

No. 767,121.

PATENTED AUG. 9, 1904.

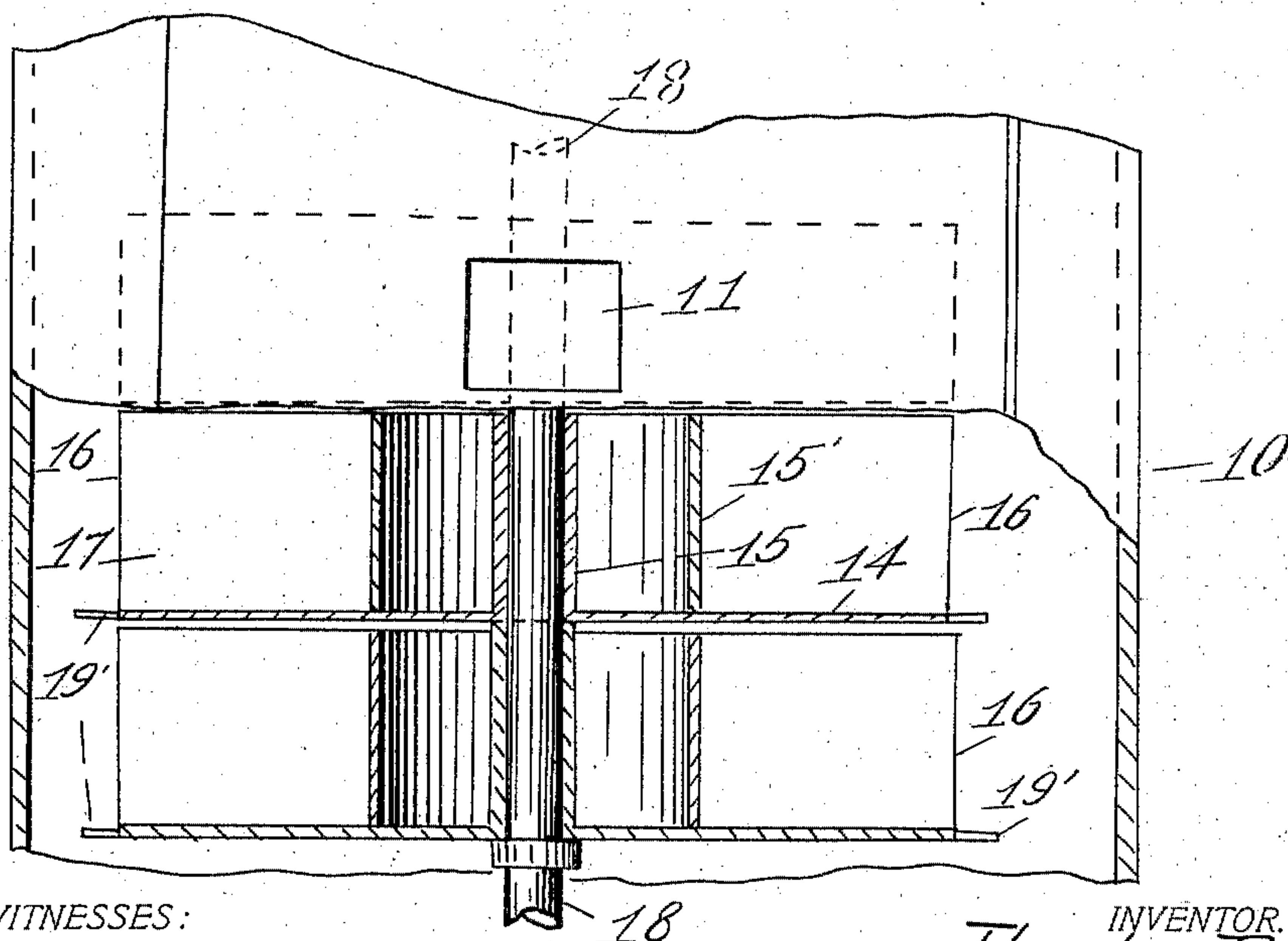
