

194. CHECK CONTROLLED APPARATUS,
Lock-Preventing,
Article-Delivery.

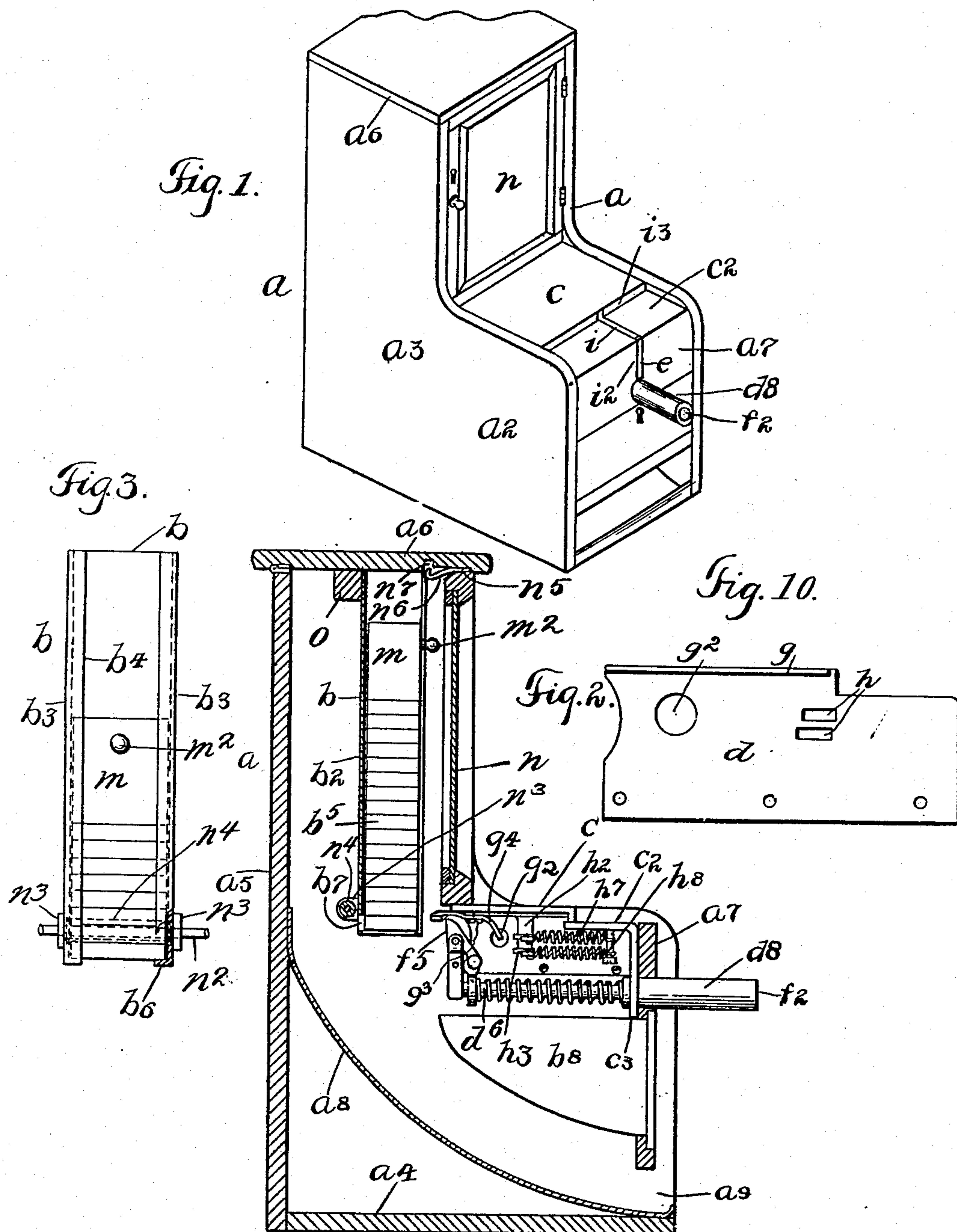
No. 835,222.

PATENTED NOV. 6, 1906.

J. E. KALKAU & H. T. W. BODECK.
 COIN OPERATED VENDING MACHINE.

APPLICATION FILED DEC. 23, 1903.

