

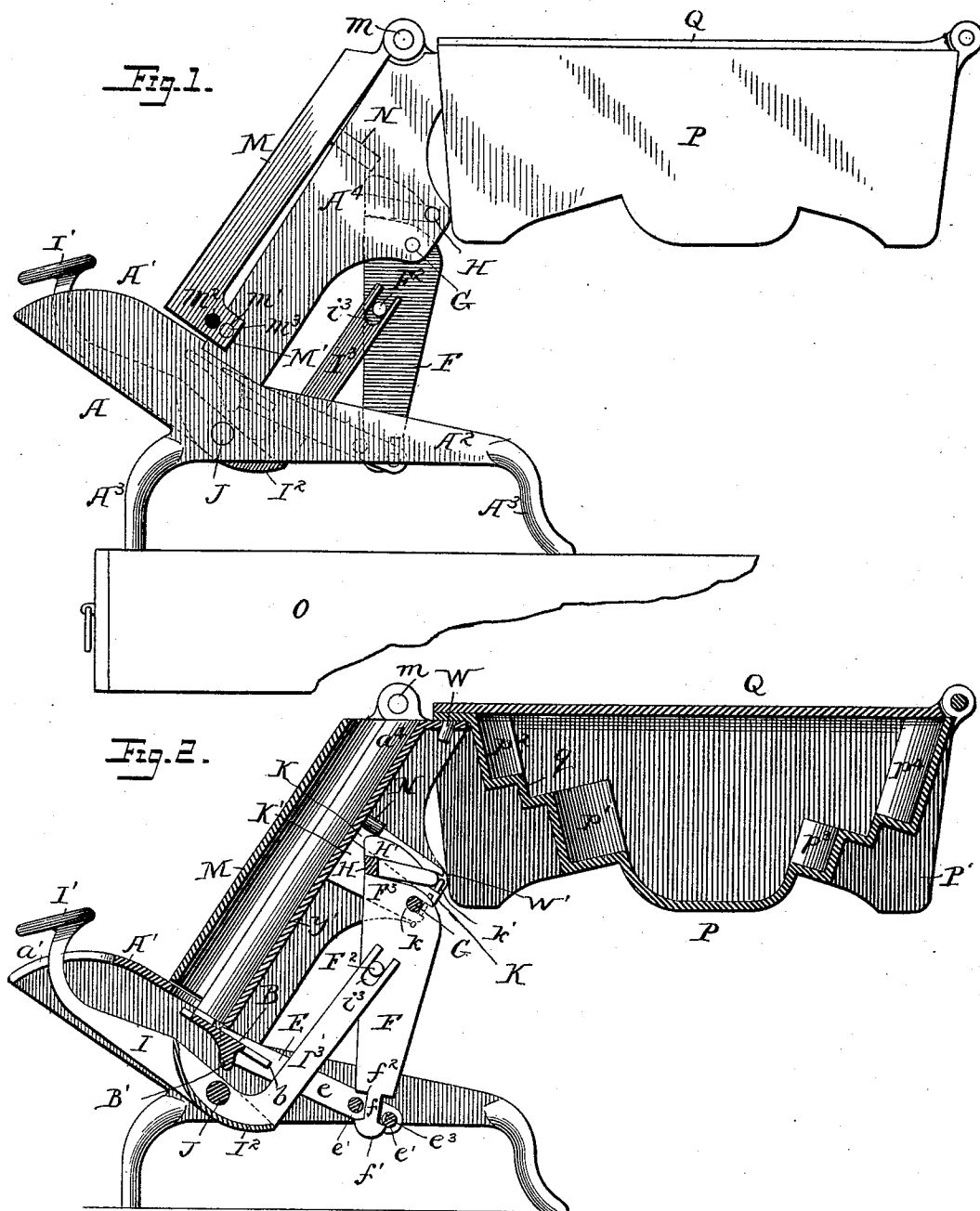
(No Model.)

3 Sheets—Sheet 1.

J. ADAMS.
MONEY CHANGER.

No. 483,973.

Patented Oct. 4, 1892.



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Fig. 3.

