

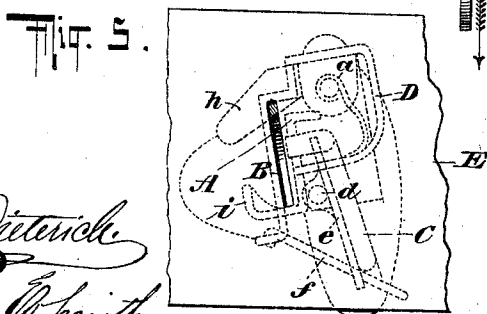
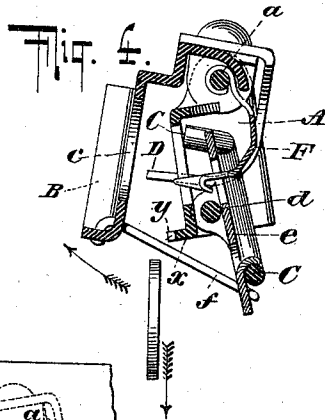
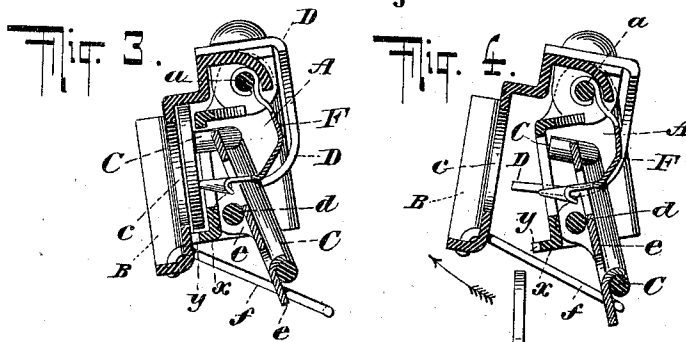
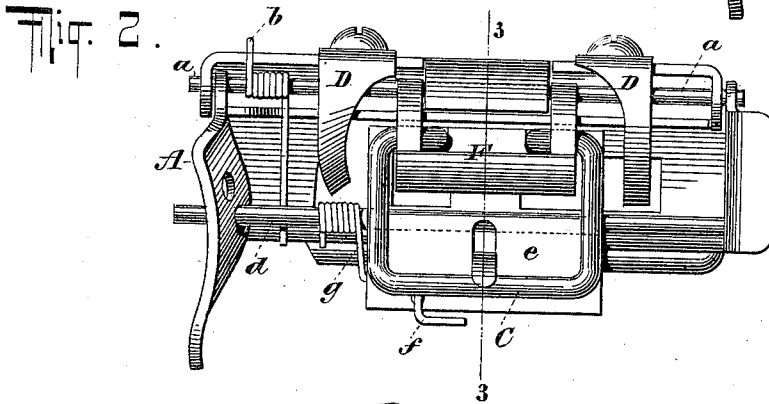
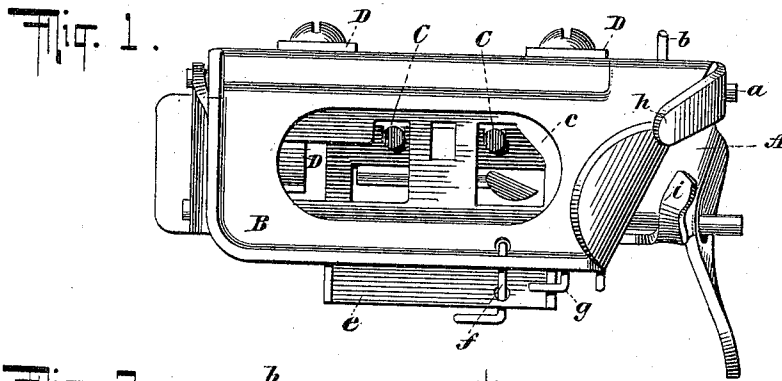
(No Model.)

2 Sheets—Sheet 1.

J. H. VOLKMAN.
VENDING MACHINE

No. 598,545.

