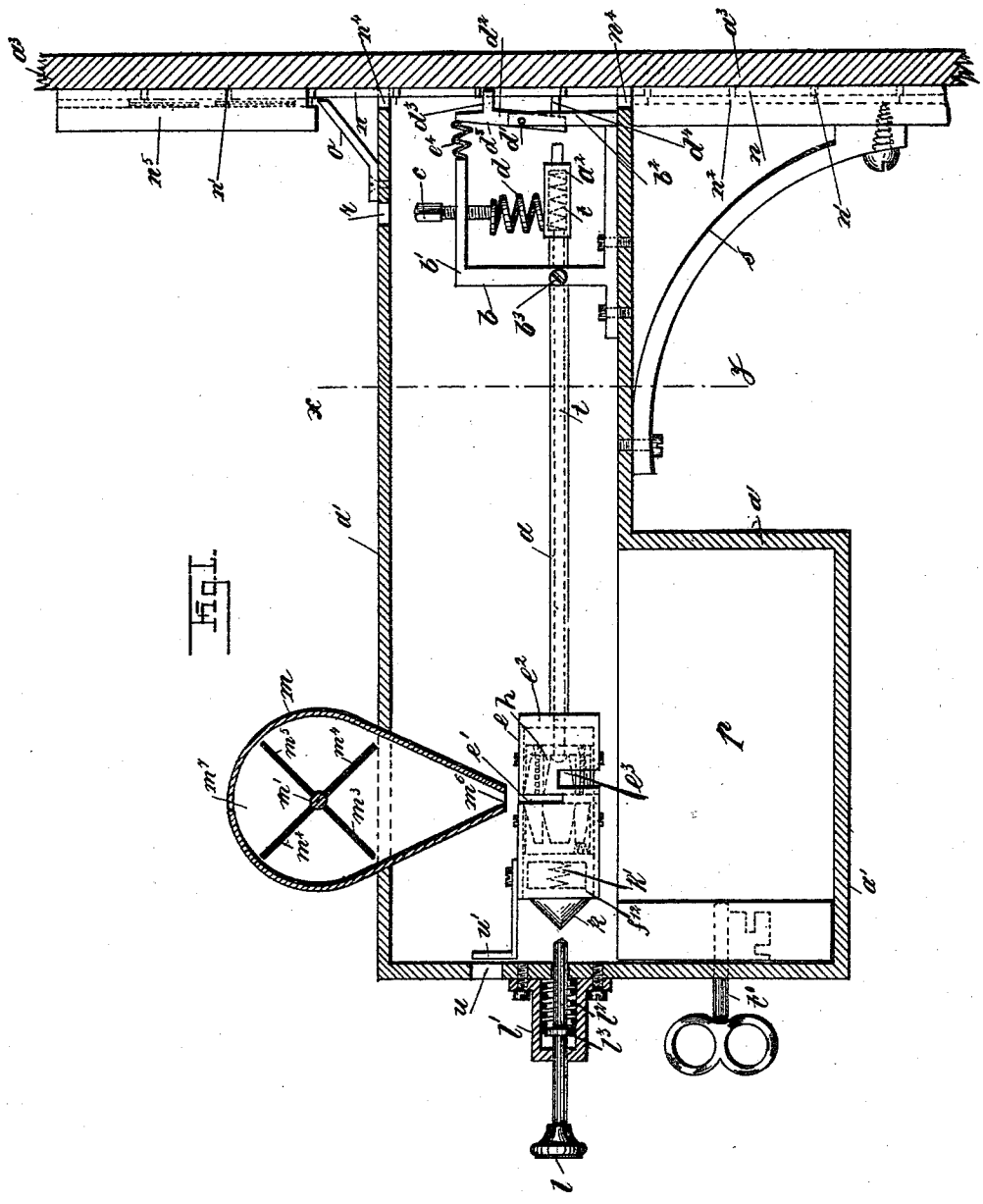
(No Model.) 5 Sheets—Sheet 1.

# A. BRÄU.

## COIN OPERATED VENDING MACHINE.

No. 457,700. Patented Aug. 11, 1891.



Witnesses:
E. M. Clark
C. E. Volske

Inventor
Alphons Bräu
By Munn & Co
Attorneys

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(No Model.) 5 Sheets—Sheet 2.

# A. BRÄU.

## COIN OPERATED VENDING MACHINE.

No. 457,700. Patented Aug. 11, 1891.

Fig. II.

