

(No Model.)

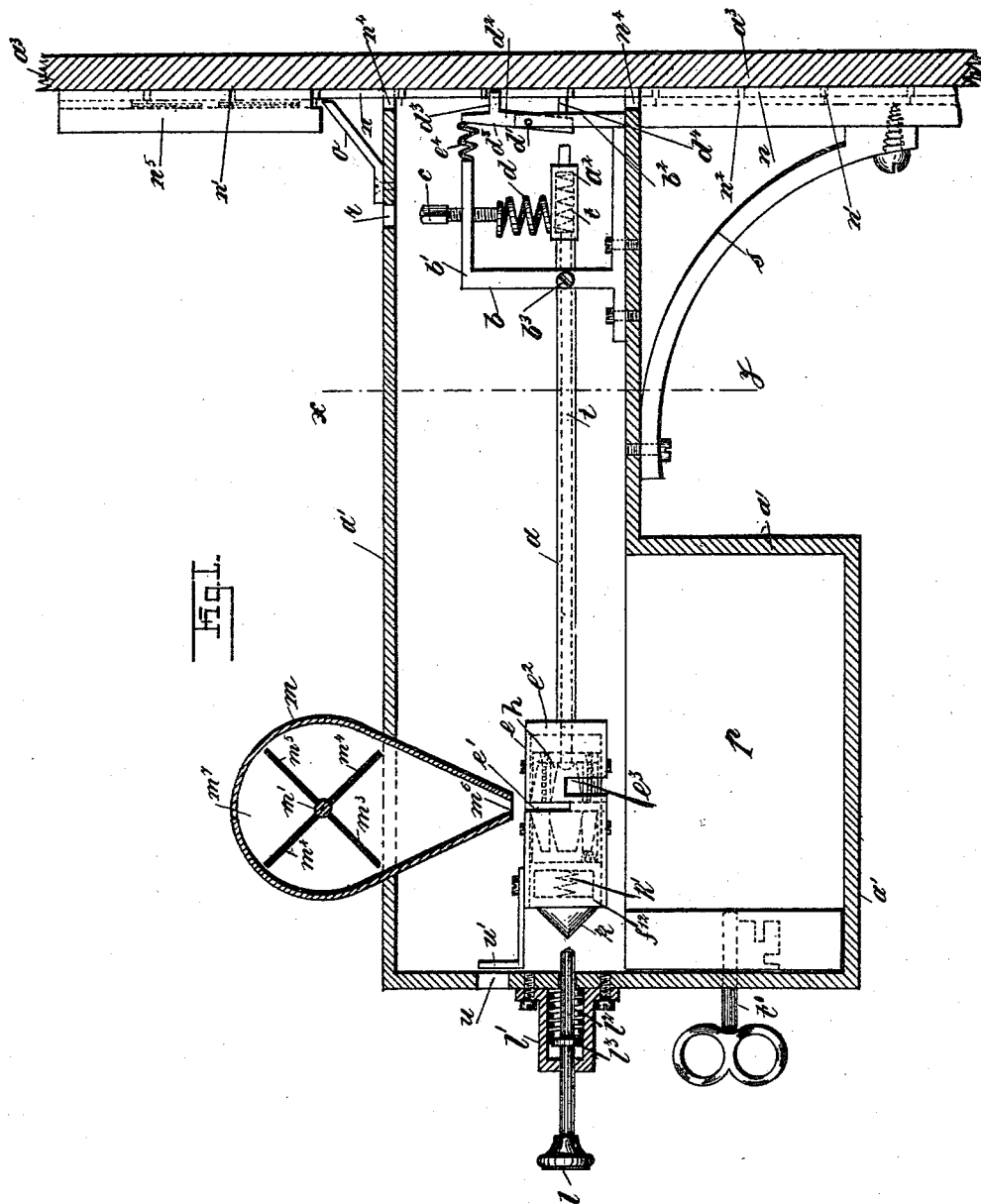
5 Sheets—Sheet 1.