Patented Feb. 8, 1898.



WITNESSES:

Gustave Dietrich.
Charles Smith

INVENTOR

John. H. Vockerman

BY *Briesen Knauth*

ATTORNEYS

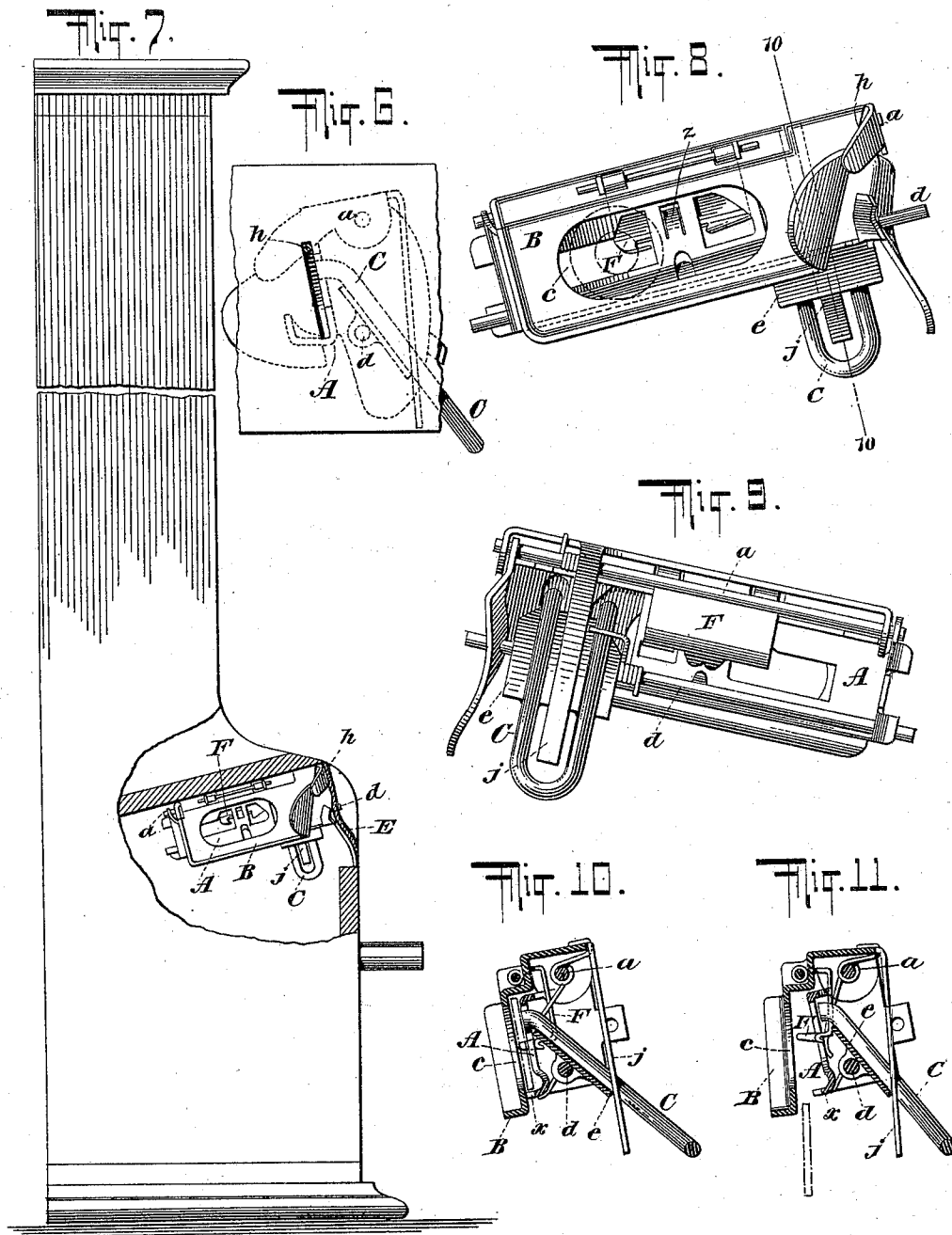
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UNITED STATES PATENT OFFICE.

