

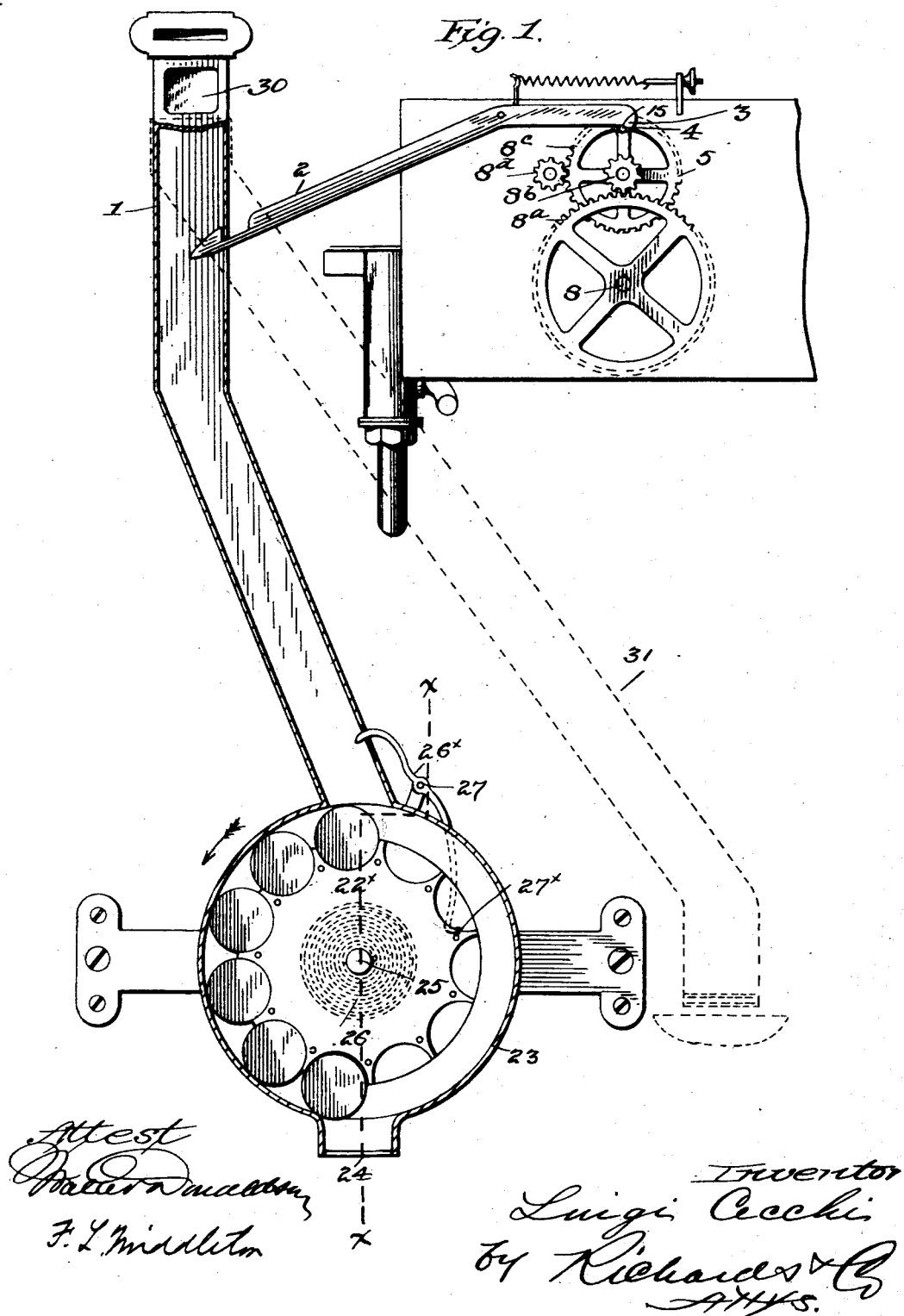
(No Model.)

3 Sheets—Sheet 1.

L. CECCHI.  
COIN FREED DELIVERY APPARATUS.

No. 525,692.