2 SHEETS—SHEET 1.



WITNESSES
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 F. A. Stewart

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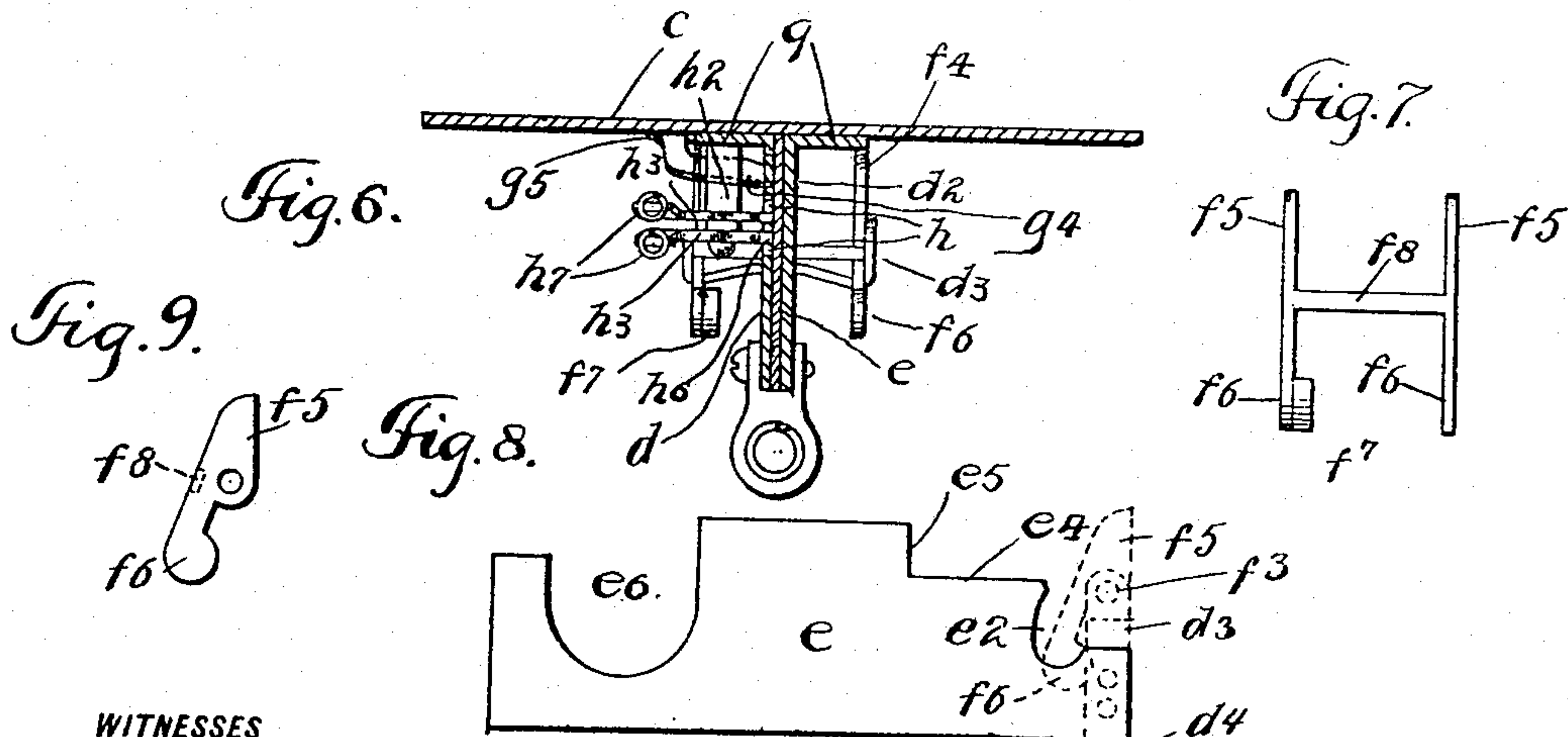