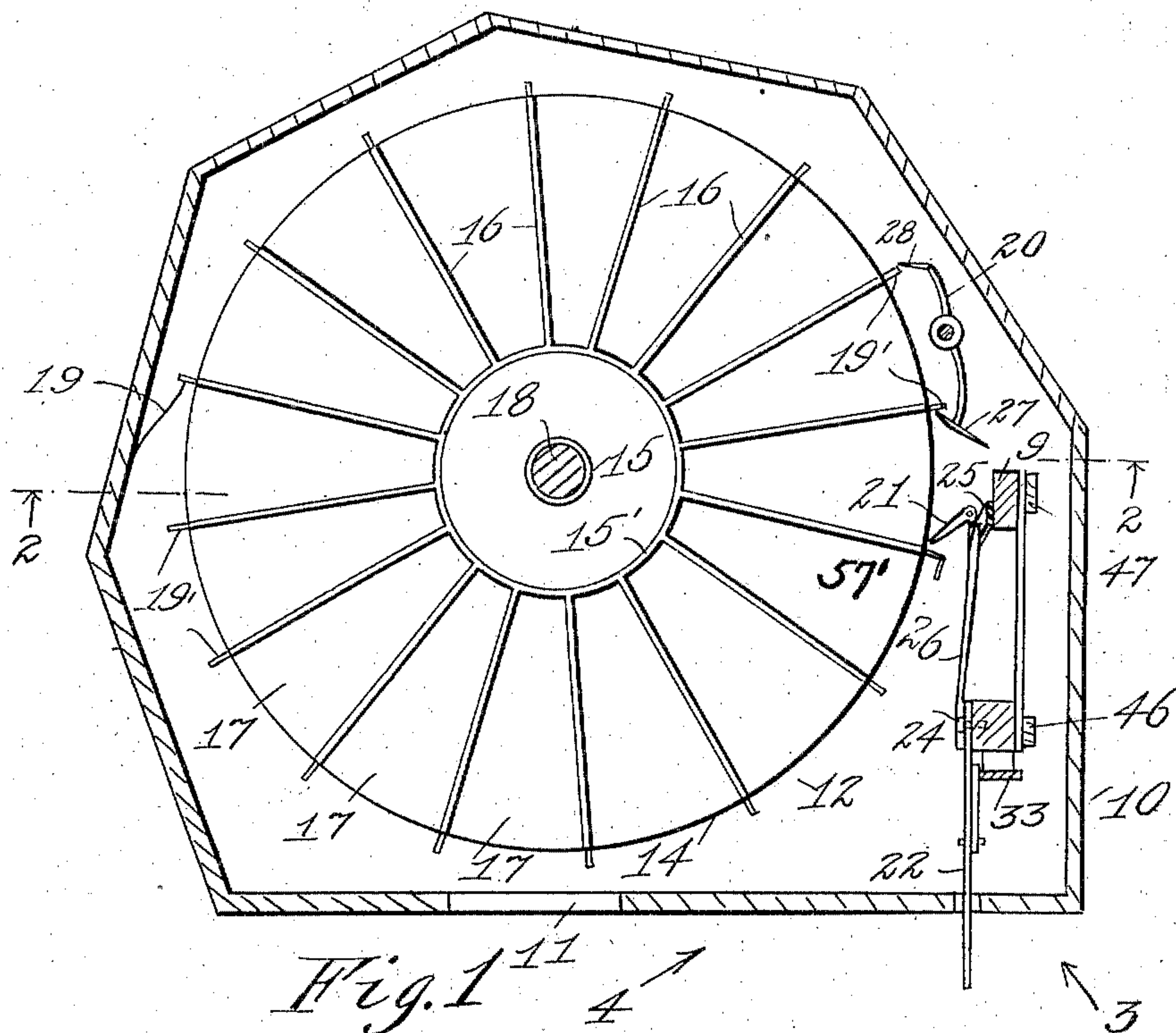
T. R. PRIEBE.

COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED SEPT. 2, 1902.

NO MODEL.

2 SHEETS--SHEET 1.



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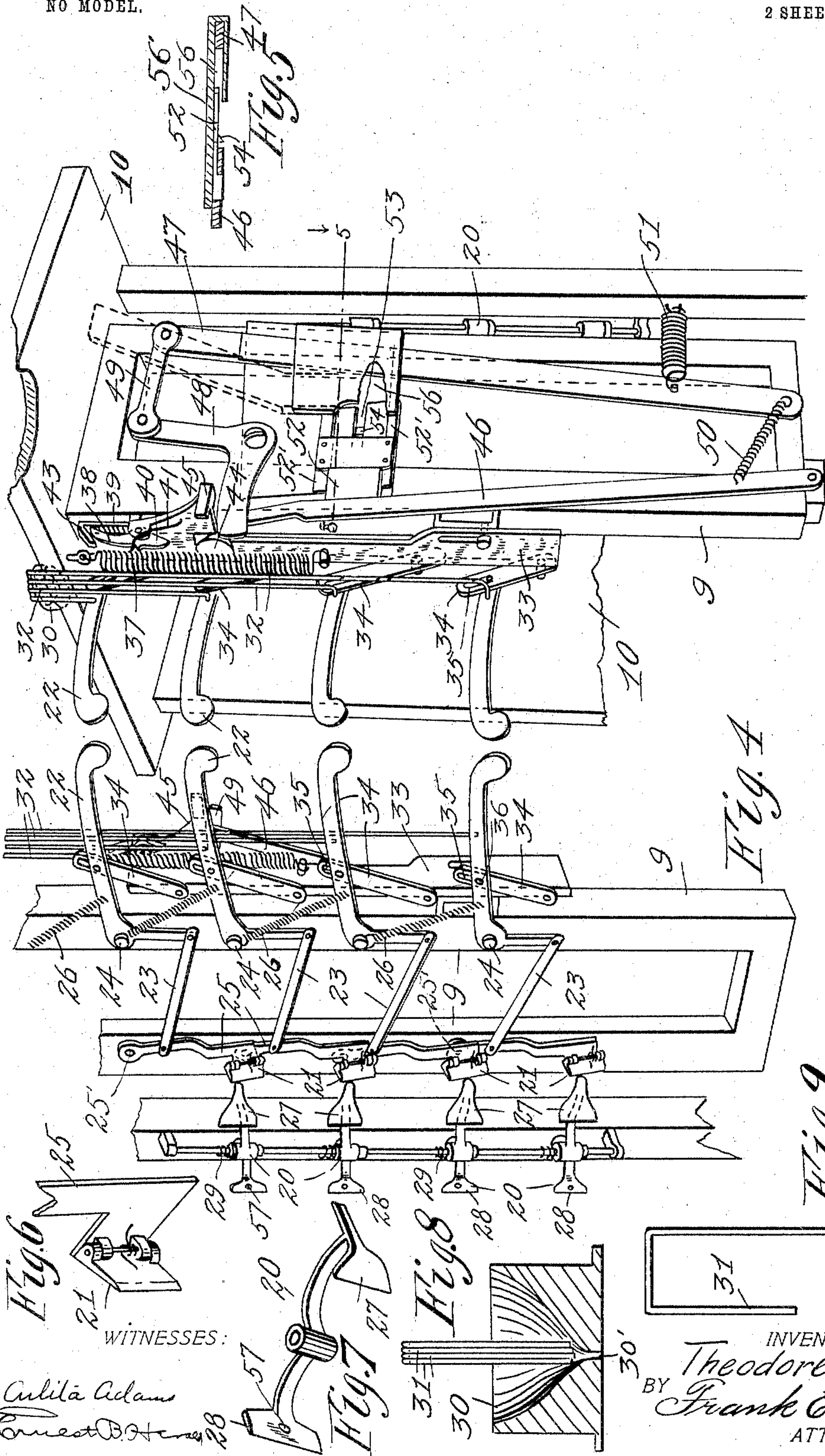
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UNITED STATES PATENT OFFICE.

THEODORE REYNOLD PRIEBE, OF RENTON, WASHINGTON.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 767,121, dated August 9, 1904.

Application filed September 2, 1902. Serial No. 121,894. (No model.)

To all whom it may concern:

Be it known that I, THEODORE REYNOLD PRIEBE, a citizen of the United States of America, and a resident of the town of Renton, in the county of King and State of Washington, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

My invention relates to vending-machines, and has special reference to a device of this class in which the action of the operating mechanism is controlled by the insertion of a coin.

Among numerous objects attained by this invention and readily understood from the following specifications and accompanying drawings, included as a part thereof, is the production of a simple and inexpensive vending-machine embodying essential features of adaptability, utility, and general efficiency which renders the device positive in operation, easy to construct, and reliable in action.

The above-mentioned and numerous other objects equally as desirable are attained by the constructions, combinations, and arrangements of parts, as disclosed on the drawings, set forth in this specification, and succinctly pointed out in the appended claims.