JOHN H. VOLKMANN, OF NEW YORK, N. Y.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 598,545, dated February 8, 1898.

Application filed November 8, 1897. Serial No. 657,729. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. VOLKMANN, a subject of the Emperor of Germany, residing in the city, county, and State of New York, have invented certain Improvements in Coin-Testers for Coin-Controlled Apparatus, of which the following is a specification.

My invention relates to coin-testers for coin-controlled apparatus, such as vending-machines; and the invention is in the nature of an improvement upon the device forming the subject-matter of my former patent, No. 483,188, which was issued to me on the 27th day of September, 1892.

The object of my present invention is to render more effective the device of my former patent above referred to, and to provide a device which will reject or prevent all manner of coins or tokens except those embodying all of the characteristics of the coin intended to be used from operating the delivering or operating mechanism.

To this end my invention consists in the novel arrangement and combination of parts hereinafter described and claimed.

In the accompanying drawings, wherein like characters represent corresponding parts in the various views, Figure 1 is a detailed side view of the preferred form of coin-tester embodying my invention. Fig. 2 is a like view of the same looking from the opposite side. Fig. 3 is a transverse sectional view of the same on the line 3 3 of Fig. 2, showing the movable plate in the closed position and a false coin held by the magnet. Fig. 4 is a similar view showing the false coin released. Fig. 5 is a face view of the front plate of the apparatus containing the coin-slot, the coin-tester being shown in dotted lines. Fig. 6 is a like view showing a modified form of coin-tester embodying my invention. Fig. 7 is a side view with a portion of the casing broken away of sufficient number of parts of a vending apparatus to show the application of a coin-tester embodying my invention. Fig. 8 is a detailed side view of the modified form of coin-tester illustrated in Figs. 6 and 7. Fig. 9 is a like view of the same looking from the opposite side. Fig. 10 is a transverse sectional view of the same, taken on the line 10 10 of Fig. 8, showing the false coin held by the magnet. Fig. 11 is a similar view showing

the false coin released from the magnet on the introduction of the next succeeding coin.

Reference is first had to the device illustrated in Figs. 1 to 5, inclusive, which represent the preferred form of coin-tester embodying my invention. While Figs. 1 and 2 represent the coin-tester as standing in a horizontal position, it should be understood that in use the coin-tester assumes an inclined position, as indicated in Figs. 7, 8, and 9, for conveying the coin therethrough.

It should first be pointed out that the coin-tester of my invention constitutes, in a sense, a portion of a coin-chute, so that the coin in its passage from the coin-inlet or slot-opening of the apparatus to the delivering mechanism must pass through the coin-tester.

It is immaterial for the purposes of my invention what character of delivery or operating mechanism is used, inasmuch as the coin-tester may be employed with any character of coin-controlled apparatus, and hence I have shown no delivering or operating mechanism.

In Figs. 1 to 5 of the drawings, A represents a stationary plate, which is connected with the instrument in any suitable manner. This plate A is provided at its lower edge with a coin-track *x*, which is cut away or recessed for a portion of its length, as indicated at *y*, for the purpose of allowing a coin of less thickness than that required to operate the apparatus to pass through the recess formed in the track. The movable plate B is pivoted to the stationary plate by a pivot-pin *a* or otherwise. The movable plate B is normally maintained in contact with the track of the plate A by a spring *b*, which passes around the pivot *a* and bears against the upper edge of the movable plate. The plate B is provided with an elongated perforation, as indicated at *c*, for purposes which will hereinafter appear. To one of the plates A B (to the plate A in the present instance) a magnet C is pivoted, as indicated at *d*. In the present instance I have illustrated this magnet as being carried by a frame *e*, which is pivoted to the stationary plate A. The magnet is connected with the opposite plate from that which carries it by a suitable connection *f*, so that a movement of the plates away from each other will cause the magnet