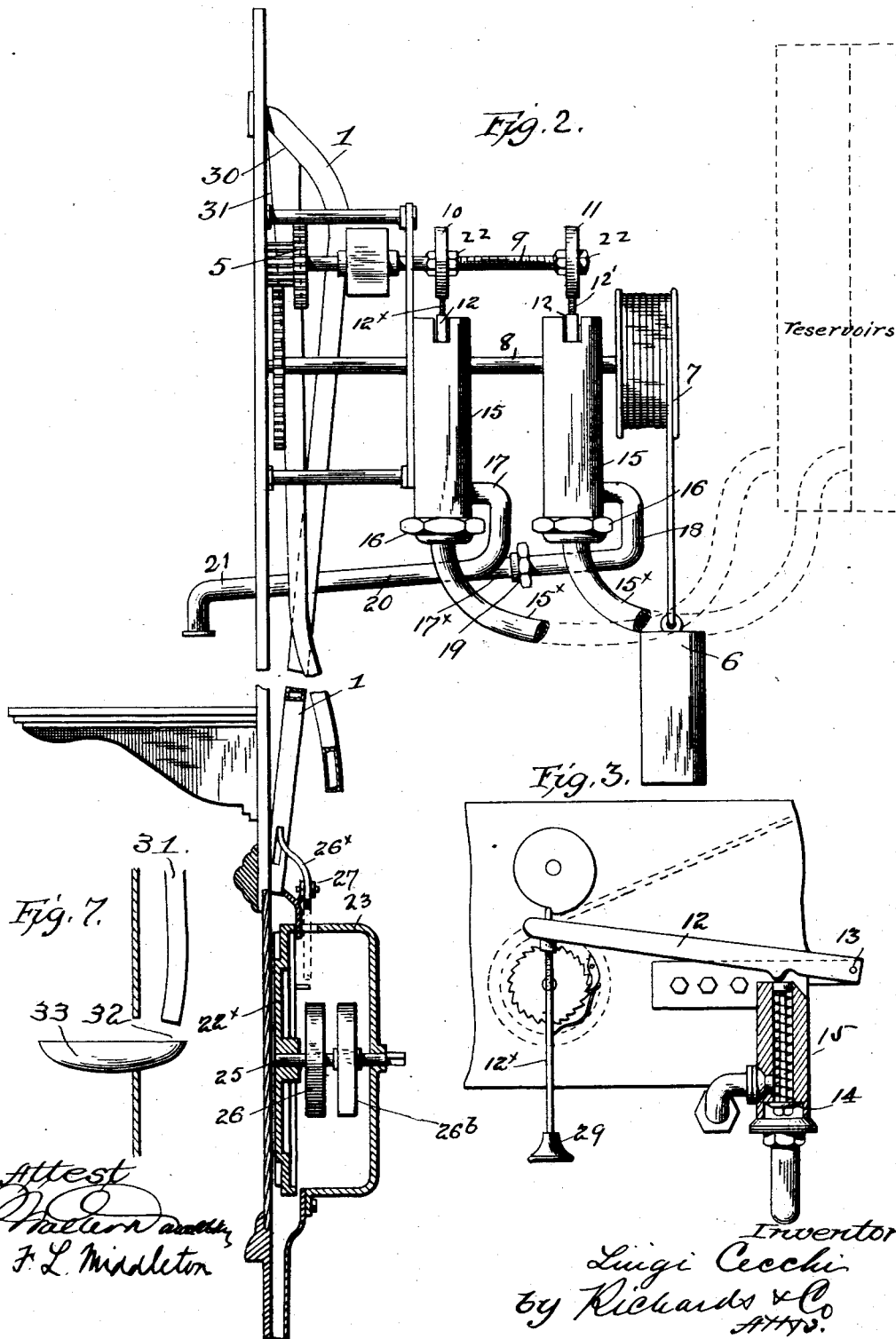
Patented Sept. 11, 1894.