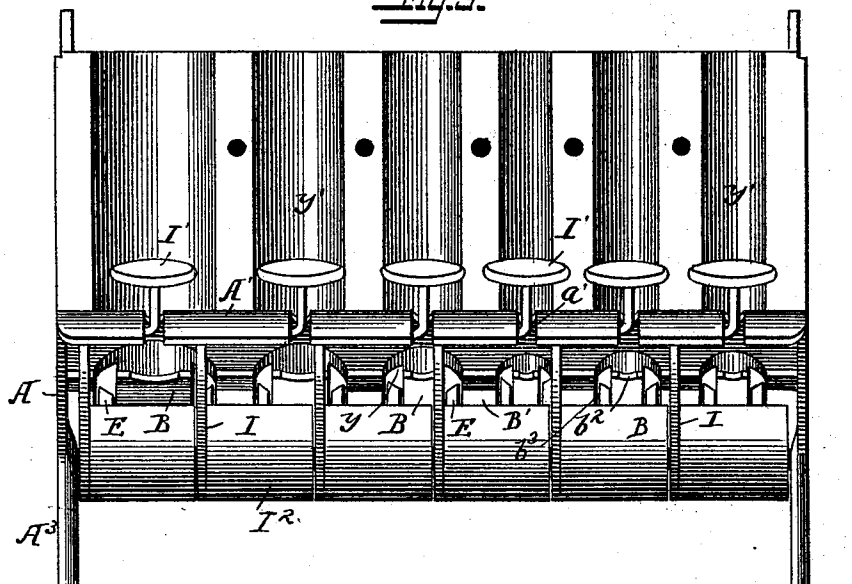
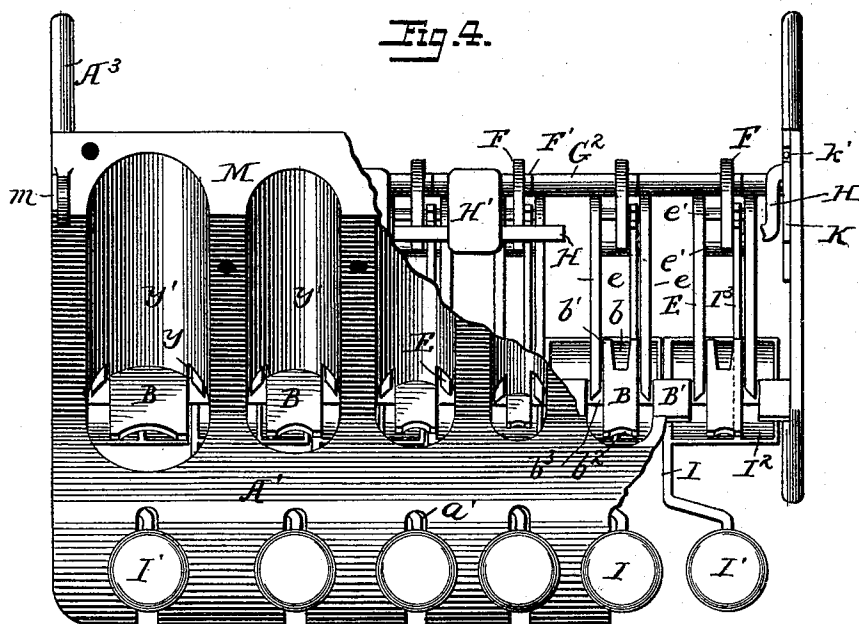


Fig. 4.



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Fig. 5.

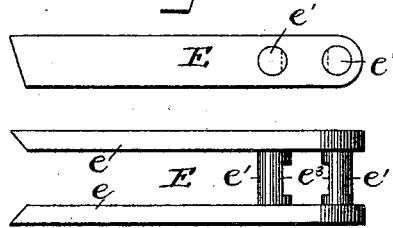


Fig. 6.

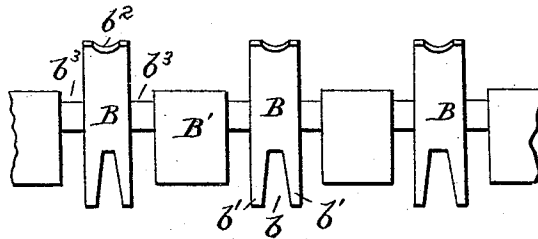


Fig. 7.