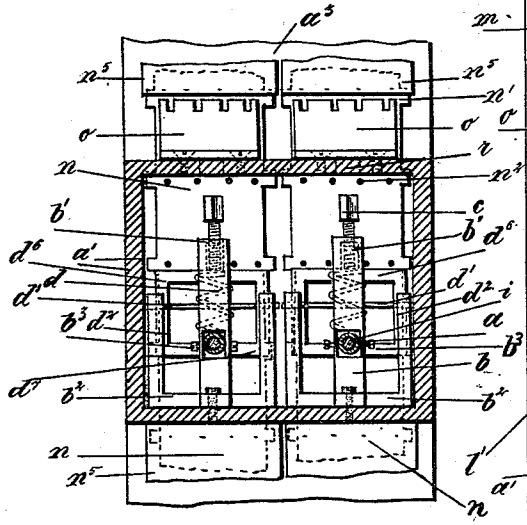
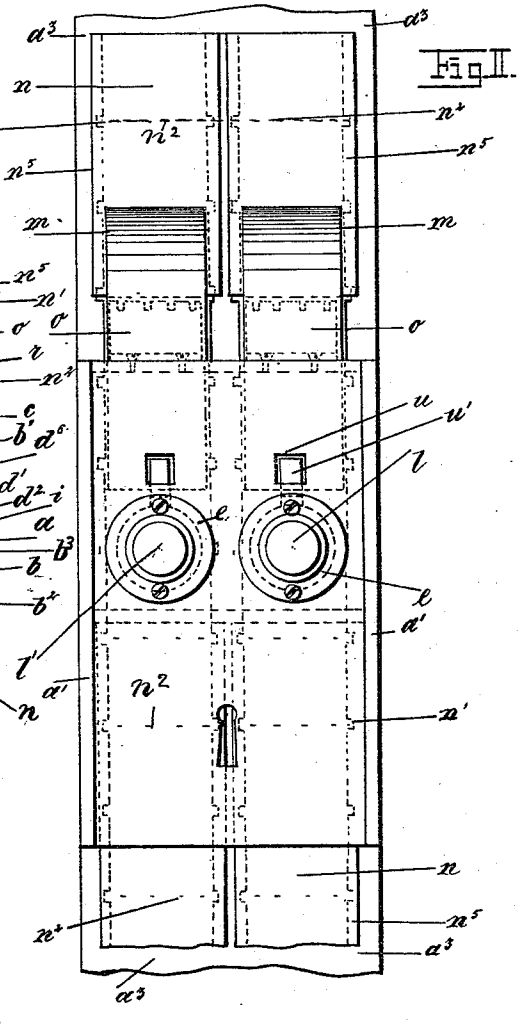


Fig. I.



Witnesses:
E. M. Clark
C. E. Holske

Inventor
Alphons Bräu
By Munn & Co
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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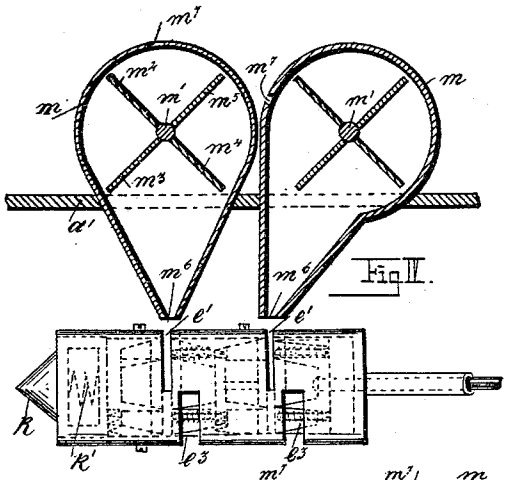


Fig. II.

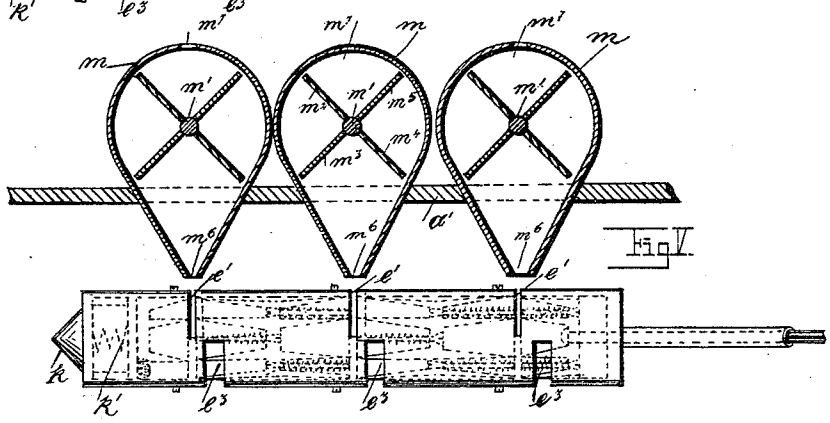


Fig. V.

Witnesses:
E. M. Clark
C. E. Holsche

Inventor
Adolphus Bräu
By Munn & Co.
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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# A. BRÄU.

## COIN OPERATED VENDING MACHINE.

No. 457,700. Patented Aug. 11, 1891.

Fig. VIII.

