J. J. LYNG.

COIN COLLECTOR.

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1,098,673.

Patented June 2, 1914.

Fig. 5.

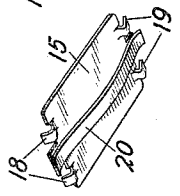


Fig. 3.

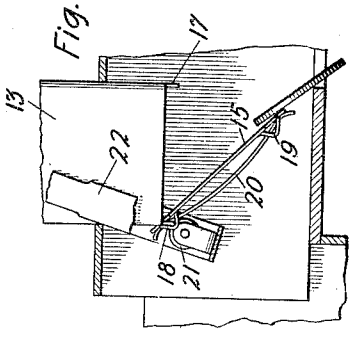


Fig. 4.

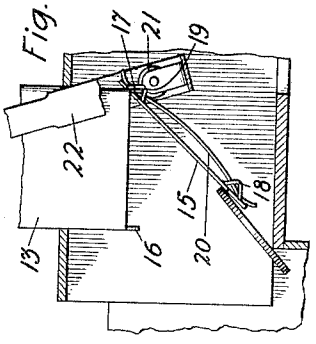


Fig. 2.

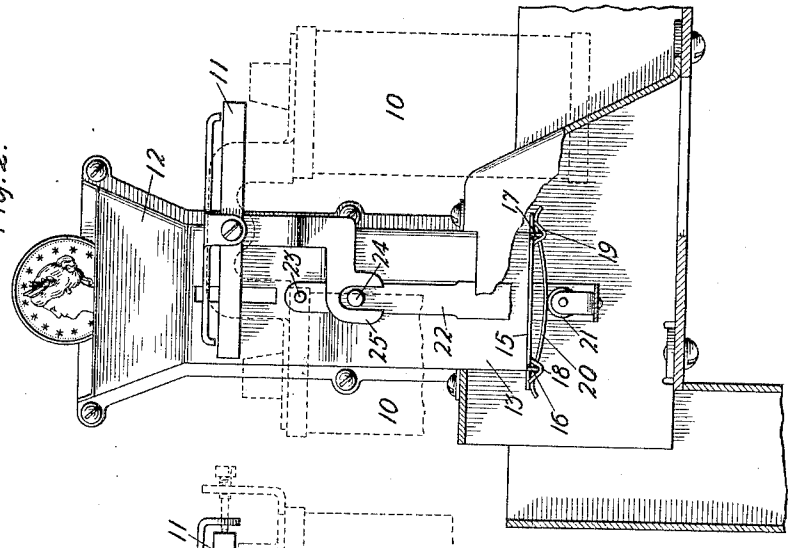
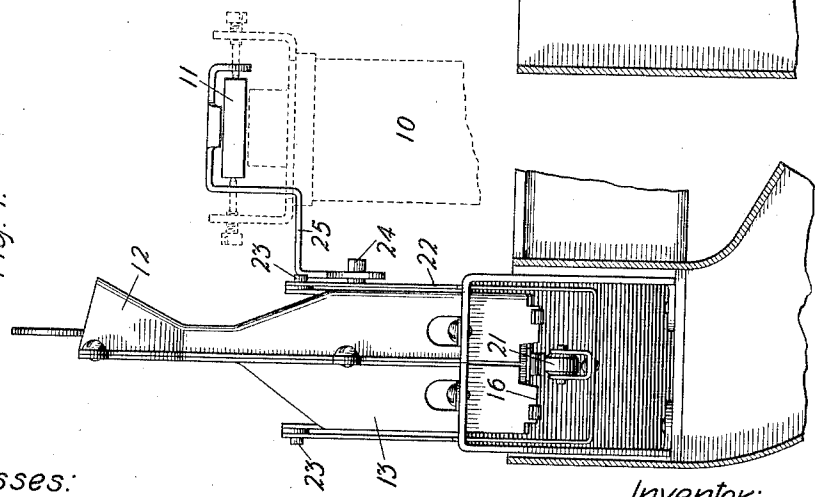


Fig. 1.



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UNITED STATES PATENT OFFICE.

JOHN J. LYNG, OF YONKERS, NEW YORK, ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF ILLINOIS.

COIN-COLLECTOR.