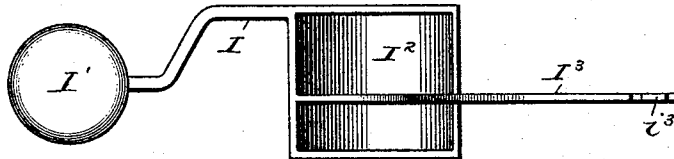
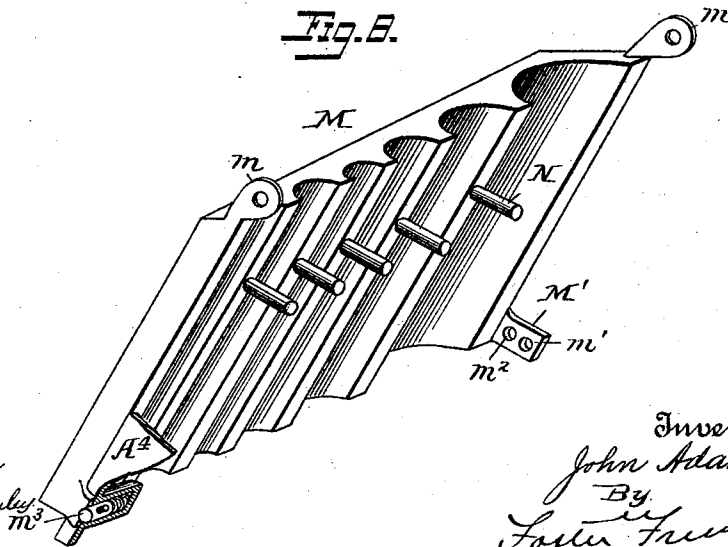


Fig. 8.



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UNITED STATES PATENT OFFICE.

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MONEY-CHANGER.

SPECIFICATION forming part of Letters Patent No. 483,973, dated October 4, 1892.

Application filed September 14, 1891. Serial No. 405,692. (No model.)

To all whom it may concern:

Be it known that I, JOHN ADAMS, a citizen of the United States, residing in Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Money-Changers, of which the following is a specification.

My invention relates to money-changers, and has for its object to improve and simplify the construction and mode of operation of said devices and to provide a money-changer which shall be effective and practical in operation, as well as cheap in construction; and to these ends my invention consists in a money-changer embodying features of construction and arrangement of parts and mode of operation substantially as is hereinafter more particularly set forth.

Referring to the drawings, in which I have illustrated the preferred embodiment of my invention, Figure 1 is a side view of the money-changer and coin-tray. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a front elevation of the changer; and Fig. 4 is a plan view, parts being broken to better show the operative mechanism. Fig. 5 is a plan and side view of the ejector, enlarged. Fig. 6 is an enlarged view of the platforms and their supporting-bar. Fig. 7 is an enlarged plan view of the crank-levers, and Fig. 8 is a perspective showing the cover and the latching device therefor.

The frame of the machine, which is preferably made of metal and cast in one piece, consists of a bed-plate A, having a curved upper surface or table A' and extending at an upward angle from the main body A², and the whole rests upon legs A³, which are preferably curved outwardly to form a suitable and stable support for the device. Rising from the table at an incline is the coin-holder A⁴, having semicircular recesses a⁴ in its outer surface adapted to receive and support columns of coins of various sizes.

Beneath the inclined coin-holder is a platform B, which is arranged below the bottom of the coin-holder the thickness of a coin or more than one if several are to be ejected at once, and this table serves to support the coins in the recesses of the holder and to allow any one or more to be pressed out from the bottom of the column in the manner hereinafter set

forth. The platform B rests on or may be a part of the platform-bar B', it being shown as integral therewith in the present instance, and is arranged below and at the rear of the back wall of the coin-holder, the portion of the table A' between the recessed columns being connected to it and bracing it. The platforms B project backward to the rear of the platform-bar B', and are preferably slotted at b to admit the perpendicular arm of the crank-lever, the extending sides b' forming guides for the ejector hereinafter described, while the front edges of the platforms are curved, as shown at b², to allow the coin to readily pass over from the platforms and drop into the hand of the operator. The platform-bar B' is secured to the sides of the frame and is notched, as shown at b³, to allow the passage of the ejectors hereinafter described.