A. BRÄU.

COIN OPERATED VENDING MACHINE.

No. 457,700.

Patented Aug. 11, 1891.



Witnesses:

E. M. Clark

C. E. Holste

Inventor

A. Bräu

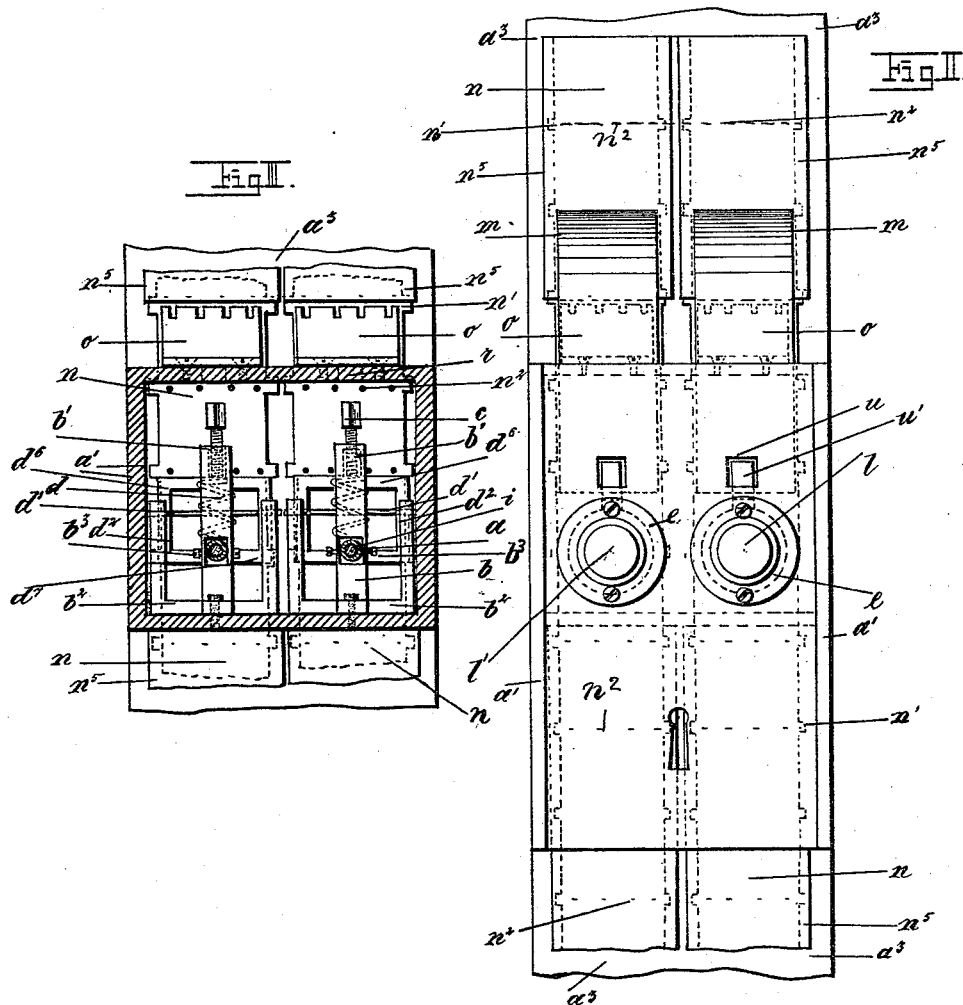
By Munn & Co

Attorneys

A. BRÄU.  
COIN OPERATED VENDING MACHINE.

No. 457,700.

Patented Aug. 11, 1891.



Witnesses:

E. M. Clark

C. E. Holake

Inventor

Alphons Bräu

By

Munn & Co

Attorneys.