1,098,673. Specification of Letters Patent. **Patented June 2, 1914.**

Application filed November 25, 1913. Serial No. 802,949.

To all whom it may concern:

Be it known that I, JOHN J. LYNG, a citizen of the United States, residing at Yonkers, in the State of New York, have invented a certain new and useful Improvement in Coin-Collectors, of which the following is a full, clear, concise, and exact description.

This invention relates to coin collectors and more particularly to coin distributing mechanism whereby the deposited coins may be either retained or refunded.

The objects of this invention are to provide an improved coin distributing mechanism of the above type which is simple in construction, positive in operation, and requires a small amount of power for the accomplishment of the necessary functions.

To the above ends a coin hopper is provided equipped with a movable trap door for temporarily arresting the coins therein. The coin collector parts are arranged for such coöperation that the door may be interchangeably swung about any one of a plurality of separable pivots for the purpose of releasing the coins from their temporarily arrested position within the hopper and, without the necessity for other auxiliary apparatus, directing them in the desired direction.

The above and other objects of this invention will be fully set forth in the following description and claims, and will be more readily understood by reference to the accompanying drawing in which—

Figure 1 is an end elevation of the entire distributing mechanism, some of the supporting and inclosing walls of the coin collector being removed and in section in order to more clearly disclose the working parts; Fig. 2 is a side elevation of the mechanism shown in Fig. 1; Fig. 3 is a detail of the trap door and a part of the controlling mechanism shown in the position assumed when coins are to be retained; Fig. 4 is a detail of the trap door and a part of the controlling mechanism in refunding position; and Fig. 5 is a detail of the trap door shown in perspective.

The distributing mechanism is shown embodied in an electromagnetically controlled coin collector adapted to receive and dispose of one or a plurality of coins. An electromagnet 10 provided with a pivoted armature 11 serves as the controlling member, whereby the disposition of the deposited coins may be controlled from a distant point. A chute 12 joins a coin receiving hopper 13 with the outside of the coin collector housing and serves to direct the deposited coins to the arresting and directing mechanism. The lower end of the hopper 13 is guarded by a trap door 15 which serves as a closure therefor. This trap door 15 and the hopper 13 are provided with coöperating members which form interchangeable, separable bearings or pivots about which the trap door may be selectively rotated. Upon its opposite lower edges the hopper 13 is provided with downwardly extending projections 16 and 17 while the trap door 15 is equipped with corresponding curved pivot lugs 18 and 19. When the door 15 is in position to close the hopper 13 with its upper surface resting on the lower edges of the hopper, as clearly shown in Fig. 2, the pivot lugs 18 and 19 coöperate with the projections 16 and 17 respectively, which projections in this condition form guards to prevent any lateral displacement of the door which might otherwise be caused by the jar of the dropping coins. This construction may likewise be such that the upper surface of the door does not engage with the lower edge of the hopper, in which case the projections 16 and 17, being relatively longer than in the condition above described, not only serve as guards against lateral movement of the door, but act as stops against which the door normally rests. The projections 16 and 17 and their corresponding lugs 18 and 19 also coöperate to form bearings or pivots about which the trap door may be rotated to release the coins and direct them into the desired channel.

Beneath the door 15 and secured thereto is a curved track or cam 20. This cam 20 is curved so that its central portion is farther from the bottom of the door than the portions toward its ends, and is preferably provided with an extension at each end having a slight return bend. This construction is clearly shown in Figs. 2 to 5 inclusive. The cam 20 rests upon a roller 21 carried by a U-shaped lever 22 pivoted to the upper part of the hopper or frame at 23. A pin 24 projects from one side of the lever 22 in a position to be engaged by the bifurcated end of a lever 25 pivoted on the same pivots and movable by the armature 11. Normally, that is, when the armature 11 is in a sub-

stantially horizontal position, the roller 21 lies beneath the highest point of the cam 20 and holds the door 15 in position to close the hopper, as shown in Fig. 2. The purpose of the return bends on the outer ends of the cam 20 is to cause the roller 21 to assist in the rotating of the door 15 in case the weight of the coins therein is insufficient to produce the proper movement and rapidity of operation, and to act as an additional safeguard against the lateral displacement of the trap door during the rotation thereof. This construction, however, is in no wise necessary to the general features of the invention but merely shows a particularly efficient embodiment.