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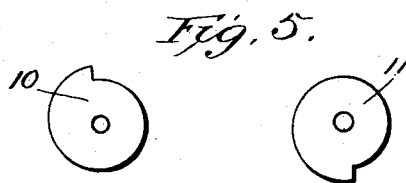
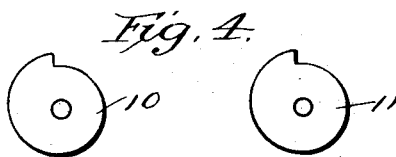
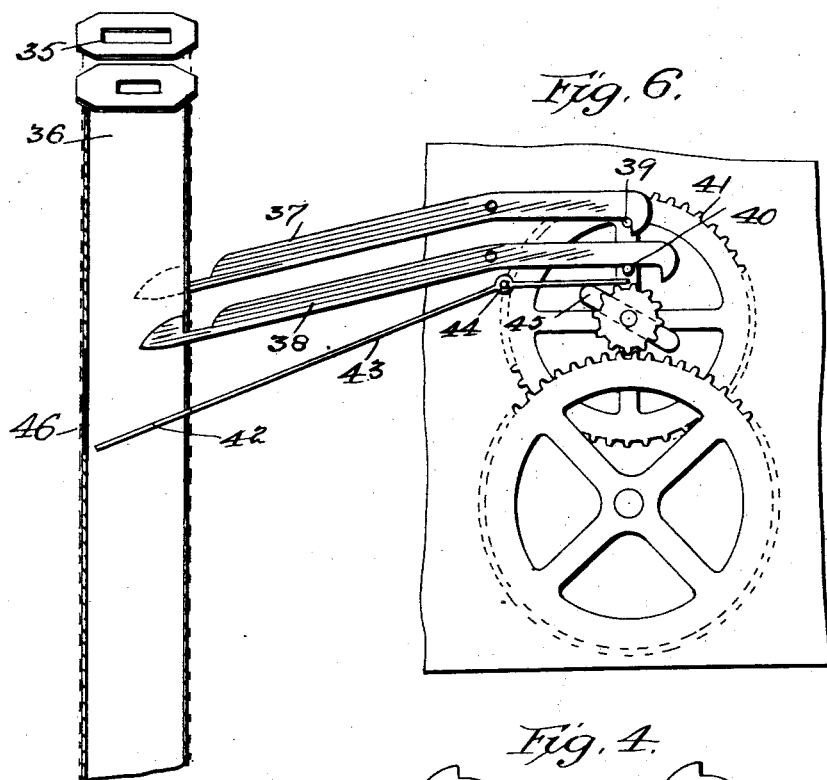
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Attys

# UNITED STATES PATENT OFFICE.

LUIGI CECCHI, OF GENOA, ITALY.

## COIN-FREED DELIVERY APPARATUS.

**SPECIFICATION** forming part of Letters Patent No. 525,692, dated September 11, 1894.

Application filed November 27, 1893. Serial No. 492,133. (No model.)

### *To all whom it may concern:*

Be it known that I, LUIGI CECCHI, a subject of the King of Italy, residing at Genoa, Italy, have invented certain new and useful  
5 Improvements in Coin-Freed Delivery Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

It is the object of my invention to provide  
10 a coin freed apparatus capable of delivering a liquid or liquids either separately or mixed and my invention includes a suitable number of reservoirs and valves which are operated through suitable mechanism upon the  
15 introduction of a coin to discharge the liquids from the reservoirs. In one form of machine the liquids from two or more reservoirs may be discharged simultaneously through the same faucet and therefore in mixed condition or by making a simple adjustment of one  
20 of the parts the machine may be adapted to discharge two or more liquids in succession through the same faucet, or through different faucets, it requiring only one coin to effect the discharge of the two liquids or series  
25 of liquids.

My object is further to provide a coin exhibitor with means for operating the same independently of the motor mechanism of the machine but yet under the control of the  
30 coin. Further I aim to provide means for securing the accurate operation of the valves by adjustment in regard to the quantity of liquid discharged and also for preventing an improper coin from operating any of the parts, said coin being returned to the purchaser or operator. I also aim to provide an  
35 improved arrangement of coin lever mechanism whereby the machine can be freed only by the insertion of two or more coins, and a  
40 safety device to prevent the wrong coin passing to the coin receptacle should it be inserted first and to return it to the purchaser.

