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F. B. HOFFMAN.

COIN SLOT DEVICE.

APPLICATION FILED DEC. 12, 1901.

NO MODEL.

Fig. 1.

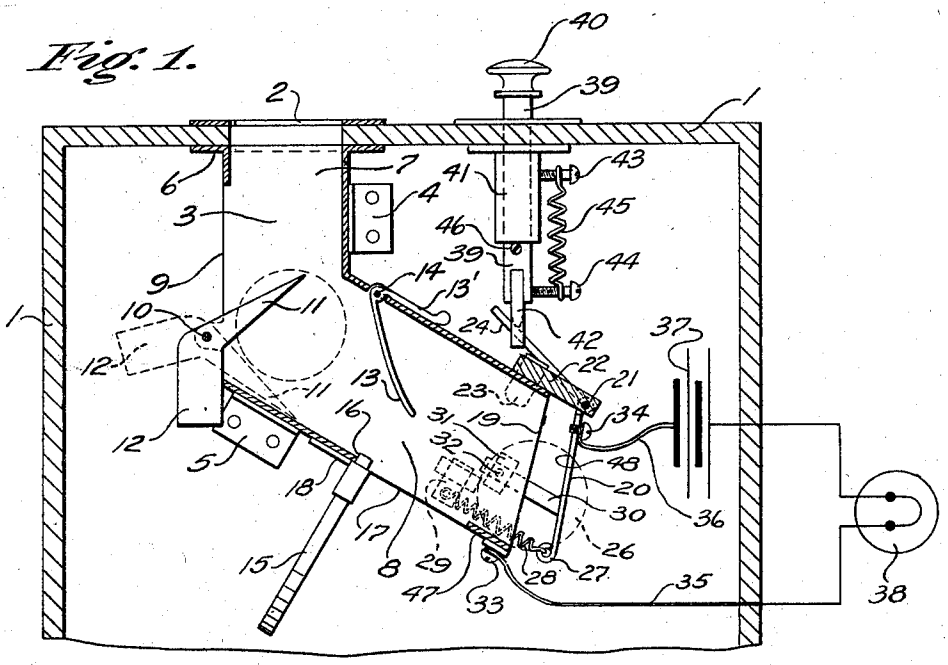
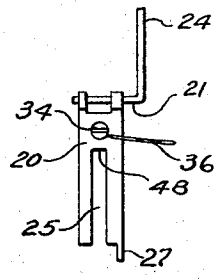


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK B. HOFFMAN, OF CHICAGO, ILLINOIS.

COIN-SLOT DEVICE.

SPECIFICATION forming part of Letters Patent No. 720,028, dated February 10, 1903.

Application filed December 12, 1901. Serial No. 85,636. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. HOFFMAN, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Slot Devices, of which the following is a specification.

The main object of my invention is to provide improved means for preventing the fraudulent operation of coin-actuated mechanism, as by the use of iron slugs or coins of different weight or size than those for which the machine is intended. I accomplish this object by a device shown in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the device constructed according to my invention and adapted for use in connection with coin-operated telephones. Fig. 2 is an elevation of the gate shown at the right in Fig. 1 and numbered 20.

The device shown consists of the casing 1, having through its top a coin-slot 2. A chute 3 is secured within the casing 1 and immediately below and in alinement with the slot 2. Said chute 3 is supported by means of the brackets 4 and 5 and the flange 6. The chute 3 is rectangular in cross-section and consists of the substantially vertical part 7 and an inclined part 8. The part 7 is of sufficient breadth and depth to permit the easy passage through same of a coin of specified denomination—say a nickel five-cent piece. The part 8 is somewhat wider than the part 7, but is of equal depth. In one of the narrow sides of the part 7 is a slot 9 of sufficient length to permit the passage of any coin which will be admitted by the slot 2. Pivoted at 10 near the lower end of the slot 9 is a gate 11, extending into the chute 3 and having the weighted part 12 extending on the opposite side of the pivot 10. The part 12 of the gate 11 is of suitable weight to hold the gate normally in the position shown by the full lines, but will permit such gate to be turned downward, as shown by the dotted lines, through the weight of a nickel bearing upon said part 12. A lighter coin than a nickel will be deflected by the gate 11 and caused to roll through the slot 9 and will drop into the coin-receptacle below the chute without taking the course intended for a coin of the proper denomination. A second gate 13 is pivoted at 10 in the upper part of the inclined part 8 of the chute. The gate 13 extends into the chute 8 and is also extended beyond the pivot 14 to form a weighted arm 13′. The gate 13 serves as a guide to insure contact between the coin and the magnet 15, which projects through the walls of the chute 8 and forms a slight shoulder at 16. Immediately beyond the magnet 15 is a second slot 17, which is of sufficient length to permit the passage of an iron slug of the same size as a nickel. The magnet 15 is secured to the chute 3 by means of the bracket 18. The inner end 19 of the chute is open, but the passage of a coin through same is controlled by the slotted gate 20. The gate 20 is rigidly secured to the shaft 21, which is pivoted to the arm 22. Said arm is of insulating material and is secured to the chute by means of the strap 23. The shaft 21 extends beyond the gate 20 on one side and is bent at right angles to form the lever 24, by means of which the gate 20 is operated. The gate 20 is provided with a slot 25, which has a breadth equal to the breadth of the chute 3. The length of the slot 25 is sufficient to permit the free passage of a coin of less diameter than a nickel, but will permit said gate to retain a nickel, as shown by the dotted lines 26. The gate 20 is provided at its lower end with an eye 27. A spring 28 is secured at one end to the eye 27 and serves to hold the gate 20 normally in the position shown. The other end of the spring 28 is secured to the lug 29, which is of insulating material and which is in turn secured to the side of the chute 3. A stop 30, also of insulating material, prevents the spring 28 from drawing the gate 20 beyond the position shown. The stop 30 is preferably made adjustable, being secured to the side of the chute by means of the strap 31 and being held in the desired position in said strap by means of a set-screw 32. The screws 33 and 34 serve as means for connecting the wires 35 and 36, respectively, to the chute 3 and the gate 20. A battery is represented by the symbol 37, and the signal, such as an incandescent lamp or bell, is represented by the symbol 38. A push-rod 39, terminating in a button 40 at its upper end, extends through the top of