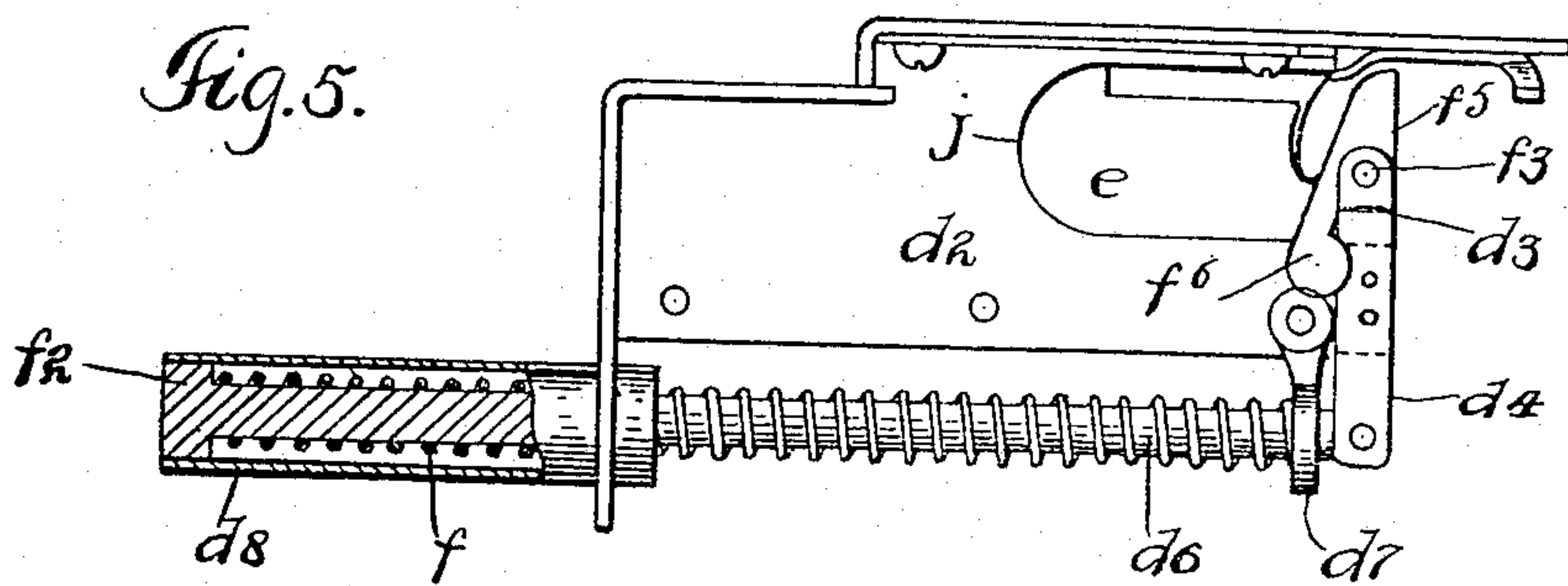
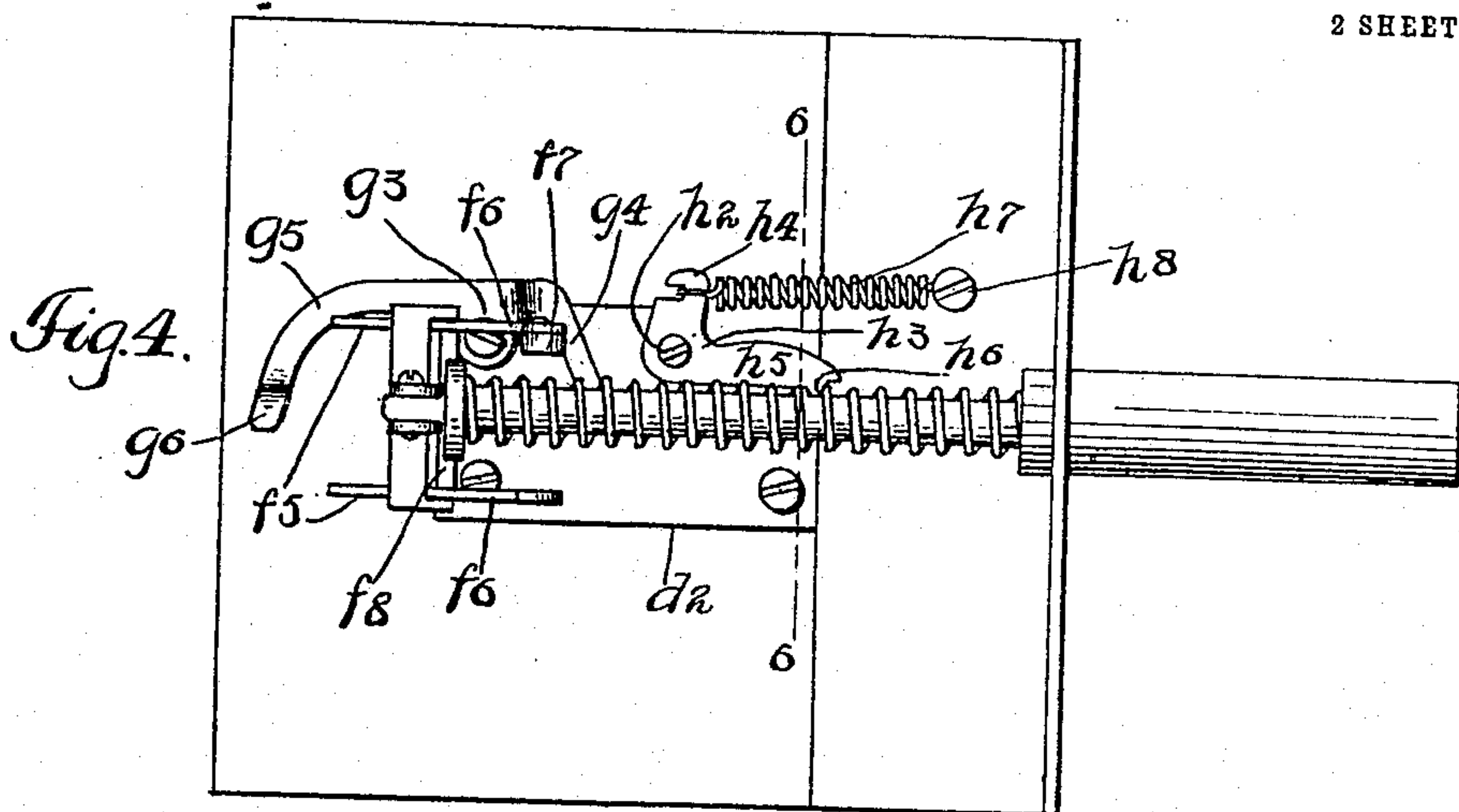
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UNITED STATES PATENT OFFICE.