to be moved around its pivot. In the present instance the connection *f* is shown to comprise a link *f*, which is hooked into the plate B and passes at its free end through an aperture in the frame *e* of the magnet. The free end of this link is bent at right angles to the length of the link, (see Fig. 2,) so as to allow of a free movement of the link in the slot until the bend in the end of the link contacts with the frame *e*, for purposes which will hereinafter appear. The effect of the movement of the movable plate is to move the magnet or the poles of the magnet away from the plate through which it projects and out of the path of the coin. In the present instance the stationary plate has been recessed to enable the magnet or the poles of the magnet to be projected through it. This magnet C is normally maintained in the position near the path of the coin, as illustrated in Fig. 3, by a coiled spring *g* or by other suitable means. The movable plate may, if desired, be provided with one or more arms D, which are adapted to pass through the stationary plate and to be moved across the path of the coin in its passage through the coin-tester when the movable plate is moved away from the stationary plate with which it coöperates. A finger *h* is carried by the movable plate and normally projects across a portion of the coin-inlet opening in the face-plate or slot-plate E on the instrument. The projection *i* may likewise extend from the stationary plate to guide the coin in its passage from the coin-inlet to the coin-tester. It may also be found desirable to provide the tester with a hinged washer-catcher F, which is shown as being pivoted to the pin *a*. In my preferred construction this washer-catcher is located in the path of movement of the magnet around its pivot, so that when the plates are separated by the introduction of a coin the magnet will be moved into contact with the washer-catcher and move it out of the path of the coin, (see Fig. 4,) thereby withdrawing the arm of the washer-catcher from the perforation of the washer if one has caught, thus allowing the washer to drop from between the plates A B.

As before stated, the coin-tester is mounted in the device in an inclined position, as represented in Fig. 7, and is likewise maintained in a position inclined to one side, as represented in Figs. 5 and 6.

Upon the introduction of a coin into the device illustrated in Figs. 1 to 5, inclusive, the coin will first contact with the finger *h* and will move the movable plate to one side away from the stationary plate, as represented in Fig. 4. As soon as the coin has passed the finger *h* the tension of the spring *b* will cause the movable plate B to resume its normal position. (Illustrated in Fig. 3.) If now the coin be a proper one, it will pass along the rail *x* between the plates A and B and will be conveyed to the delivering mechanism to coöperate therewith to deliver the package

or to set the instrument in operation, as the case may be. If, however, the coin be of insufficient thickness, it will pass through the recess *y* in the track *x* and will not be delivered to the delivering mechanism. If the coin be of insufficient diameter, it will pass through the perforation *c* in the plate B. If a washer of the same diameter and the same thickness of the coin intended to operate the device be introduced into the tester, it will be caught by the washer-catcher F, by reason of the fact that this catcher normally projects across the path of the coin and is forced to one side by the proper coin, and if there is a central perforation in the token introduced into the instrument the second projecting arm of the washer-catcher will pass into the perforation and prevent the washer or other perforated disk from passing through the coin-tester, as is illustrated in Fig. 8. The introduction of a proper coin will cause the washer-catcher to be positively shifted to one side in the manner hereinbefore described. It will likewise be observed that this introduction of a proper coin will cause said coin to contact with the first arm of the washer-catcher and will provide an additional means for releasing a washer which has been retained by the second arm by forcing the washer-catcher to one side and consequently withdrawing the second arm of the catcher from the perforation in the washer. If a magnetic disk or washer be introduced into the coin-tester, it will be held by the magnet C and be prevented from passing beyond that point. The introduction of the next coin will contact with the finger *h*, separate the plates in the manner which has been hereinbefore described, thereby causing the magnet to be withdrawn from its position adjacent to the coin. This will effect the release of the magnetic disk or washer held by the magnet, since the side wall of the stationary plate will prevent the disk or washer from following the magnet. When the disk or washer is released, it will drop from between the plates, as indicated in Fig. 4, and will therefore be ineffective to operate the delivering mechanism.