With reference to the drawings filed herewith and bearing similar reference characters for corresponding parts throughout, Figure 1 is a plan view of the machine indicated in horizontal transverse section. Fig. 2 is a view in front elevation of a portion of the machine with a part disclosed in vertical section on line 2 2 of Fig. 1 viewed as the arrows indicate. Fig. 3 is a perspective view of the upper portion of the machine looking from the right of Fig. 1, as indicated by the arrow, with portions of the case broken away. Fig. 4 is a similar view to Fig. 3 looking from the left of Fig. 1. Fig. 5 is a transverse section through the coin-pocket, taken on line 5 5 of Fig. 3, viewed as the arrows fly. Fig. 6 is a perspective view of the pawl adapted to operate the package-carrier. Fig. 7 is a perspective view of the operable anchor which controls the action of the carrier. Fig. 8 is a view in vertical section of the lock adapted

to prevent action of more than one operating-lever at a time and shows the keys in normal position, and Fig. 9 is a view in side elevation of one of the keys.

This invention includes a case, as 10, of any suitable or desired construction, adapted to support and inclose the mechanism of the machine, but as now considered rendered substantially octagonal as viewed in transverse section, so as to fit snugly about the carrier 12 of the form now considered and rendered of requisite height to accommodate the desired plurality of these carriers and having hand-holes 11 in the front wall, Fig. 2, through which the contents of the carriers are rendered accessible. In the present embodiment the carriers 12 are rendered circular in form and each comprise a disk-shaped bottom section 14 of plate metal, a hub 15 secured thereto, an annular upwardly-projecting flange 15' on said bottom placed concentric to the hub, and radially-disposed vertical partition 16 extending from said flange to the periphery of the bottom and forming peripherally-disposed pockets, as 17, adapted to receive the packages of merchandise for vending, while the annular flange forms a storage for the surplus of packages. These carriers are rotatably mounted one over the other in any predetermined plurality on a vertically-disposed axis, as a shaft 18, suitably secured in the center of the casing, and are each held from reverse action by a suitably-disposed catch-spring, as 19, and have a laterally-projecting ratchet-tooth 19', arranged on the periphery of the bottom at each partition, by which the carrier is conveniently operated. Independently-operated actuating mechanism is arranged relatively to each carrier, Fig. 4, and these mechanisms are preferably coöperably connected to coin-controlled mechanism, Fig. 3, so that they will normally stand locked and can only be operated to actuate a respective carrier by the use of a coin. Each of these carrier-actuating mechanisms include an anchor, as 20, suitably mounted relatively to the ratchet-teeth of a respective carrier, a carrier-driving pawl 21 operably related to the anchor to release the carrier, and a spring-retracted operating-lever 22 operably connected to said pawl by a suitable

connecting-rod, as 23. As now considered the operating-lever 22 is rendered in the form of a bell-crank and is pivotally mounted at the angle on a horizontally-disposed pivot 24, secured to a suitable post 9, fastened in case 10, and is yieldingly held in normal position by a retracting-spring 26, with one arm projecting forwardly from the case as a handle and the other arm extending downwardly inside of the case. The pawl 21 is preferably mounted on the free end of a downwardly-extending arm 25, pivoted at 25', and connecting-rod 23 is pivotally connected to the end of the depending arm of the operating-lever 15 and to the arm 25 adjacent its mounting, so as to conveniently increase the length of travel of the pawl over that of the operating-lever. The anchor 20 is suitably pivotally mounted on a vertically-disposed shaft placed rearwardly of the arms 25, and is formed with oppositely-disposed pallets 27 and 28, separated in conformity with the spacing of the ratchet-teeth on the carrier, and this anchor is normally yieldingly held to engage the former pallet with the ratchet-teeth on the carrier by a suitable spring, as 29, while the latter pallet normally rests clear of said teeth and slightly in rear of the one succeeding that at the former pallet. The outer side surface of pallet 27 is suitably inclined to cause the pallet to ride the end of arm 25 when the arm is advancing, and is thereby forced out of engagement with the carrier. The pawl 21 is suitably pivotally mounted on said arm so as to ride the ratchet-teeth of the carrier as advanced, but being suitably spring-pressed will open and engage said teeth as retracted, and thereby rotates the carrier a predetermined part of a revolution. In the present embodiment a lock 30 is related to the operating-levers to prevent action of more than one at a time and comprises a cup having the inner surface rendered conical and terminating in a keyway 30' at the base, Fig. 8. This lock is suitably mounted at the top of the machine over said levers, and a key, as 31, is connected to each lever and consists of a vertically-disposed bar of the same diameter as the way in the lock. These keys are all disposed in the cup and carried at the ends of rods, as 32, fixed to respective levers 22. Thus when a lever is operated a respective key enters the way 30' and blocks it, and thereby prevents operation of a second lever before return of the first. As now considered each operating-lever is operably connected to a vertically-reciprocal slide-bar, as 33, by means of a vertically-disposed link 34, which is pivotally connected at the lower end to the bar and formed with an elongated slot 35 in the upper end portion, which is engaged with a pivot 36, secured on said lever and normally resting at the base of the slot, so that said bar will respond to action of either lever without acting to operate the others.