JOHN E. KALKAU AND HENRY T. W. BODECK, OF NEW YORK, N. Y.

COIN-OPERATED VENDING-MACHINE.

No. 835,222.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed December 23, 1903. Serial No. 186,284.

To all whom it may concern:

Be it known that we, JOHN E. KALKAU and HENRY T. W. BODECK, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Coin-Operated Vending-Machines, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved coin-operating vending-machine of the class employed for vending small packages of candy, gum, and various other substances, a further object being to provide a machine of this class which is simple in construction and operation and composed of comparatively few parts and which will not get out of order and frequently need repair; and with these and other objects in view the invention consists in a machine of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a perspective view of our improved coin-operated vending-machine; Fig. 2, a sectional side view; Fig. 3, a front view of the package-receptacle detached from the machine; Fig. 4, a bottom plan view of the operating mechanism detached and a side view of which is also given in Fig. 2; Fig. 5, a side view opposite to that shown in Fig. 2, part thereof being in section; Fig. 6, a partial transverse section on the line 6-6 of Fig. 4; Fig. 7, a detail view of a dog which forms a part of the coin-operated mechanism; Fig. 8, a side view of a slide or plate which also forms a part of said mechanism. Fig. 9 is a side elevation of the dog illustrated in Fig. 7. Fig. 10 is a similar view of one of the plates between which the coin-slide is arranged. Figs. 4, 5, 6, and 7 being on an enlarged scale.

In the practice of our invention we provide a box or casing a , which is preferably of the form shown in Figs. 1 and 2, the bottom portion thereof being much wider than the top portion thereof, whereby an extension a^2 thereof is formed, and said box or casing com-

prises two similar side portions a^3 , a bottom a^4 , a back a^5 , and a top a^6 .

Arranged centrally of and vertically in the top portion of the casing a is a package-receptacle b , which comprises a back portion b^2 and two side portions b^3 , having inwardly-directed side flanges b^4 , and this receptacle is designed to hold the packages b^5 to be vended and which are inserted therein from the top thereof or in any desired manner and which are supported therein by side flanges b^6 at the bottom thereof, and the back part b^2 of the said receptacle b is cut away to form a recess b^7 .