The purpose of the arms D is to prevent a coin from being forced rapidly through the coin-tester, so that each of the various elements will not have a chance to perform its respective function, or, in other words, to prevent what is known as "telegraphing" in instruments of this character. It will be observed that the link which forms the connection between the movable plate and the magnet C allows of some play to the movable plate without moving the magnet around its pivot. This is provided so that the movable plate may be operated by the introduction of a coin without having an unnecessary amount of spring-pressure to overcome in the initial step of introducing the coin into the instrument. In this construction the coiled spring *g*, which maintains the magnet in the normal

position, is not moved or a pressure is not exerted against it until the coin has overcome the initial resistance of the spring *b* while it is being introduced into the coin-slot.

5 The device illustrated in Figs. 6, 7, 8, 9, 10, and 11 is similar in many respects to the device hereinbefore described. The modified form of coin-tester is provided with a stationary plate A and movable plate B. A recessed track *x* is provided upon the stationary plate, the movable plate is apertured, as indicated at *c*, a spring is provided for normally maintaining the movable plate in contact with the stationary plate, and a magnet C is 15 pivoted to the stationary plate. However, in this construction the magnet is located in a somewhat different manner from that constituting the preferred form of my invention and the means for operating or withdrawing the magnet are somewhat different. In the modified form an arm *j* is carried by the movable plate and is shown in the present instance as being made integral therewith. This arm bears upon the frame *e*, which carries the 20 magnet, and a movement of the movable plate B around its pivot *a* will cause the magnet to be moved around its pivot *d*, so that the poles of the magnet will be withdrawn from the wall of the stationary plate A, through which they project, and will thereby release the magnetic disk or washer if the same has been caught by the magnet. The movement of the movable plate in this case is effected by the introduction of a coin bearing against 30 the finger *h* in the manner hereinbefore described with reference to Figs. 1 to 5, inclusive. The washer-catcher F in this modified construction is operated to release a washer by the introduction of a proper coin in the following manner: The introduction of a proper coin will cause the plates to be separated in the manner hereinbefore described, which will cause the washer-catcher which is pivoted to the movable plate to be slightly 35 elevated. The elevation of the catcher will bring it into contact with the cam *z* on the stationary plate, which cam will cause the catcher to be shifted to one side, thereby withdrawing the arms thereof from the washer if one has been caught by the catcher and the washer will drop from between the plates where it is ineffective to operate the delivery mechanism.

Heretofore coin-controlled apparatus have 55 been devised wherein stripper arms or fingers were provided to strip the false coin from the magnet, but there were disadvantages presented in such devices which rendered them unreliable and uncertain—as, for instance, the stripper-finger was liable to be projected through the central aperture of the washer held by the magnet and fail to strip the said washer from the magnet, thereby rendering the device inoperative. It will be observed 60 that by my invention no stripper arms or fingers are necessary to dislodge a magnetic disk or washer from the magnet, and that

nevertheless any such disk or washer which is caught by the magnet is effectively stripped from the magnet by the side wall of the plate 70 with which the magnet coöperates.

By my present invention I overcome the disadvantages heretofore found in coin-testers employing magnets and improve the efficiency of the device forming the subject-matter of 75 my former patent above referred to, and provide a coin-tester which will prove efficient under all conditions and circumstances.

It will be observed that by my present invention all manner of false coins are prevented from being conveyed to the delivery mechanism except a token embodying all of the characteristics of the coin intended to be used—that is to say, in order to operate the device by a false coin it is necessary to use 85 an imperforate disk made of non-magnetic metal and of the exact diameter and thickness of the coin intended to operate the device.

Having described my invention, what I 90 claim, and desire to secure by Letters Patent, is—

1. In a coin-tester the combination of a coin-chute, a magnet normally projecting through a wall of said coin-chute and means controlled 95 by the introduction of another coin for moving the magnet away from the wall of the chute through which it projects and out of the path of the coin.

2. In a coin-tester the combination of a coin-chute, a pivoted magnet normally projecting 100 through a wall of said coin-chute, and means for moving the magnet around its pivot away from the wall of the chute through which it projects and out of the path of the coin, 105 whereby when the magnet is moved away from the chute any false coin caught by the magnet will be retained against movement by the wall of the chute.