The ejectors E are formed by connecting two parallel bars e e at or near their ends by two parallel rods e' e', and the adjacent faces of these rods, near their centers, have slots or cut-away portions e³. These ejectors are preferably made of some metal—as cast-iron, for instance—and are simple straight bars having smooth surfaces, so that they will move without extra friction, and they pass through the notches b³ in the platform-bar B', and are of sufficient thickness to rise above the platforms B preferably about two-thirds the thickness of the coin to be ejected, and the ends of the bars engaging the coin are beveled laterally as well as vertically, as clearly shown in the drawings, Figs. 3 and 4, forming edges which engage the edge of the coin near its greatest diameter, and thereby holding it firmly until the coin is pushed over the platform, the lateral beveled faces engaging the periphery of the coin at opposite sides of the center and preventing lateral movement, while the vertical beveled portion of the ejector prevents the coin tilting vertically. The ejector in this form engages only the lowermost coin or coins in the coin-holder and moves them forward until they pass beyond the edge of the platform B, when they drop into the hands of the operator or otherwise. In order that the ejector may be returned to its normal position with the least friction when the weight of the remaining coins in the recess rests upon it, I make the joint between the ejector and its

operating-lever F a loose joint, so that the ejector can be depressed at front in its return movement. Thus the back lever F is shown as having a reduced connection f and an enlargement f' beyond, and this reduced connection extends between the rods $e' e'$ of the ejector, allowing freedom of action and producing the least friction, and at the same time the height of the forward end of the ejector, where it engages the coin, can be regulated by the size of the slots f^2 , which will cause the front end of the ejector to be tilted upward a sufficient distance to engage the coin or coins to be ejected from the coin-recess. It will thus be seen that I produce an ejector which is simple in construction and at the same time can be operated certainly and positively, producing no unnecessary friction of the parts.

As before intimated, the ejectors are connected to the back levers F, and these consist of flat plates, the projections f' of which are inserted flatwise between the parallel rods e' of the ejector until the notches f^2 of the back levers engage the slots e^3 , when the ejector is given a half-turn and the ejectors and back levers are connected together. These levers are pivoted upon the lever-rod G, extending across the machine, and each lever is preferably provided with a thickened portion or collar F' , so as to furnish a good substantial and rigid bearing on the rod G. Each lever is provided with a laterally-extending pin F^2 , by means of which it is operated in a manner hereinafter set forth.

Arranged above the rod G is a crank-lever H, the forward portion of which extends over and rests upon the upper front corners F^3 of the back levers, and this crank-lever is provided with one or more weights H' , which tend to cause the back levers to swing to the rear to withdraw the ejectors. The rod G and weighted crank-rod H are preferably mounted in thickened portions of the end walls, the ends of the rods butting against the outside wall preventing lateral motion of the rods, and these thickened portions K are provided with recesses k to receive the rods, they being held in position by pins k' , and between the ends of the rods I attach projections K' to the rear of the coin-case, which are also provided with similar bearings for the ejector-rod, so that it will be retained in proper alignment, and not become distorted in the operation of the device.

The back levers F are preferably spaced on the rod G by collars or tubes G^2 , which permit the free movement of the levers in their proper planes.

In order to operate the back levers, and thereby the ejectors, I provide crank-levers I, which are mounted upon a rod J, extending from side to side of the frame. The front portion of these crank-levers extends through slots a' in the table A' , and are provided with suitable buttons I' , by means of which they are operated. The body portion

of these crank-levers is made substantially rectangular in outline, as clearly shown in Fig. 4, and the under portion is rounded or circular, as shown at I^2 , and it will be seen that the body portion of the crank-levers, filling the entire space between the side walls of the money-changer, and being curved or circular on the under side, the fingers of the operator can more readily or easily grasp it when the thumb presses the buttons I' , thereby forming a sort of fulcrum for the hand of the operator, and, further, the hand is in proper position to receive the coins ejected from the holder. Furthermore, the rectangular body portion of the crank-lever furnishes three bearings for each on the shaft J, thereby securing correct and uniform action with little friction. Extending from the rear portion of the body and at substantial right angles thereto is the arm I^3 , the upper end of which is bifurcated at i^3 to engage the pins F^2 , extending from the sides of the back levers F, and by which the levers and their connected ejectors are operated.