The front portion of the forwardly-directed extension a^2 of the casing a is provided with a front plate a^7 , in which is placed a drawer b^8 , which is directly, when in place, beneath the coin-operated mechanism hereinafter described, and in the bottom of said receptacle is placed a downwardly and forwardly inclined plate or chute a^8 , which conveys the separate packages dislodged or discharged from the receptacle b , as hereinafter described, downwardly and forwardly to an opening a^9 in the front plate a^7 .

The top portion of the forwardly-directed extension a^2 of the casing a is closed by a plate c , having a front depressed portion c^2 , whereby a transverse shoulder c^3 is formed, said depressed portion c^2 , having a depending member c^3 , which abuts against the top portion of the front plate a^7 .

Secured to the bottom of the plate c and arranged vertically with reference thereto are two closely-adjacent plates d and d^2 , and between which is mounted a slide or slide-plate e , (shown in detail in Fig. 8 and in cross-section in Fig. 6,) and secured to the inner end of the slide-plate e is an upwardly-directed yoke d^3 , having a depending member d^4 , to which is secured a rod d^6 , which passes through a support d^7 , secured to the inner end of the plates d and d^2 , and the rod d^6 passes through the front depending member c^3 of the plates c and c^2 and through the front plate a^7 of the casing a , and the front end of the rod d^6 is provided with a sleeve d^8 , and mounted on said rod and extending into said sleeve is a spring f , which bears on the support d^7 and which also has a bearing f^2 at the outer or front end of the rod d^6 , and the sleeve d^8 , which is rigidly secured to the rod d^6 , is also free to slide through the parts c^3 and a^7 .

93 The upwardly-directed side members of the yoke d^3 are connected by a rod f^3 , on which is mounted a dog f^4 , composed of two similar side members f^5 , each of which is provided with a downwardly-directed extension f^6 , one of which is weighted, as shown at f^7 , in such a manner that the said dog is normally held in the position shown in Figs. 2 and 5, and the said dog and the separate parts thereof are preferably secured to the rod f^3 , and said rod is free to turn in its supports, and the said separate parts of said dog are also preferably connected by a cross-rod f^8 , and the downwardly-directed extensions of the dogs are preferably rounded, as shown in Figs. 2 and 5.

The plates d and d^2 in the form of construction shown are connected with the bottom of the plate c by means of flanges g , with which said plates d and d^2 are provided, and the plate d is provided in the rear end portion thereof and near the top thereof with a hole g^2 , and pivoted to the plate c or to the flange g of the plate d , as shown at g^3 , is a curved lever-arm g^4 , which ranges longitudinally of said plate and the front end of which is provided with a nose which extends in the direction of said plate and is adapted to enter the hole g^2 therein, and the rear end of said arm is provided with a backwardly-ranging member g^5 , having a transversely-directed and downwardly-curved finger g^6 , in connection with which the plate e operates, as hereinafter described. The plate d is also provided near the front end thereof in the form of construction shown with two openings h , and connected with the flange g of said plate or with the top plate c is a hanger h^2 , on which are pivoted in the form of construction shown two dogs h^3 , each of which is provided with a laterally-directed member h^4 and a forwardly-directed member h^5 , and each of these dogs is also provided with a nose h^6 , and the noses of the dogs h^3 are adapted to enter the holes h in the plate d , and secured to the parts h^4 of said dogs are springs h^7 , which are secured to the bottom of the part c^2 of the plate c , as shown at h^8 . The springs h^7 serve to pull the parts h^4 of the dogs h^3 forwardly and to force the noses h^6 thereof into the holes h in the plate d .

The plate e is free to slide between the plates d and d^2 , which form guides therefor, and said plate is provided in its rear end with a transverse recess e^2 , designed to receive the cross-rod f^8 , that connects the separate parts f^5 of the dog f^4 when the said dog is in the position shown in Figs. 2 and 5, and in the top rear end portion of said plate is a longitudinal recess e^4 , forming a shoulder e^5 , which operates in connection with the curved finger g^6 of the part g^5 of the arm g^4 , as hereinafter described, and said plate is also provided, near its front end and in the top thereof, with a large recess e^6 , the bottom portion

of which is segmental in form and adapted to receive the coin by which the device is operated.