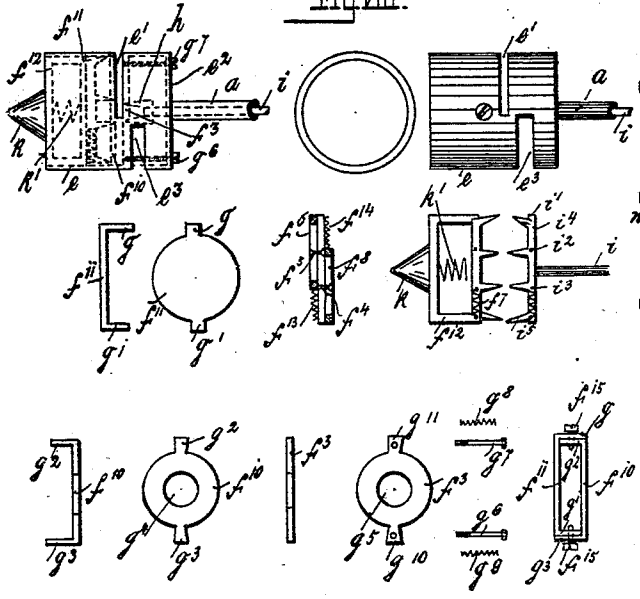


Fig. VI.

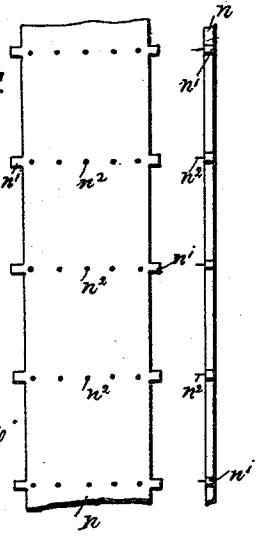
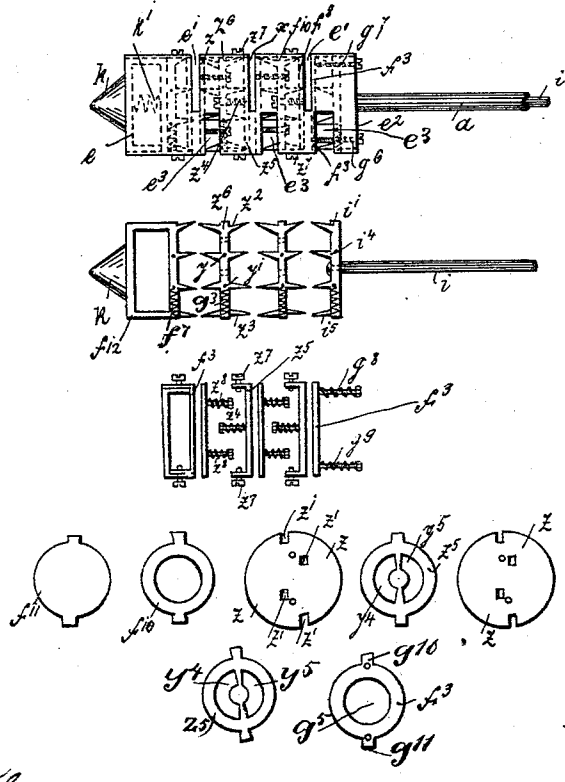


Fig. IX.



Witnesses:
E. M. Clark
C. E. Holake

Inventor
Ottmons Bräu
By Munn & Co
Attorneys

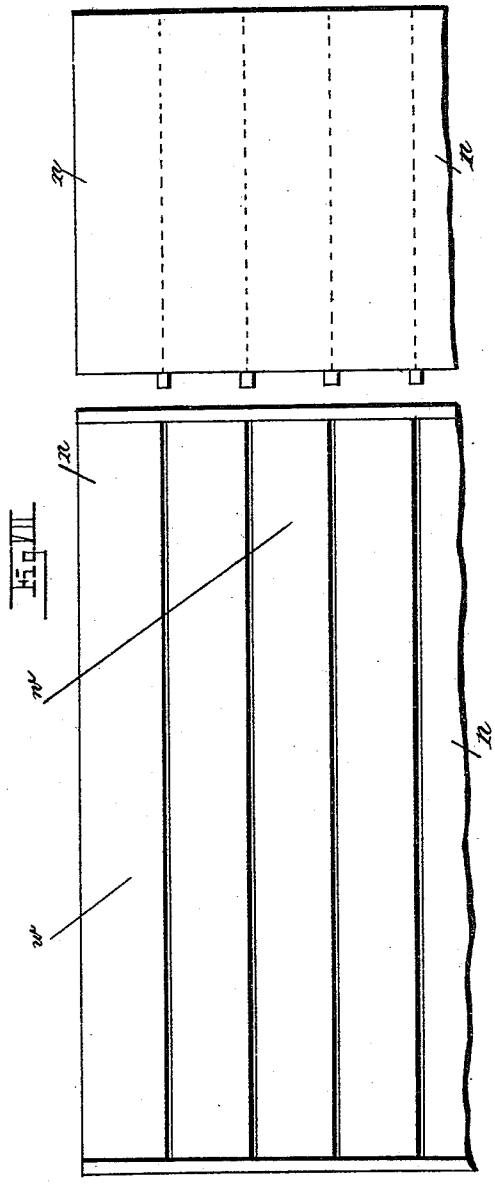
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C. M. Clark
C. E. Holske

Inventor
Alphons Bräu
by Munn & Co
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# 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 $x\ y$ 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 $m\ m$. 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 and 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 $e'$ 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 $\ddot{g}^5$ 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.