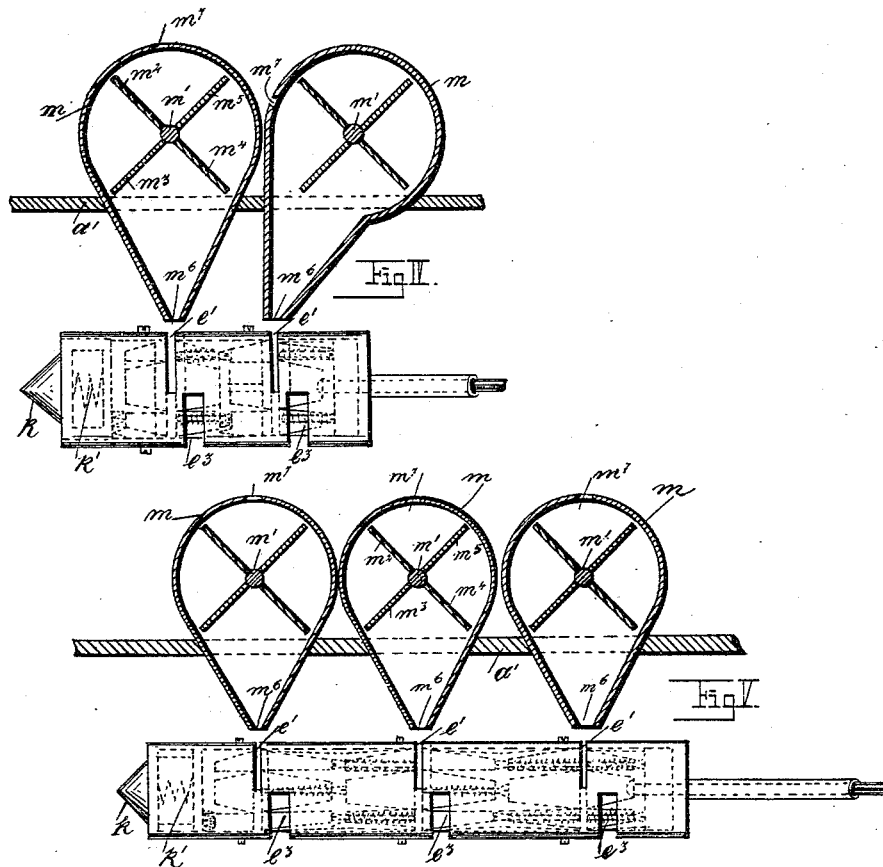
(No Model.)

5 Sheets—Sheet 3.

A. BRÄU.  
COIN OPERATED VENDING MACHINE.

No. 457,700.

Patented Aug. 11, 1891.



Witnesses:

