coin-chute M M' and acts as a carrier of the coin from said throat to the chute. The short end of lever L rests (see Fig. 9) beneath a bearing e^2 of a weight E^2 , whose stem is attached to a flexible diaphragm E^3 within the valve-chamber and terminates in a valve e , that rests upon and closes an air-nozzle in the valve-casing E' . The lower part of this valve-casing (see Figs. 2 and 9) connects with a pipe E , leading to the reservoir of compressed air, (not shown,) while a pipe e' communicates with the space between the air-valve e and diaphragm E^3 and leads to the end of the working cylinder F^5 .

Instead of having the coin to drop directly on the end of lever L (see Fig. 5) and depending on its weight to operate the valve e and weight E^2 , which would require the valve to be very delicately balanced and easily worked, I have arranged a tripping device L^2 in the nature of a train of clock-gears operated by a strong spring, so that when the coin drops on carrier l it causes the wire 26 to release the lug 25 on wheel 24, which allows the train of gears to rotate until disk 22 has made one revolution, when the notches in disks 22 and

23 again register with the ends of wires 27 and 28 at the same time, which allows wire 26 to drop and again catch against lug 25, thus stopping the clockwork. The wires 26 27 28 and coin-carrier l are all rigidly fastened to the same axis 30, so that the wires 27 and 28, resting on the circumference of disks 22 and 23, hold wire 26 from engagement with lug 25 until the notches in said disks 22 and 23 both register with the ends of the wires 27 and 28, thus allowing them to drop. The coin-carrier l is held up by a delicate spring 35, which yields to the weight of the coin.

The wheel 17 is provided with pins near its circumference, spaced equal distances apart, so that one pin passes the end of lever L each time that the clockwork is set in motion, thus depressing the lever L and opening the valve until said pin has passed far enough to release it. The clockwork is automatically wound at each operation of the piston F^2 by a lever 18, carrying a pawl 20, which engages with ratchet-wheel 32, fastened on the axis 33, to which one end of the spring 34 is fastened, the other end of spring 34 being fastened to wheel 17. The lever 18 is connected by a link 19 to lug 29 on lever F' , which is worked by the piston F^2 . (See Fig. 3.) The pawl 21 is fastened to the side plate and engages with ratchet-wheel 32, so as to prevent it from turning backward.

From this description (see Figs. 2, 5, and 9) it will be seen that when a coin, such as a five-cent piece, is placed in the slot and passes down the throat a^2 it is received into the carrier l and its weight trips the clock-gears, which, acting on the long end of the lever L , cause the latter to descend, lifting the weight E^2 and valve e . This admits air from the reservoir to pass up pipe E through the now open valve at e , and this passing through pipe e' to the cylinder F^5 drives the piston and its rod outwardly, pushing forward the crank-arm F' and opening the port in the beer-faucet F and allowing the beer to be delivered into the pan. When a sufficient quantity has accumulated in the pan P to overbalance the weight G^3 , the valve g is opened and the compressed air behind the piston F^2 of the cylinder is allowed to escape through pipe e^2 , and a strong spring f brings back the faucet-lever F' , and with it the piston-rod and piston, closing the beer-faucet, tripping the beer-pan, and restoring the parts to a position ready for another operation.

To prevent the apparatus from being worked by undersized coin or by washers, buttons, and the like, the throat a^2 (see Figs. 7 and 8) is made with a sharp bend to one side, and on the convex or outward side of the bend is formed an opening a' , opening into the funnel a^3 , as in Fig. 3, through which any undersized coin or blank is at once discharged without either operating or obstructing the apparatus. Such coins may pass into the coin-

chute M and coin-box M⁴ or be received into a separate receptacle, as may be desired.

When a coin is inserted in the apparatus and it has performed its work, it does not at once pass to its final resting-place, but remains for a while (till the next coin is inserted) on exhibition at a little glass window a^2 in the side of the case, (see Fig. 1,) from which position it is dislodged by the succeeding coin, as follows:

Referring to Fig. 5, N is a lever placed in the case in the plane of the coin-throat and pivoted upon a pin n' about midway its length. This lever has at its upper end a right-angular bend or extension n , which partly extends over the coin-slot a . The lower end of this lever is bent, as seen in Fig. 10, and has a laterally-projecting pin n^2 , that passes through a slot in the upward extension M' or coin-holder of the coin-chute. This pin in the normal position of the lever N stands across the path of the coin and holds it in a position to be seen through the case at the window a^2 ; but when a second coin is inserted in the slot a its insertion necessitates thrusting the end n of lever N to one side to give it entrance, and this moves lever N and causes its lower end, with pin n^2 , to be moved out of the path of the preceding coin, which, being thus released, passes down the hollow chute M and is deposited in the coin-receptacle M² in the bottom of the case.