In operation the selective energization of electromagnet 10 causes the armature 11 to rotate in one direction or the other, carrying with it the lever 25. The lever 25, through the agency of the bifurcated end thereof and the pin 24, causes the U-shaped lever 22 to be selectively rotated about its pivot 23, removing the roller 21 from the highest point in the cam 20 to the right or the left thereof, as viewed in Figs. 2, 3 and 4. If, for example, the coin is to be retained, the electromagnet is so energized that the roller 21 is moved to the left as in Fig. 3. The roller 21 moving in the arc of a circle about the pivot 23 allows the righthand end of the trap door to fall away from the hopper, separating the pivot lug 19 and the projection 17, while holding the pivot lug 18 in engagement with the projection 16 to form the pivot. In case the parts are corroded or sticky, or the weight of the door 15 and the coins resting thereon is insufficient to cause the necessary movement, the door may not start to rotate about its pivot until the roller 21 engages the return bend at the end of the cam 20. The turning moment of this engagement, however, will cause the door to immediately operate. In case the coin is to be refunded, the electromagnet 10 is energized to cause the reverse movement of the armature 11, levers 25 and 22, and the roller 21, whereupon the projection 16 and the pivot lug 18 are separated, while the projection 17 and pivot lugs 19 form the pivot about which the door rotates, as shown in Fig. 4.

What I claim is:

1. A coin collector comprising a coin hopper, a trap door therefor for temporarily arresting the coins within said hopper, two separable bearings coöperating with said trap door, and means controlling the movement of said trap door about either of said bearings.

2. A coin collector comprising a controlling member, a coin hopper for temporarily holding the coins, a closure therefor movable to release the coins from said hopper, coöperating members associated with said hopper and said closure comprising a pair of separable pivots about which said closure is interchangeably movable, the mechanism being controlled by said controlling member.

3. In a coin collector the combination of a coin hopper, a trap door therefor for temporarily arresting the coins within said hopper, two independent sets of coöperating members for providing said trap door with double separable pivots about either of which said door can be moved, and means for controlling the movement of said trap door about either pivot.

4. In a coin collector the combination of a coin hopper, a double separably pivoted trap door for temporarily arresting the coins therein and afterward releasing and directing the coins therefrom, and means causing the selective rotation of said trap door about the pivots thereof for controlling the release and disposition of the temporarily arrested coins.

5. In a coin collector the combination of a coin hopper, a closure therefor for temporarily arresting the coins within said hopper, separable pivots located at opposite edges of said closure and about either of which said door can be caused to rotate, and means for normally holding said closure in arresting position and selecting the pivot about which said closure should rotate.

6. In a coin collector the combination of a coin hopper, projections extending therefrom, a trap door for said hopper for temporarily arresting the coins therein and afterward releasing and directing the coins therefrom, pivot lugs on opposite edges of said trap door for coöperating with said projections to form pivots about which said door can be rotated, a cam located beneath said door, and means coöperating with said cam for normally holding said door beneath said hopper and selectively rotating said door about either pivot.

7. In a coin collector the combination of a coin hopper, projections extending from the opposite lower edges thereof, a movable trap door for the bottom of said hopper for temporarily arresting the coins therein and afterward releasing and directing the coins therefrom in two different directions, pivot lugs on opposite edges of said door for cooperating with said projections to form stops and guards against which said door normally rests and pivots about which said door can be interchangeably rotated, a curved track secured to the under side of said door, an electrically controlled lever, and a roller carried thereby and resting against and operable upon said track whereby said door may be selectively rotated about one of the pivots to release and direct the coins.

8. In a coin collector the combination of a coin chute, a coin hopper located beneath

said chute, a movable trap door beneath said hopper for temporarily arresting the coins therein and afterward releasing and directing the coins therefrom in two different directions, projections on said hopper, pivot lugs on said door for coöperating with said projections to form pivots about which said door can be interchangeably rotated, a cam for said door, means coöperating with said cam for controlling the movement of said door, and return bends on said cam to assist said means in controlling the operation of said door.

In witness whereof, I hereunto subscribe my name this 21st day of November A. D., 1913.

JOHN J. LYNG.

Witnesses:
NANON E. TUTHILL,
ALICE HAZLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."