E. M. Clark

C. E. Holake

Inventor  
Johann Bräu  
By Munn & Co  
Attorneys

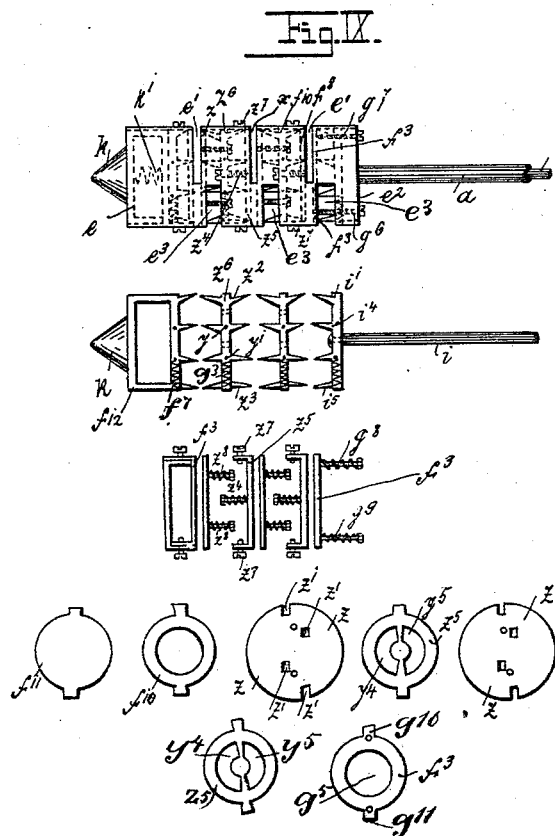
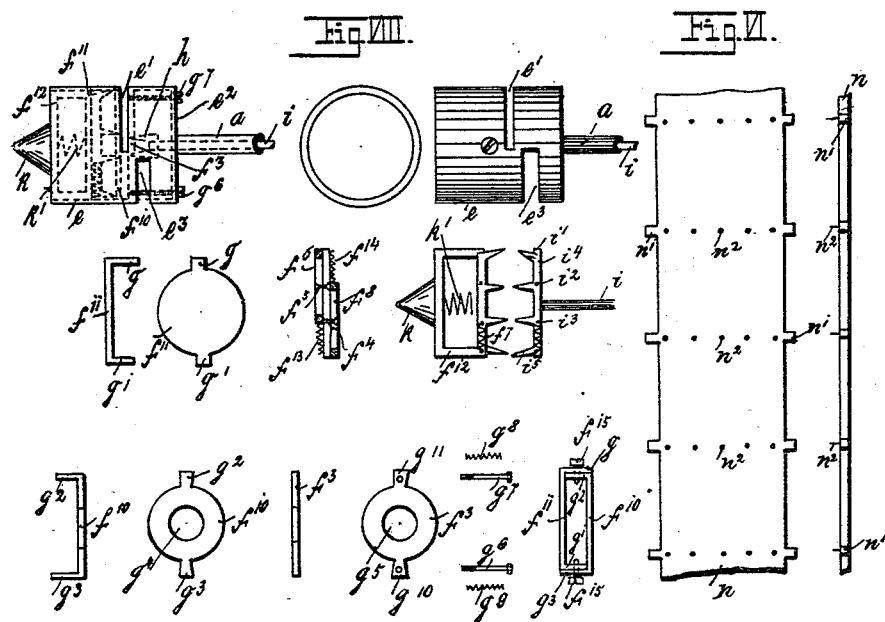
(No Model.)

5 Sheets—Sheet 4.

A. BRÄU.  
COIN OPERATED VENDING MACHINE.

No. 457,700.

Patented Aug. 11, 1891.



Witnesses:  
E.M. Clark  
C.E. Holste

Inventor  
Ophions Bræn  
By Munn & Co  
Attorneys

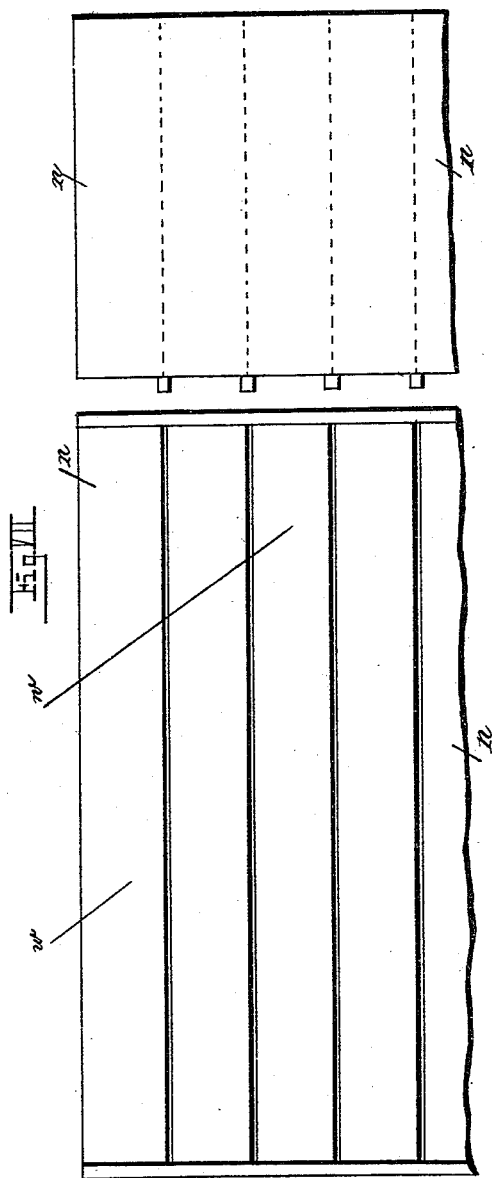
(No Model.)