the casing 1 and through the guide 41. The lower end of the push-rod 39 is provided with a fork 42 of insulating material, which rests on the lever 24. The screw 43 on the guide 41 and the screw 44 on the push-rod 39 are connected by the spiral spring 45, which tends to draw the push-rod upwardly. The screw 46 serves as a stop to limit the upward movement of the push-rod 39.

The operation of the device shown is as follows: If a coin that is lighter than a five-cent piece is inserted in the slot 2, it will drop upon the gate 11, but being of insufficient weight to counterbalance the arm 12 it will roll along the upper side of the gate 11 and be discharged through the slot 9 in the side of the chute 3. If the coin is of equal or more weight than a five-cent piece, the gate 11 will swing downwardly into the position shown by the dotted lines and admit the coin to the inclined part 8 of the chute. The gate 13 will cause the coin to come in contact with the magnet 15 and will then swing upwardly to permit the passage of said coin. If the coin is of iron, the magnet 16 will retard it sufficiently to cause it to fall through the slot 17; otherwise the moving coin, striking the shoulder 16 of the magnet, will be thrown upwardly sufficiently to pass the slot 17 and alight upon the ledge 47. If the coin is a five-cent piece, it will be retained upon the ledge 45 by means of the shoulder 48 at the upper end of the slot 25 in the arm 20. If the coin be of less diameter than a five-cent piece and of sufficient weight and proper material to reach the ledge 47 of the chute, it will simply roll through the slot 25 and fall into the coin-receptacle below. A five-cent piece held in the position shown at 26 completes an electric circuit and operates the signal 38. When said signal has been seen by the telephone operator, she will notify the user and will tell him to push the button 40. When the button 40 is pressed downwardly, the lever 24 will cause the gate 20 to turn to the right of the position shown and the coin will be dropped into the coin-receptacle.

It will be seen that numerous details of the device shown may be altered without departing from the spirit of my invention. I therefore do not confine myself to such details, except as hereinafter limited in the claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a coin-slot device, the combination with the casing, of an inclined chute arranged therein, a gate hinged to the lower end of the said chute and having its lower portion provided with a vertically-disposed slot, a lever rigidly secured to the said gate, and a push-rod mounted in the casing and having its lower end in pivotal engagement with the said lever.

2. In a coin-controlled device the combination with the casing, of an inclined chute arranged therein, an arm secured to the lower end of the said chute, a shaft journaled in the said arm and having one of its ends bent at an angle thereto, a gate secured to the said shaft, a stop secured to the chute for limiting the inward movement of the gate, a push-rod mounted in the casing and having its lower end pivotally secured to the angular portion of the said shaft, and an electric circuit whose terminals are connected to the chute and gate.

3. In a coin-controlled device the combination with the casing, of a chute arranged therein, an arm secured to the lower end of said chute, a shaft journaled in said arm and having one of its ends bent at an angle, a gate secured on the said shaft and having its lower portion slotted, and provided with an eye, an adjustable stop secured to the side of the chute adjacent its lower end for limiting the inward movement of the said gate, a spring secured to the said chute and having its outer end secured in the eye of the said gate, an electric circuit normally closed by a coin, and a push-rod mounted in the casing and having its lower end pivotally connected to the angular portion of the said shaft, and a spring for retracting the said push-rod.

4. In a coin-controlled device, the combination with a casing, of a coin-chute arranged therein, an arm composed of insulating material secured on the upper side of the lower end of the said chute and having its outer end projecting beyond the chute, a shaft journaled in the outer end of the said arm, a gate rigidly secured to the said shaft and having its lower end slotted, a lever-arm secured to the said shaft, a stop for limiting the inward movement of the said gate, an electric circuit whose terminals are connected to the said gate and chute, and a push-rod mounted in the casing above the lower end of the chute and pivotally connected to the said lever-arm, substantially as described.

Signed at Chicago this 10th day of December, 1901.

FRANK B. HOFFMAN.

Witnesses:
WM. R. RUMMLER,
HERMAN GOTTSCHALK.