In the drawings:—Figure 1, is a side view  
45 of some of the parts with other parts in section. Fig. 2, is a view partly in section of the mechanism of Fig. 1 a quarter turn from that of Fig. 1, said view being taken on line  $x-x$  of Fig. 1, with the pawl of the coin exhibitor shown in dotted lines. Fig. 3, is a  
50 detail view of the valve mechanism, and Figs. 4 and 5 show details. Fig. 6, is a detail view

showing a modified arrangement of coin lever mechanism requiring the insertion of two or more coins for operating the machine and  
the safety device before mentioned. Fig. 7,  
is a detail view of the cup for receiving the improper coins from the supplemental chute, this cup being in position to return the coin  
to the purchaser.

In the drawings the coin chute 1 conveys the coin to the lever 2 which it operates in passing so that the hook end 3 of said lever will be freed from the pin 4 on the wheel 5 the latter being connected to the motor mechanism through the gearing shown. This gearing comprises the gear 8<sup>a</sup> on the shaft 8, the pinion 8<sup>b</sup> connected to the gear 8<sup>c</sup> which carries the pins said gear 8<sup>c</sup> meshing with the pinion 8<sup>d</sup> which may be connected with any  
suitable form of flyer. This mechanism is operated by the weight 6 and drum 7 on the motor shaft 8 it being understood that the weight and drum may be replaced by a spring. On the same shaft 9 with the pin  
wheel 5 the cams 10, 11 are fixed to revolve therewith, in the way shown by Fig. 5, there being more than two cams if it is desired to vend more than two kinds of liquids. Each  
of these cams controls a valve lever 12 which  
has an adjustable screw threaded rod 12<sup>x</sup> bearing on the cam and these levers pivoted at 13 bear on the upper ends of the stems of the valves 14 which are preferably spring  
valves. These valves are located in separate  
valve boxes 15 and each controls the discharge of liquid from one reservoir. The  
pipes leading from the valve boxes to the reservoir are shown at 15<sup>x</sup> these being connected to the valve boxes by the screw  
threaded couplings 16. The discharge pipes 17 and 18 from the valve boxes join each other at 19 and thus lead through the common pipe 20 to the single faucet 21 so that  
when a coin is introduced and the cam shaft  
turned both valves will be opened simultaneously and a mixed liquid discharged. In  
order to make this connection at 19 the pipe 17 has a rearwardly extending nipple 17<sup>x</sup> to  
which the coupling 19 is attached. Now if it  
be desired to discharge either of the liquids separately and alone with the arrangement  
shown it is only necessary to throw either one  
or the other of the cams out of action and

then the discharge will take place from only one reservoir. This adjustment is effected simply by screw threading the shaft carrying the cams, and having the cams set in line with their respective levers by the nuts 22 on each side thereof, which being loosened either cam may be shifted along the shaft out of line with its lever and these held by screwing up the nuts again, said cam being thus out of action. If on the other hand it is desired to discharge all the liquids separately yet in quick succession and by the introduction of only one coin then the cams are adjusted relatively to each other as shown in Fig. 4, so that while the high part of one is acting the high part of the other has ceased to act thus opening the valves in succession and alternately.

Fig. 5, shows the cams in relative position to discharge both liquids simultaneously and in mixed condition upon the insertion of a single coin. It will be of course understood that the discharge from the two reservoirs and valve boxes may be through separate faucets either simultaneously or in succession and for this purpose each valve box instead of being joined to each other as at 19 may have its separate discharge pipe.