5 Sheets—Sheet 5.

A. BRÄU.  
COIN OPERATED VENDING MACHINE.

No. 457,700.

Patented Aug. 11, 1891.



Witnesses:

E. M. Clark

C. E. Holske

Inventor

A. Bräu

by Munn & Co.  
Attorneys.

# UNITED STATES PATENT OFFICE.

ALPHONS BRÄU, OF AMBERG, GERMANY.

## COIN-OPERATED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 457,700, dated August 11, 1891.

Application filed March 9, 1891. Serial No. 384,253. (No model.)

*To all whom it may concern:*

Be it known that I, ALPHONS BRÄU, overman, of Amberg, in the Kingdom of Bavaria and German Empire, have invented new and useful Improvements in Coin-Operated Vending-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this invention is to automatically deliver postage-stamps and other similar articles, such as railway, theatrical, and other tickets, checks, or passes, postal-cards, postal-orders, and commercial articles of similar size, these articles being delivered free when the mechanism which holds them fast is released by the insertion of a definite coin in an opening provided for the purpose in the apparatus.

In the accompanying drawings, Figure I is a side sectional view of a machine in which two of my improved delivery mechanisms are joined together. Fig. II is a front view of the same. Fig. III is a transverse section on line  $xy$  of Fig. I. Fig. IV shows the form of drum used for the insertion of two coins for effecting the release of the mechanism and corresponding funnel-shaped coin-receptacles  $m$ . Fig. V illustrates a drum designed to receive three coins and provided with a similar number of funnel-shaped coin-receptacles. Fig. VI shows a front and side view of the plate  $n$  upon which the stamps are carried, and Fig. VII illustrates a modification of such plate for the sale of other articles. Fig. VIII shows details of the drum for the insertion of a single coin, and Fig. IX shows details of the drum arranged to receive three coins.

The apparatus consists of a casing or frame-work  $a'$ , which is fixed in position in a suitable manner to a vertical wall  $a^3$  by means of the brackets  $s$ , or which may, if desirable, be placed upon a suitable stand. An upright frame  $b$ , arranged on the inside of the casing  $a'$ , supports a lever  $a$ , which is bored throughout its length and capable of oscillating, being pivoted or suspended between the pointed screws  $b^3$ . The shorter arm of this lever  $a$  is provided with a tubular extension  $a^2$ , which incloses a spring  $t$  for firmly holding in position a rod  $i$ , passing centrally through the lever, while the other or longer arm of the lever  $a$  is provided with a drum

$e$  to receive the coin as it is dropped from the receptacle  $m$ .