The plate e or the part c^2 thereof is provided with a coin-slot i , which in the form of construction shown has a downwardly-directed extension i^2 in the depending part c^3 of said plate, and this part of said slot also extends through the front plate a^7 of the casing a in the form of construction shown, and the front end of the slide or slide-plate e in the form of construction shown normally fills the part i^2 of the slot i , and said slot i also extends through the downwardly-directed part or shoulder i^3 of the plate c , which connects the separate parts of said plate or the part c^2 of said plate therewith, as clearly shown in Fig. 1.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof. Suppose the parts to be in the position shown in Figs. 2 and 6. In this position of said parts the noses of the dogs h^3 pass into the holes h in the plate d and bear on the plate e . If now a coin be inserted into the slot i , it will drop into the recess e^6 in the plate e , and if the rod d^0 be forced backwardly the plate e will also be carried backwardly, and the noses of the dogs h^3 instead of entering the recess e^6 and locking the plate e will strike the coin, and the said plate or slide-plate e will continue to move backwardly, carrying the coin with it, and the dog f^4 will strike the bottom package b^5 in the receptacle b and force it backwardly through the opening or recess b^7 , and said package will drop onto or into the chute a^8 and will slide downwardly to the opening a^9 . At the same time the coin in its backward movement, with the plate e , will reach the opening g^2 in the plate d , and at this time the shoulder e^5 of said plate will strike the finger g^6 of the backwardly-directed extension g^5 of the arm g^4 , and the nose at the front end of said arm will be forced into the opening g^2 and will strike the coin and force it out laterally through a large opening j in the plate d^2 , and said coin will drop into the drawer b^8 . When the coin drops into the drawer, the spring f at once forces all the parts back into the position shown in Fig. 2, and the apparatus is again in condition to be operated by the insertion of another coin, and in this movement of the parts the front end of the plate e or the rear wall of the recess e^6 thereof strikes the nose at the front end of the arm g^4 and returns said arm to its normal position. The depth of the recess e^6 in the plate e is such that when the proper coin is inserted through the coin-slot i it will project above the depressed portion c^2 of the plate c ; but if the coin is genuine it will pass backwardly beneath the plate c in the operation of the machine, as

hereinbefore described; but if the said coin is not genuine the machine will not operate and the said coin may be lifted out through the coin-slot *i* by taking hold thereof with the thumb and finger, and this will prevent the clogging of the machine and the rendering thereof useless.

This machine will operate without the use of the dogs *h*³, and the object of employing these dogs is to prevent the mechanism from being operated by the insertion of a disk having a hole or holes therein, in which event the noses of the dogs *h*³ would enter said hole or holes and would lock the device and prevent the movement of the plate *e*. It will also be apparent that one of said dogs would accomplish the desired result in this connection; but we prefer to employ two of said dogs, so as to secure greater accuracy. The coin opening or slot *i* may be so made as to permit of the insertion only of a coin of the exact dimensions required, and the recess *e*⁶ in the plate *e* may be similarly formed and other safeguards may be provided.

We also place in the package-receptacle *b* a weight *m*, having a knob *m*², by which it may be removed from or placed in said receptacle, and this weight is intended to provide sufficient pressure to force the descent of the packages *b*⁵ in said receptacle, and said weight is also intended to prevent the operation of the machine under certain circumstances and in the following manner: The parts *c*² of the horizontal plate *c* is in a horizontal plane below the main part of said plate, as clearly shown in Fig. 2, and when a coin is first dropped into the slot *i* it passes into the recess *e*⁶ in the plate *e*, and when said plate is moved backwardly, as hereinbefore described, in the operation of the machine if all the packages be discharged from the receptacle *b* the weight *m* will be in the bottom of said receptacle, and the dog *f*⁴ will strike said weight and the machine cannot be operated and the coin will still project above the plate *c*² or the part *c*² of the plate *c* and said coin may be removed.