The bar 33 is suitably slidably mounted on the post 9 for reciprocal vertical movement and is normally yieldingly held in retracted or raised position by a spring, as 37, and a spring-pressed catch-pawl 38 is pivoted on this bar in coacting relation to a stationary rack 39, fixed to said post to prevent return of the bar from any intermediate point. This pawl is formed with a rearwardly-extending ear 40 and is pressed by a spring, as 41, which exerts pressure thereupon closely adjacent its center of movement, so that a slight rock of the pawl on its pivot will serve to shift the action of said spring from one side of said center to the other, and thereby either press the pawl to engage rack 39 or hold it out of engagement. Suitable lugs, as 43 and 44, having inclined under surfaces, are fixed one at each end of the travel of the pawl to reverse the action of said spring, so when the slide-bar is completing its downward travel the ear on this pawl will ride under the lower lug 44, throw the pawl out, and reverse action of the spring, and as the bar completes its upward travel the pawl proper will ride under the upper lug and be thereby thrown into engagement with the rack.

In the present embodiment slide-bar 33 is formed with a laterally-projecting lug 45 on one side edge adapted to operably connect the bar to the coin-controlled mechanism, which includes a stop-arm 46 and an oppositely-disposed push-lever 47, the former normally resting with the upper end opposing lug 45 and the latter operably connected to the lug by a bell-crank 48, pivotally mounted on post 9, with the end of one arm resting under said lug and a link 49 pivoted to the opposite arm and to the free end of the lever. The arm and levers are both vertically disposed and pivotally mounted at their lower ends on post 9 and normally yieldingly held in retracted position by respective springs 50 and 51. Between the lever and arm a slide-plate 52 is suitably movably mounted between suitable guides, as 52', with the head end in contact with the inner side edge of arm 46 and the opposite end normally resting in one edge of a coin-pocket, as 56. This plate is formed with a notch 53 in the pocket end, which embraces a laterally-projecting wedge-shaped ejecting-lug 54, suitably supported upon the extended side wall 56' of the coin-pocket 56 exterior said pocket, with the point of the wedge resting toward lever 47. The pocket 56 is rendered in width substantially equal to the thickness of the coin to be used and is open to lever 47 and also at the top to receive the coins in an upright position from a suitable chute or the like, (shown in dotted lines, Fig. 3,) and the slide-plate is formed substantially equal in width to the diameter of the coin and the inner end surface thereof is properly inclined to cause said coin to come to rest when it reaches a central position relatively to the width of the plate, whereby

the push-lever as advanced forces the coin to move the said plate and thereby advanced stop-arm 46 clear of lug 45 and allows slide-bar 33 to move downwardly. As the coin is thus forced from the pocket it rides up the inclined surface of lug 54, and is thereby ejected laterally as the said lug 45 comes in contact with the rear edge of lever 47.

As now considered each pallet 28 is formed with a suitable laterally-disposed aperture 57, adapted to engage a hook, as 57', secured on a respective carrier, and thereby lock the carrier and attendant mechanism after it has completed a full revolution.