The horizontal arm  $b'$  of the upright frame  $b$  is furnished with a set-screw  $c$ , by means of which the tension of the spiral spring  $d$  can be regulated by a key inserted through the opening  $r$  of the frame-work  $a'$ . This spring  $d$  bears at one end against the set-screw  $c$  and at the other against the extension  $a^2$ . A lever  $d^2$  is mounted and oscillates on the axis  $d'$  of the upright arm  $b^2$  and has projections  $d^3$  and  $d^4$  bent at right angles, as illustrated. A spiral spring  $e^4$  is connected at one end to a projection  $d^5$  of the arm  $d^3$ , its other end being affixed to the arm  $b'$  of the upright frame  $b$ . The projections  $d^3$  and  $d^4$  engage at the required instant with a device, hereinafter more fully described, to regulate the delivery of the postage-stamps, tickets, or other articles to be disposed of. The drum  $e$ , serving to receive the coins and mounted upon the longer arm of the double lever  $a$ , consists of a cylinder furnished with a slot  $e'$ , into which the coin drops, and with another slot  $e^3$ , formed in the lower half of the cylinder, through which the coin falls and escapes into the compartment beneath. A slide  $f^{12}$  is arranged in the drum  $e$  and carries the plate  $f^7$ , (see Fig. VIII,) the forks  $f^6$  and  $f^8$  of which are capable of turning upon the axes  $f^5$  and  $f^4$  and which are held in predetermined positions by the forks  $f^6$  and  $f^8$ . The forks  $f^6$  and  $f^8$  are arranged on both sides of the frames  $f^{12}$ , are each provided with two or more teeth, and are pivoted on the axes  $f^5$  and  $f^4$ , in order to enable their teeth to touch coins inserted in any position in the receiving-slots of the drum  $e$  to actuate the drum also that they may catch bent and damaged coins. The slide  $f^{12}$  is held in position by the spring  $k'$ , the extremities of which are respectively fixed to the slide  $f^{12}$  and to the plate  $f^{11}$ . The said slide  $f^{12}$  is capable of sliding in the cylinder or drum  $e$ , and is guided by the casing formed by the two plates  $f^{10}$  and  $f^{11}$ . The diameter of the plate  $f^{11}$  is equal to the clear width of the slide  $f^{12}$ , and the projections  $g$  and  $g'$  of the same are bent at right angles. The plate  $f^{10}$  is also furnished with projections  $g^2$   $g^3$ , bent at right angles and with a central opening  $g^4$ . (See Fig. VIII.) The plates  $f^{10}$  and  $f^{11}$  are connected

together by screws  $f^{15}$ , which likewise fix them in the drum. The drum further contains the plate  $f^3$ , furnished with a central opening  $g^5$  and two projections  $g^{10} g^{11}$ . This last plate is firmly held in connection with the rear wall  $e^2$  of the drum  $e$  by the pins  $g^6 g^7$ , screwed through the plate  $f^3$ , and is under the control of the springs  $g^8 g^9$ . The rod  $i$  passes through the rear wall  $e^2$  of the drum and is inclosed in the tubular or hollow lever  $a$ , as hereinbefore described, its outer end carrying the fork  $h$ , the prongs of which have a tendency to enter the opening  $g^5$  of the plate  $f^3$  or an arm  $i'$ , which, like the frame  $f^{12}$ , supports the two forks  $i^4 i^5$ , arranged on one side thereof, oscillating upon the two axes  $i^2 i^3$  and held by springs in a suitable position against the arm  $i'$ . The lower half of the drum  $e$  is provided with the slot  $e^3$ , through which the coin is dropped into the coin-box. The frame  $f^{12}$  carries the point  $k$ , upon which a pusher  $l$  is capable of operating, the latter being located in an extension  $l'$  of the framework or casing  $a'$  and held by the spring  $l^2$  in a predetermined position, limited by the collar  $l^3$ .

Above the drum is arranged an opening for coins, consisting of a funnel  $m$ , mounted upon the frame or casing  $a'$  in such a manner that the opening or outlet  $m^6$  of the same is situated exactly above the slot  $e^3$  in the drum  $e$ . Mounted in the funnel  $m$  are the extremities of an axis  $m'$ , carrying four radiating blades  $m^2 m^3 m^4 m^5$ , which turn freely therewith. The coin is inserted in the slot  $m^7$ .

The improved mechanism for carrying the supply of postage-stamps, tickets, and the like is constructed in the following manner—that is to say, upon a plate  $n$ , furnished upon its face with needles  $n^2$ , are placed the articles which are to be delivered. This plate has formed on its edge at suitable distances apart a number of projections or teeth  $n'$ . The plate  $n$ , thus furnished with articles for sale, is introduced in the slot  $n^4$  of the casing  $a'$  and firmly held therein by the arms  $d^3$  of the lever  $d^2$ , these arms being connected together by the cross-bars  $d^6 d^7$  (see Fig. III) and normally held in this position by the spring  $e^4$ . The part of the plate  $n$  protruding through the slot  $n^4$  is surrounded by a casing  $n^5$ , which is fixed upon the back plate  $a^3$  of the apparatus. The casing  $a'$  carries immediately in front of the slot  $n^4$  the inclined or slanting plate  $o$ , which comes into contact with the plate  $n$  at its free extremity. The space or receptacle  $p$  is designed to receive the coins as they drop from the drum  $e$ .