In order to retain the coins in the recesses of the coin-holder and prevent their being surreptitiously taken or otherwise disturbed, I provide a cover M for the coin-holder, which is preferably pivoted at the top, as at m , and is provided with reversed recesses corresponding to the recesses in the coin-holder. This cover is provided with a rearwardly-extending lip M' , having two openings $m' m^2$, which are arranged to engage a spring-bolt m^3 at each end of the frame and by means of which the cover may be held closely in its closed position (shown in Fig. 2) or slightly extending forward, as shown in Fig. 1, so that in the latter instance it cannot in any way interfere with the movements of the coins when they are being ejected and at the same time protect their being disturbed.

Extending rearwardly from the cover are one or more pins N, which pass through suitable openings in the rear portion of the coin-holder, and when the cover is in the position shown in Fig. 2 the pins extend over the weights H' of the weighted crank-rod and prevent its rising, and it will be seen that in this position the back levers are all locked in their normal position and cannot be moved to operate the ejectors and draw out the coins. When, however, the cover is raised to the position shown in Fig. 1, the projections N^2 are withdrawn from the weights and the levers may be operated to discharge the coin.

The money-changer is preferably mounted upon a suitable money-drawer for the reception of bills, and this drawer, which is indicated by the lines O, may be of any suitable or desired construction. I also provide a coin-tray for the reception of the reserve amount of coin, and this is shown as a deep dish-shaped receptacle P, having a concaved surface, with the opposite sides facing each other, formed with a series of steps or recesses $p' p^2$, &c. The walls of these recesses are of suffi-

cient height to hold a definite number of coins of a certain character and the walls are shaped accordingly to embrace the coins. Thus, for instance, the recess p' may be adapted to hold a certain number of dollars, and above this be ranged a recess p^2 for dimes, for instance, and between the two there is a step q , which furnishes a ready means for grasping the coins in removing them from the tray. The opposite side of the tray is similarly recessed to receive other coins, and between them the depressed curved portion may form a receptacle for miscellaneous coins.

The end walls P' of the coin-tray are extended beyond the recessed side walls of the tray and form rests or feet for the tray when detached from the money-changer, and a suitable cover Q is preferably hinged to the rear of the tray. The tray may be supported upon the upper portion of the coin-holder of the money-changer secured thereto by pins W , passing through openings in the top of the coin-holder, the front portion of the ends bearing against the rear portion of the coin-holder, as at W' , and serving to maintain the coin-tray in a horizontal position. The tray being of the peculiar formation, having circular openings and few angles, is easily molded and can be formed or cast in a single piece ready for use.

Such being the general construction of my device, its operation will be readily understood by those skilled in the art and need not be set forth in detail, and it will be seen that I make use of the principle of gravitation in the construction and operation of this machine. It will be seen that the coin-holders are placed at an angle, so that the coins are normally held in proper position by gravity, and the ejectors, working at substantially right angles with the coin-holders, are returned to their normal position by gravity; but to insure more positive action when, for instance, the columns are full of coin I make use of the weighted crank-bar operating on the back levers to force them to their positions and to withdraw the ejectors and restore the crank-lever to their normal position, and I thus avoid the use of all springs. Moreover, this is a further advantage in having a single weighted bar to operate all the levers, as it will require less power to move the ejectors when, for instance, several are moved simultaneously, as a single weight will restore them all to their normal position, instead of having to depress three independent retaining-springs. It will further be seen that the parts of the device are simple and easily constructed, and when arranged and connected together they present little friction and are easily operated.

While I have thus described the preferred embodiment of my invention, it will be understood that the details of construction and operation may be varied somewhat by those skilled in the art without departing from the spirit of my invention. I do not, therefore,

limit myself to the precise construction and arrangement of parts illustrated.

What I claim is—

1. In a money-changer, the combination, with the coin-holders, of the ejectors and levers for operating the ejectors and a weighted bar for restoring the ejectors to their normal position, substantially as described.