The coin exhibitor consists of a disk or wheel 22<sup>x</sup> having pockets for receiving the coins as they fall from the chute and adapted to carry them around within the casing 23 at the lower end of the chute to deliver them to the opening 24 at the lower part thereof for their discharge into a suitable receptacle. This exhibitor is on a shaft 25 under tension of coiled spring 26 tending to rotate it, and it is released so as to rotate for instance in the direction of the arrow Fig. 1, by the coin striking the inner end of the lever 26<sup>x</sup> pivoted at 27 and projecting inside the chute, and when so struck by the coin the lower end of the lever is withdrawn from the stop pin 27<sup>x</sup> on the coin wheel leaving the same free to revolve under the action of the spring. A suitable flie 26<sup>b</sup> may be fixed on the shaft 25 to regulate the action of the spring. The lever 26<sup>x</sup> may engage the teeth of the coin wheel instead of the stop pins thereon or any other suitable toothed wheel connected with the coin wheel. It will be seen from this that the operation of the coin exhibitor depends entirely upon the passage of the coin and it is independent of the motor mechanism. As soon as the lever 26<sup>x</sup> is released and the coin passes to the exhibitor it drops back into place again so as to engage the next stop pin or tooth, thus holding the exhibitor until another coin is introduced. A weight may be used to operate the coin disk instead of the spring. By the use of the threaded bar in the valve lever bearing on the cam, the opening and closing of the discharge valve may be regulated to a nicety so as to control the quantity of liquid discharged, the adjustment being effected by turning the threaded bar by the head 29, Fig. 3.

In order to prevent improper coins from passing through the main coin chute I have provided an opening in the chute at 30 near the coin slot and through this all coins of smaller size will fall into the supplemental chute 31 which conveys it to the opening 32 in the casing where it falls into a cup 33 accessible to the purchaser or operator who will thus have the improper coin returned to him.

In Fig. 6, I have shown a modified arrangement of coin lever mechanism so that the machine can be freed for operation only by inserting two or more coins, as in the sale of many articles, this is necessary or desirable. This mechanism consists of two coin chutes 35, 36 one of which for instance 35 may be for nickels and the other 36 for dimes and these chutes have the independent coin levers 37—38 the former of which for the chute 35 engages the pin 39 on the stop wheel 41 while the other engages a second pin 40. These pins are in different radial positions and the levers are not of the same length so that the hook end of one lever stands at a slight distance from its pin while the hook end of the other engages its pin. By this arrangement when the coin to be used first, for instance, a nickel is inserted in the chute 35, the lever 37 will be operated and withdrawn from the pin 39 of the stop wheel thus allowing the same to move under the action of the motor mechanism until the other stop pin 40 engages the other coin lever 38 of the chute 36 which we suppose is to receive a dime. The stop wheel will thus be arrested and the movement has been so slight that the cam has not been turned sufficiently to operate the valve and it requires the insertion of the second coin, that is the dime before the stop wheel is fully released from the coin lever mechanism and when this second coin is introduced the cam will be turned completely and the valve operated. Two or more coin levers and two or more chutes may be used.

In order to prevent mistakes or loss to the purchaser by reason of a wrong insertion I have provided a safety device to prevent the coin thus inserted from passing to the coin receptacle and also for returning said coin to the purchaser. Supposing the coin lever mechanism is arranged so that the nickel should be inserted first then the dime coin chute is provided with a trap or shutter 42, Fig. 6, adapted to close the dime coin chute against the passage of the coin into the machine and to act as a deflector to return the same to the purchaser. This shutter is carried on a lever 43 pivoted at 44, and having its rear end bearing on a cam 45 on the shaft of the stop wheel. In the normal position of the parts this shutter extends in inclined position across the dime coin chute and to an opening 46 therein so that should the dime be inadvertently inserted first it will be deflected out of the main coin chute and returned to the purchaser through a supplemental chute provided for the purpose. If, however, the

proper coin, i. e., the nickel is inserted first the first coin lever corresponding thereto will be operated and the stop wheel and its shaft released. The shutter cam 45 will thus be turned and the shutter lever operated to turn the same down and open the dime chute. This takes place at the same time that the dime lever engages with its stop and the movement is thus arrested leaving the dime chute open, and when the dime is inserted the complete operation takes place as before described all the parts returning to normal position for a fresh operation.

It will be evident that the double action for two or more coins as above described may be accomplished by using a single coin lever and two or more stops or projections on the same stop wheel, the cam for operating the valve being so arranged that it requires two or more operations of the coin lever before the valve can be operated. Only one chute is required in this case. Two or more stops may be arranged on different wheels if desired it being only necessary that they act in succession.

While I have described the operation in connection with two coins as the nickel and dime it must be clear that any other combination of coins may be used as coins of the same value and size. The term "coin" as used herein is meant to cover any disk or equivalent device for operating the coin lever mechanism by dropping it in the coin chute.