The action of the machine is as follows: When the apparatus is in its normal position, the lever  $a$  is not in horizontal position, as shown in the drawings, the arm carrying the drum  $e$  being, on the contrary, a little higher. As soon, however, as the coin representing the value of the article which is to be purchased is inserted in the slot  $m^7$  it falls into

the drum  $e$  and re-establishes the equilibrium of the lever—that is to say, brings it in such a position that the pusher  $l$  when operated strikes the point  $k$  of the drum  $e$  and pushes forward the slide  $f^{12}$ , so that the forks  $f^6$  and  $f^8$  of this frame bear firmly upon the dropped coin and move at the same time the forks  $i^4$  and  $i^5$  of the rod  $i$ . This rod  $i$ , by overcoming the power of the spring  $t$ , causes the lever  $d^2$ , oscillating upon the axis  $d'$ , to release the teeth  $n'$  of the plate  $n$ , which slides down until the arms  $d^3$  are brought again into play under the action of the spring  $e^4$ , and thus arrest the motion of the plate  $n$ . The stamps held by the needles  $n^2$  are released as the plate  $n$  moves downward, owing to their being caught by the slanting plate  $o$ . These stamps or other articles for sale are thus placed upon the plate  $o$ , from whence they can be readily obtained by the purchaser. When the pressure on the knob of the pusher  $l$  is withdrawn, the same is brought back into its normal position by the spring  $l^2$ , in consequence whereof the slide  $f^{10}$  and forks  $f^6$  and  $f^8$ , which now release the coin, are likewise brought back by the spring  $k'$  into their former position. The spring  $t$  now pushes forward the rod  $i$ , with the forks  $i^4 i^5$ , and the coin is laid in front of the plate  $f^3$ . As the coin passes by the slot  $e^3$  it falls through the same into the storage-receptacle  $p$ .

When the machine is used for the sale of articles the price of which has to be paid for by means of different coins—for instance, one-cent and two-cent stamps—the said machine is provided with a drum having two or three slots  $e'$  to receive the coins and an equal number of slots  $e^3$  to allow them to drop through, while a corresponding number of funnel-shaped receptacles  $m$  are also provided. The said drums are in such cases arranged as follows: Upon the slide  $f^{12}$ , furnished with a point  $k$  and the movable forks  $f^6$  and  $f^8$ , the prongs of which have a tendency to press upon the disk  $f^{10}$ , is further mounted a disk  $z$ , (see Fig. IX,) having four openings  $z'$  to allow for the entrance of the four prongs  $z^2 z^3$ , two of which extend to the left and two to the right hand side, and the rack  $z^6$ , holding the two forks, is fixed to the disk  $z^5$  by the pins  $z^4$ . The disk  $z^5$  is fixed to the drum  $e$  by means of its projections, which are bent at right angles, and of the screws  $z^7$ . The rack  $z^6$  is movable laterally, as well as the disk  $z$ , and is firmly held in position by the springs  $z^8$ . The forks  $z^2 z^3$ , which oscillate on the axes  $y y'$ , are also held in corresponding and determined positions by the springs  $y^3$ . The disk  $z^5$  is furnished with two notches or openings  $y^4$  and  $y^5$ , through which the right-hand prongs of the forks  $z^2 z^3$  nearest to the pin  $z^4$  have a tendency to meet, while the right-hand prongs farthest from the pin  $z^4$  can move over the periphery of the disk  $z^5$ , which has for this purpose a less diameter than the distance between the two forks, the points of which pass away over  $z^5$ . The disk

$z^5$  follows also the second slot  $x$ , through which the second coin is dropped, and this slot  $x$  (as well as in the drum arranged for the reception of only one coin) is limited by the plate  $f^3$ , furnished with an opening  $g^5$  and projections  $g^{10}$   $g^{11}$  and connected to the rear wall  $e^2$  of the drum by screw-pins passing through the said plate  $f^3$ , which is controlled or held in position by the springs  $g^8$   $g^9$ . The rod  $i$ , with the arm  $i'$ , carrying the two forks  $i^4$   $i^5$  on one side, is inserted, as in the drum hereinbefore described, through the rear wall  $e^2$  of this drum. The lower half of the drum  $e$  is furnished with the two slots  $e^3$   $e^3$ , through which the coins drop into the storage part  $p$  of the casing.