To make the beer-dispensing apparatus a means of advertisement, I arrange in the front of the case the two windows B B, and just behind these, within the case, are placed two wheels or drums B' B', (see Figs. 2 and 3,) fixed upon a shaft B³ and bearing business-cards or other signs constituting the advertisements. On this shaft is a rigidly-attached ratchet-wheel 14 and a loose swinging frame 12, bearing a spring-pawl 13. The swinging frame 12 is connected by link 11 with the faucet-lever F', and every time the piston of the cylinder moves forward with the faucet-lever the pawl 13 engages ratchet 14 and turns the advertising-drums one space. To prevent the drums from being carried too far and cause them to be carried an equal distance at each movement and without turning backward, a spring-detent 15 (see Fig. 5) engages a rigid ratchet 16 on the drum-shaft, preventing its back movement and giving it an equal step-by-step action.

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

1. A coin-controlled liquid-dispensing apparatus, comprising a faucet, a cylinder with piston and rod connected to and operating the faucet, a compressed-air valve connected to the cylinder, a coin-carrier operating the air-valve, a liquid receiving and weighing device, and a discharge air-valve controlling the escape of air from the cylinder, said discharge-valve being opened by the movement

of the liquid-receiving devices substantially as and for the purpose described.

2. In a coin-controlled liquid-dispensing apparatus, the combination with a compressed-air cylinder and piston for working the faucet; of an air-discharging device for said cylinder comprising a weighing device for receiving the liquid to be dispensed, and a discharge air-valve connected with said cylinder and operated by the weighing device substantially as and for the purpose described.

3. In a coin-controlled liquid-dispensing apparatus, the combination with the air-cylinder for working the faucet; of a discharge-valve for the air, a weighing-scale beam with tilting liquid-receptacle having counterbalance and latch, said scale-beam being arranged to hold said discharge-valve closed until overbalanced by the weight of the liquid weighed substantially as shown and described.

4. In a coin-controlled liquid-dispensing device a faucet, air-cylinder, and weighing-receptacle, all connected together by the crank-arm of the faucet, and operated by the piston of the air-cylinder substantially as shown and described.

5. In a coin-controlled liquid-dispensing apparatus, the combination with the air-cylinder for working the faucet and the faucet-lever; of the hollow standard G' with air-nozzle g' and offsetting fulcrum-frame g^5 , scale-beam G G² with adjustable weight G³, valve-section g and bail p' , latch g^3 , with weight 10 and the tilting liquid-receptacle P, pivoted on the bail p' , and provided with counterbalance substantially as shown and described.

6. In a coin-controlled liquid-dispensing apparatus, the combination with the faucet and the air-cylinder and piston for working the same; of an inlet air-valve for the cylinder and a coin-carrier adapted by the weight of the coin, to move and operate the inlet air-valve, substantially as shown and described.

7. In a coin-controlled liquid-dispensing apparatus, the combination with the faucet and the air-cylinder and piston for working the same; of the coin-throat, coin-holder, the clock-gear-tripping mechanism, the lever L and an inlet air-valve for the cylinder consisting of a case with air-duct and a weighted valve-stem, diaphragm, and valve, connected together and operated by the lever L, substantially as shown and described.

8. In a coin-controlled apparatus, the combination of the coin-holder M', the coin-slot plate a and a lever N pivoted in the middle and having its upper end extended partly across the coin-slot and its lower end armed with a pin obstructing the path of the coin, said lever being arranged to open the path of the coin when the slot is fully opened by the insertion of the succeeding coin, substantially as and for the purpose described.

9. The combination with the air-inlet valve and the coin-throat; of a coin-carrier, a clock-spring tripping-gear, and a lever operated

upon thereby to open the air-valve substantially as and for the purpose described.

10. The combination with the air-inlet valve, the coin-throat, the air-cylinder, its
5 piston, and the faucet; of a motor-tripping device for the air-valve interposed between the air-valve and the coin-throat and connected to the working parts of the air-cylin-

der to be regenerated or wound up by the movement of the piston of said air-cylinder 10 substantially as described.

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Witnesses:

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C. B. GEORGE.