3. In a coin-tester the combination of a coin-chute, a pivoted magnet normally projecting 110 through a wall of said coin-chute and means controlled by the introduction of another coin for moving the magnet around its pivot away from the wall of the chute through which it 115 projects and out of the path of the coin whereby when the magnet is moved away from the chute any false coin caught by the magnet will be retained against movement by the wall 120 of the chute.

4. In a coin-tester the combination of a coin-chute formed of a movable plate and a stationary plate, a magnet normally projecting through one of said plates and a connection 125 between the other of said plates and a magnet whereby when the plates are moved apart the magnet will be moved away from the plate through which it projects and out of the path of the coin.

5. In a coin-tester the combination of a coin-chute formed of a movable plate and a stationary plate, a magnet normally projecting 130 through the stationary plate and a connection between the movable plate and the magnet

whereby when the plates are moved apart the magnet will be moved away from the stationary plate through which it projects and out of the path of the coin.

5 6. In a coin-tester the combination of a coin-chute formed of a movable spring-pressed plate and a stationary plate, a coin-track carried by one of said plates, a magnet normally projecting through one of said plates and a
10 connection between the other of said plates and the magnet whereby when the plates are moved apart the magnet will be moved away from the plate through which it projects and out of the path of the coin.

15 7. In a coin-tester the combination of a coin-chute formed of a movable plate and a stationary plate, a coin-track carried by said stationary plate, a magnet normally projecting through the stationary plate and a connection
20 between the movable plate and the magnet whereby when the plates are moved apart the magnet will be moved away from the stationary plate through which it projects and out of the path of the coin.

25 8. In a coin-tester the combination of a coin-chute formed of a movable plate and a stationary plate, a spring-pressed magnet pivoted to and normally projecting through the stationary plate and a connection between
30 the movable plate and the magnet whereby when the plates are moved apart the magnet will be moved away from the stationary plate through which it projects and out of the path of the coin.

35 9. In a coin-tester the combination of a coin-chute formed of a movable plate and a stationary plate, a coin-track carried by one of said plates, a coin-discharging aperture in the other plate, a magnet pivoted to and normally projecting through one of the plates
40 and a connection between the other of said plates and a magnet whereby when the plates are moved apart the magnet will be moved away from the plate through which it projects
45 and out of the path of the coin.

10. In a coin-tester the combination of a coin-chute formed of a spring-pressed movable plate and a stationary plate, a recessed coin-track carried by said stationary plate, a
50 coin-discharging aperture in the movable

plate, a spring-pressed magnet pivoted to and normally projecting through the stationary plate and a connection between the said movable plate and a magnet whereby when the plates are moved apart the magnet will be
55 moved away from the stationary plate through which it projects and out of the path of the coin.

11. In a coin-tester the combination of a coin-chute formed of a movable plate and a
60 stationary plate, means connected with said movable plate which means are adapted to project across the coin-inlet, a magnet normally projecting through one of said plates and a connection between the other of said
65 plates and the magnet whereby when the coin is inserted in the coin-inlet the plates will be forced apart and the magnet will be moved away from the plate through which it projects.

12. In a coin-tester the combination of a coin-chute formed of a movable plate and a
70 stationary plate, a finger connected with said movable plate which finger is adapted to project across the coin-inlet, a magnet normally projecting through said stationary plate, and a connection between the movable plate and the magnet whereby when a coin is inserted
75 in the coin-inlet the plates will be forced apart and the magnet will be moved away from the
80 plate through which it projects.

13. In a coin-tester the combination of a coin-chute formed of a spring-pressed apertured movable plate and a stationary plate, a recessed coin-track carried by said stationary
85 plate, a finger connected with said movable plate which finger is adapted to project across the coin-inlet, a pivoted spring-pressed magnet normally projecting through said stationary plate and a connection between the movable
90 plate and the magnet whereby when the coin is inserted in the coin-inlet the plates will be forced apart and the magnet will be moved away from the plate through which it projects.

JOHN H. VOLKMANN.

Witnesses:

CHARLES E. SMITH,
GEO. E. MORSE.