The mode of operation of a drum arranged for the insertion of two coins is as follows: After the latter have both been dropped, on the pusher  $l$  being actuated the same pushes forward the slide  $f^{12}$  of the drum  $e$ , the forks  $f^6$   $f^8$  of which press in consequence against the coin inserted through the slot  $e'$  and move the same forward, as well as the disk  $z$  and the rack  $z^6$ , furnished with forks, which rack seizes hold of the second coin and pushes it along, the latter on its part pushing the arm  $i'$  of the rod  $i$ . The rod  $i$  now releases the levers holding the stamp-plate  $n$ , and when the pressure is removed from the pusher  $l$  the mechanism moves back, and on its return stroke the inserted coins are freed by the respective forks, so as to be able to drop through the slots  $e^3$  of the drum  $e$  into the receptacle below. If it is desired that the machine should allow of the insertion of three coins, three funnel-shaped receptacles  $m$  are provided and plates  $z$   $z^5$ , rack  $z^6$ , with forks  $z^2$   $z^3$ , are arranged before the arm  $i'$  of the rod  $i$ . The drum  $e$  then has another slot upon its upper half for the insertion of another coin, and a corresponding slot on its lower half to allow the said coin to drop through into the storage space or receptacle.

When instead of postage-stamps other objects—such as postal-cards, railway, omnibus, and theatrical tickets, checks, or passes, or commercial articles of similar size—are required to be sold, the plate  $n$  is accordingly differently constructed—that is to say, is furnished with divisions, compartments, or chambers, in each of which is placed one of the articles for sale, and the slot  $n^4$  is enlarged to allow of the passage of corresponding plates  $n$ , the inclined plate  $o$  being dispensed

with, while the double levers  $d^2$  are connected together by cross-bars  $d^6$   $d^7$  of a length corresponding to the width of the compartments or chambers  $w$ .

The apparatus operates exactly as above described.

In the casing  $a'$  is arranged an opening  $u$ , closed by a glass pane, through which the position of the lever  $a$  may be controlled by means of an index  $u'$ , carried by the drum  $e$ . The coin-box  $p$  is opened or closed by the key  $t'$ .

Figs. II and III show two corresponding delivery mechanisms surrounded by one common casing for the delivery of various stamps or checks; but several such delivery mechanisms may be likewise inclosed in one common casing, each separate mechanism being constructed in exactly the same manner as if it were furnished with a distinct casing.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a coin-operated vending-machine, the combination, with a slotted funnel-shaped coin-receptacle having a transverse shaft therein provided with radial arms, of a hollow longitudinally-ranging lever pivoted to rock vertically in the casing of the machine, a slotted coin-receiving drum on the outer end of said lever, a spring-cushioned rod sliding in said lever, plates on said rod provided with prongs to engage coins entering the drum, and a spring-pusher for operating said rod, substantially as shown and described.

2. In a coin-operated vending-machine, the combination, with a hollow longitudinally-ranging lever pivoted to rock vertically in the casing of the machine, a slotted coin-receiving drum on the outer end of said lever, a spring-cushioned rod sliding in said lever provided with pronged plates to engage coins entering the drum, and means, substantially as shown, for operating said rod, of an angular spring-pressed lever pivoted in the path of said rod, and a goods-carrying plate sliding in the path of the said lever and having projections engaged thereby, substantially as shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ALPHONS BRÄU.

Witnesses:

JOSEF SOLLEDER,  
 HAMMER LORENZ.