The front top portion of the casing *a* is preferably provided with a door *n*, which may be locked in the usual manner, and the receptacle *b* is preferably supported by a rod *n*², which passes through ears *n*³, secured to the bottom side portions thereof and mounted on said rod is a roller *n*⁴, and in practice the bottom package *b*⁵ in the operation of the machine, as hereinbefore described, when it is forced backwardly by the dog *f*⁴ passes under this roller. Secured to the bottom portion of the top *a*⁶ of the casing *a* directly over the door *n* is a spring *n*⁵, having a downwardly-curved portion *n*⁶ and an upwardly-directed projection *n*⁷, adapted to enter a recess in the top *a*⁶, and backwardly of the upper end of the receptacle *b* is a cross-piece *o*, against which the upper end of said

receptacle abuts, and when the door *n* is open the spring *n*⁵ may be forced upwardly and the receptacle *b* swung forwardly, so as to facilitate the filling of the same with the packages *b*⁵. The dog *f*⁴ is so formed as to operate freely and without friction and is normally held in the position shown in Fig. 2, and when a package has been removed from the bottom of the receptacle *b* and the rod *d*⁶ moves backwardly into the position shown in Fig. 2 the said dog drops automatically into its normal position, this operation resulting from the form thereof and the weight *f*⁷, connected therewith.

It will also be apparent that other means may be provided for moving the plate *e* longitudinally, and our invention is therefore not limited to the use of the spring-operated rod *d*⁶.

This device or apparatus is simple in construction and operation and perfectly adapted to accomplish the result for which it is intended, and changes in and modifications of the construction herein described may be made without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a coin-operated vending-machine, a case having a horizontal top plate over the front portion thereof, said plate having a longitudinally-extending coin-slot formed therein, a pair of vertically-disposed guide-plates arranged beneath said top plate and located at the sides of said coin-slot, said plates having horizontal flanges connected to the top plate and through the medium of which the guide-plates are suspended from the top plate, one of said plates also having an opening a coin-slide arranged between said guide-plates and having an upwardly-opening coin-recess formed in its forward end and a vertically-extending shoulder adjacent to its rear end, and a horizontally-disposed longitudinally-extending lever pivoted upon the guide-plate having said opening, said lever having at its rear end a transversely-extending downwardly-curved finger normally projected across the path of movement of the coin-slide, said lever also having at its forward end a transversely-extending nose adapted to pass through the opening in the guide-plate carrying said lever when the vertical shoulder of the coin-slide contacts with the curved finger of said lever, whereby the coin is ejected from the coin-slide.

2. In a coin-operated vending-machine, a case having a horizontal top plate over the front portion thereof, said plate having a longitudinally-extending coin-slot formed therein, a pair of vertically-disposed guide-plates arranged beneath said top plate and located at the sides of said coin-slot, said plates having horizontal flanges connected to the top

plate and through the medium of which the guide-plates are suspended from the top plate, one of said plates also having an opening a coin-slide arranged between said guide-plates and having an upwardly-opening coin-recess formed in its forward end and a vertically-extending shoulder adjacent to its rear end, a horizontally-disposed longitudinally-extending lever pivoted upon the guide-plate having said opening, said lever having at its rear end a transversely-extending downwardly-curved finger normally projected across the path of movement of the coin-slide, said lever also having at its forward end a transversely-extending nose adapted to pass through the opening in the guide-plate carrying said lever when the vertical shoulder of the coin-slide contacts with the curved finger of said lever, whereby the coin is ejected from the coin-slide, and a spring-pressed dog pivotally connected to the guide-plate carrying said lever and arranged in advance of said lever, said pawl having a nose projecting through said guide-plate to engage the edge of the coin-recess and thereby lock the coin-slide against movement.

3. In a coin-operated vending-machine, a case having a horizontal top plate over the front portion thereof, and in which is formed a coin-slot which extends longitudinally of said plate, the latter having a depressed front portion forming a transverse shoulder at the rear end of the coin-slot and through which the latter passes, coin-controlled mechanism arranged beneath said plate and including a coin-slide having a recess for the reception of the coin, said recess being disposed relatively to the slot to permit the coin partially projecting through the latter, and means for limiting movement of said slide when the supply of the articles is exhausted, whereby the coin may be recovered from the slot.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 22d day of December, 1903.

JOHN E. KALKAU.
HENRY T. W. BODECK.

Witnesses:

F. A. STEWART,
C. E. MULREANY.