2. In a money-changer, the combination, with the coin-holders and ejectors, of pivoted levers connected to the ejectors and a weighted crank-arm normally resting on said levers and tending to restore the ejectors, substantially as described.

3. In a money-changer, the combination, with the coin-holder and the ejectors, of the pivotally-supported levers loosely connected to the ejectors and a weight resting on the levers, substantially as described.

4. In a money-changer, the combination, with the coin-holder, of the ejectors, each ejector consisting of two side bars having ends beveled laterally and vertically, the side bars being connected by two rods near their rear ends, substantially as described.

5. In a money-changer, the combination of the ejectors, each comprising two side bars connected by two rods, the rods being notched on their inner sides, and the levers provided with notched ends adapted to engage the rods of the ejectors, substantially as described.

6. In a money-changer, the combination, with the coin-holders, of a notched platform-supporting bar, platforms thereon, and ejectors, each comprising two side bars passing through the notches, substantially as described.

7. In a money-changer, the combination, with the coin-holders, of the notched platform-supporting bar, platforms thereon, and the ejectors, the side bars of which pass through the notches and embrace the platform, the platforms being slotted at their rear to admit the crank-levers and having extending ends forming guides for the ejectors, substantially as described.

8. In a money-changer, the combination, with the coin-holders, of the crank-levers, each lever being provided with a substantially-rectangular body portion having a curved under surface, an arm projecting therefrom at substantially-right angles and provided with a bifurcated end, and a laterally-bent operating-lever carrying a button secured to the body portion, substantially as described.

9. In a money-changer, in combination with a supporting-rod, a crank-lever having a central body of substantially-rectangular form with a curved under portion and provided with an arm extending at substantial right angles to the body portion, the body portion forming three bearings for the rod upon which it is mounted, substantially as described.

10. In a money-changer, the combination, with the frame having a curved slotted table,

the coin-holders rising from the table, and a series of crank-levers, each lever provided with a laterally-bent operating-arm extending through the slotted table and carrying a button, of a substantially-rectangular body portion having a curved under surface, and an arm extending from the body portion at substantial right angles thereto, substantially as described.

10 11. In a money-changer, the combination of the coin-holder having a series of recesses, the platforms arranged beneath the recesses, the ejectors sliding beneath the coin-holders and guided by the platforms, the pivoted
15 back levers loosely connected to the ejectors, the weighted crank-arm bearing on the levers, and the crank-levers connected to operate the back levers, substantially as described.

20 12. In a money-changer, the combination, with the coin-holders, of a cover pivoted thereto, the cover being recessed to correspond with the coin-chamber and provided with lips having perforations, and spring-bolts on the frame of the money-changer, adapted to engage the
25 perforations, substantially as described.

13. In a money-changer, the combination, with the coin-holder, the ejector therefor, the levers operating the ejectors, and the weighted crank-arm for the levers, of a cover for the
30 coin-holder, the cover being provided with projections passing through the coin-holder and engaging the weighted crank-arm, substantially as described.

35 14. In a money-changer, the combination, with the coin-holders, of the ejectors, levers for operating the ejectors, a weighted crank-

arm for restoring the ejectors to their normal position, and means for locking the weighted crank-arm, substantially as described.

15. In a money-changer, the combination, 40 with the base and inclined coin-holders, platforms for the coin-holders, the ejectors, the levers operating the ejectors, and the crank-levers for operating the ejector-levers, of the weighted crank-arm, whereby the parts are 45 normally restored to their respective positions by gravity, substantially as described.

16. In a money-changer, a coin-tray provided with a series of semicircular recesses arranged on opposite sides thereof, the re- 50 cesses being separated by steps, substantially as described.

17. In a money-changer, a coin-tray provided with a series of recesses arranged on opposite sides thereof, with a recess at the 55 bottom of the tray and steps between the recesses, substantially as described.

18. In a money-changer, a coin-tray comprising the end walls forming supports for the tray, the sides provided with a series of 60 semicircular recesses for the coins, steps between the recesses, and a central depression between the series of recesses, substantially as described.

In testimony whereof I have signed my 65 name to this specification in the presence of two subscribing witnesses.

JOHN ADAMS.

Witnesses:

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J. ELWOOD DUNN.