Granting placement of the proper coin in the coin-pocket an operation of the machine would occur substantially as follows: One of the operating-levers is fully depressed and carries a respective arm 25 to operate anchor 20, throwing out the pallet 27 and bringing the pallet 28 into the path of movement of the ratchet-teeth on the carrier, so that the carrier cannot be advanced more than the intended part of a rotation while pallet 27 is so disengaged. As the lever returns pawl 21 opens, engages one of the ratchet-teeth and advances the carrier, when the package of merchandise can then be removed by reaching the hand through a respective hand-hole. As the operating-lever 22 is depressed it forces slide-bar 33 downwardly, and thereby advances lever 47 and arm 46, the latter clearing lug 45 on said bar and allowing it to complete its travel, while catch-pawl 38 serves to insure full depression of the operating-lever and prevents the operator pumping the machine. When the carrier has completed a full revolution, having been emptied of its contents, the pallet 28 will be engaged by the hook 57', which latter catches in the aperture 57 in the pallet, thereby locking the carrier from further rotation.

The device is simple of construction, readily understood, and positive in action. It has few parts likely to get out of order, and the carrier and attendant operating mechanism can be arranged in any desired multiplicity without necessitating additional features for the coin-operating mechanism, which is exceedingly simple in construction and positive in operation.

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

1. In a vending-machine, the combination with a vertically-pivoted stop-arm and an oppositely-disposed pivoted push-lever, and a coin-pocket of a transversely-disposed slide-plate normally disposed at one end of the coin-pocket and having a notch in its pocket end, said plate contacting with the stop-arm and adapted to be connected with the lever by a coin to move the stop-arm, and a wedge-shaped lug arranged in said notch to eject the coin.

2. In a vending-machine, the combination

with a case, a carrier, carrier-operating mechanism and a vertically-reciprocating slide-bar operably connected to said mechanism; of a spring-retracted vertically-pivoted stop-arm normally opposing advance of said bar, a spring-retracted vertically-pivoted push-lever operably connected to said bar for advance, means for operating the stop-arm comprising an open pocket adapted to receive the lever, a slide-plate contacting with the stop-arm provided with a notch and having an inclined end extending to the pocket, said push-lever arranged at an angle to the inclined end of the slide-plate for supporting a coin therebetween, and a wedge-shaped lug for ejecting the coin from its support.

3. In a vending-machine, the combination with a case, a rotatable carrier mounted therein, and mechanism for operating the carrier, of coin-controlled mechanism for controlling the carrier-operating mechanism comprising a vertically-pivoted spring-retracted stop-arm normally preventing the action of the carrier-operating mechanism, a vertically-pivoted spring-retracted lever, means for connecting the arm with the lever comprising an open pocket adapted to receive the lever; a notched slide-plate extending from the pocket and engaging the stop-arm, said plate having its pocket end inclined at a diverging angle to the side edge of the lever to support a coin therebetween whereby connection between the lever and the arm is established, means for connecting the lever with the carrier-operating mechanism, and a lug adapted to eject a coin from its support.

4. In a vending-machine, the combination with a case, a carrier, carrier-actuating mechanism and a slide-bar operably connected to said mechanism; of a spring-retracted stop-arm normally opposing advance of said bar, a spring-retracted push-lever, a bell-crank operably related to said bar and connected to the lever, a coin-pocket open to receive said lever, a slide-plate resting against the arm extending to said pocket and having a notch in the pocket end and a wedge-shaped lug disposed in said notch exterior to the pocket.

5. In a vending-machine, the combination with a case, a carrier, carrier-actuating mechanism and a vertically-disposed spring-retracted slide-bar operably connected to said mechanism; of a spring-retracted vertical stop-arm normally opposing advance of said bar, a spring-retracted vertical push-lever, a bell-crank operably related to said bar, a link pivoted to the lever and crank, a coin-pocket open at one side to receive said lever, a horizontally-disposed slide-plate resting against the arm extending to said pocket and having a notch in the pocket end and a wedge-shaped lug disposed in said notch exterior to the pocket.

6. In a coin-controlled apparatus, the combination with a vertically-reciprocating slide-

bar, and means for moving the bar, of a vertically-pivoted stop-arm normally underlying and preventing the advance of said bar, a vertically-pivoted push-lever, pivoted means for
5 connecting the lever with the bar, a coin-pocket lying between the lever and the stop-arm, a slide-plate working in said pocket and acting in conjunction with the lever to support a coin whereby the stop-arm is moved to re-

lease the slide-bar, and means for ejecting the coin from its supporting means.

Signed at Seattle, Washington, this 5th day of August, 1902.

THEODORE REYNOLD PRIEBE.

Witnesses:

AUGUSTUS M. WING,
ERNEST B. HERALD.