I claim—

1. In a coin freed liquid delivery apparatus, for dispensing drinks the combination of the plurality of reservoirs, the valves, the motor mechanism having connection with the valves for operating them the discharge leading directly from the valves to the delivery point outside the machine whereby the liquid from both reservoirs may be delivered to the purchaser and the coin lever for controlling the motor mechanism, substantially as described.

2. In combination, in a coin freed liquid delivery apparatus for dispensing drinks the plurality of reservoirs, the valve mechanism, the coin lever, the means for operating the valve mechanism controlled by the coin lever, and the single discharge leading directly from the valve mechanism to the delivery point outside the machine whereby the liquids may be delivered to the purchaser in mixed condition, substantially as described.

3. In combination, the plurality of reservoirs, the valve mechanism controlling the discharge from the same comprising the plurality of valves, the coin lever, the motor mechanism, the single discharge from the valves and the connections for operating the valves, said connections being adjustable whereby one valve may be operated after the other to discharge the liquids in succession, substantially as described.

4. In combination, the reservoirs, the plurality of valves, the coin lever, the motor mechanism controlled thereby the independ-

ent operating devices between the motor mechanism and the valves, said devices being arranged to be thrown out of action whereby the discharge may take place from only one reservoir, substantially as described.

5. In combination, the plurality of reservoirs, the independent valves therefor, the cam and cam levers for operating the valves, the shaft carrying the said cams the motor mechanism for operating the cam shaft and the coin lever for controlling the motor mechanism, said cams being independently adjustable on the cam shaft, substantially as described.

6. In combination, the plurality of reservoirs, the independent valves therefor, the cam shaft, the motor mechanism the coin lever controlling the same, and the cams on the cam shaft adjustable longitudinally thereof to be thrown out of action, substantially as described.

7. In combination, the plurality of reservoirs, the independent valves therefor, the cam shaft, the motor mechanism, the coin lever controlling the same, and the cams on the cam shaft adjustable circumferentially about the same, substantially as described.

8. In combination in a coin freed apparatus, the coin exhibitor, the spring for placing the same under tension the main motor mechanism with its coin lever, the independent motor mechanism for moving the coin exhibitor and the coin lever for releasing the same, substantially as described.

9. In combination in a coin freed apparatus, the coin exhibitor consisting of the rotary disk having pockets for the coin, the means for rotating the disk and the means for controlling the same consisting of the coin lever arranged to engage a portion of the rotary disk directly, substantially as described.

10. In a coin freed apparatus, the main operating mechanism with its motor, the rotary coin exhibitor having independent means for rotating it, the means for controlling the same arranged to be released by the introduction of a coin and the coin chute to lead the coin to both the main mechanism and to the supplemental mechanism substantially as described.

11. In a coin freed apparatus the combination of the plurality of stops arranged in different positions to act in succession and the plurality of coin levers one for each stop, whereby the mechanism can be freed only by the insertion of a plurality of coins, the second coin lever being maintained normally to stop the mechanism when it is released from the first substantially as described.

12. In a coin freed apparatus, the combination of the plurality of stops arranged in different positions to act in succession, the plurality of coin levers one for each stop, the second coin lever being maintained normally to stop the mechanism when it is released from the first and the plurality of chutes one for each lever, substantially as described.

13. In a coin freed apparatus, the plurality  
of coin chutes, the plurality of coin levers,  
the mechanisms controlled thereby to be re-  
leased only upon the insertion of a plurality  
5 of coins, and the safety shutter and deflector  
with means for operating the same when a  
coin or coins are inserted in the other chute  
or chutes, substantially as described.

14. In a coin freed apparatus, the two or  
10 more coin chutes, the plurality of coin levers,  
the stop wheel having the stops one for each

lever, the safety shutter, for one of the chutes,  
the lever carrying the same and the cam on  
the stop wheel shaft for operating the shut-  
ter lever, substantially as described.

In testimony whereof I affix my signature in  
presence of two witnesses.

LUIGI CECCHI.

Witnesses:

JOS. FORREST,

F. L. MIDDLETON.