Aug. 3, 1948. H. H. LANNOM 2,446,182

CORRECT MONEY CHANGER

Filed Nov. 16, 1945 3 Sheets-Sheet 1

FIG.-1

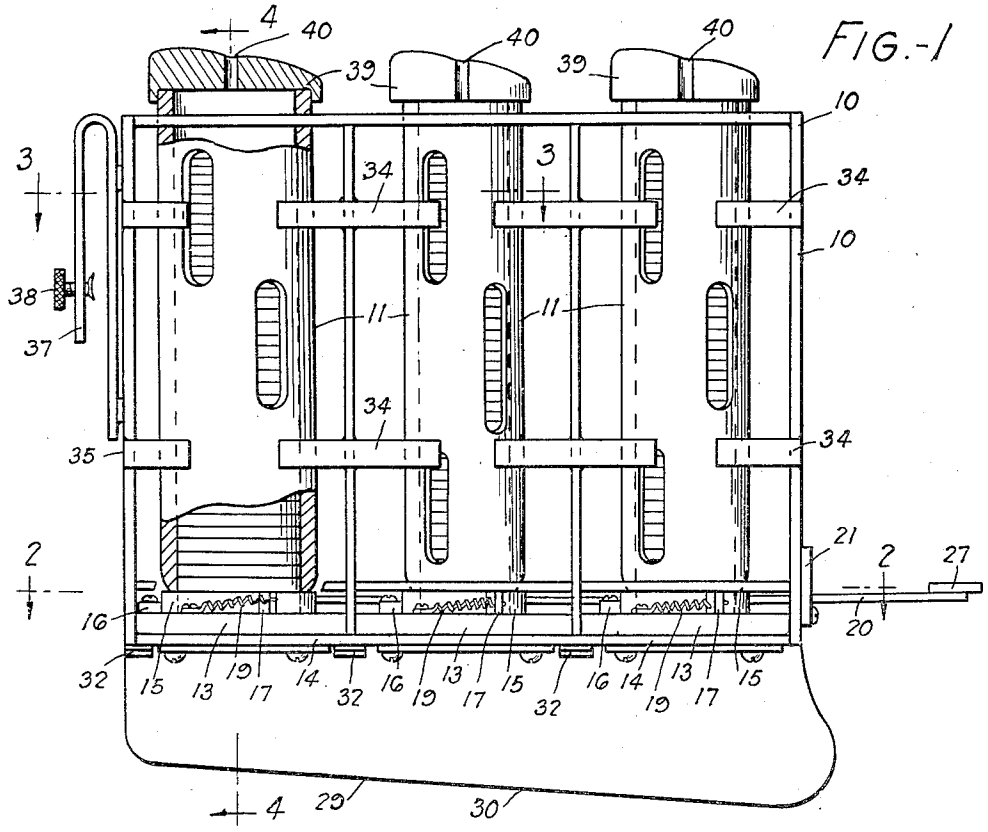



FIG.-6

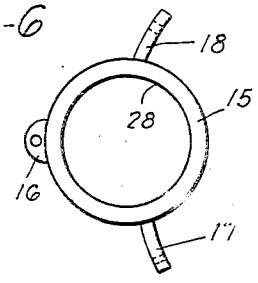



FIG.-7

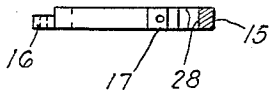



FIG.-9

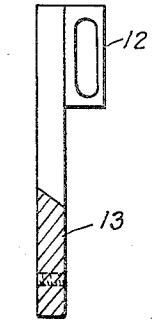
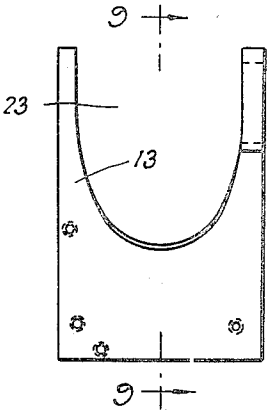



FIG.-8




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CORRECT MONEY CHANGER

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FIG.-2

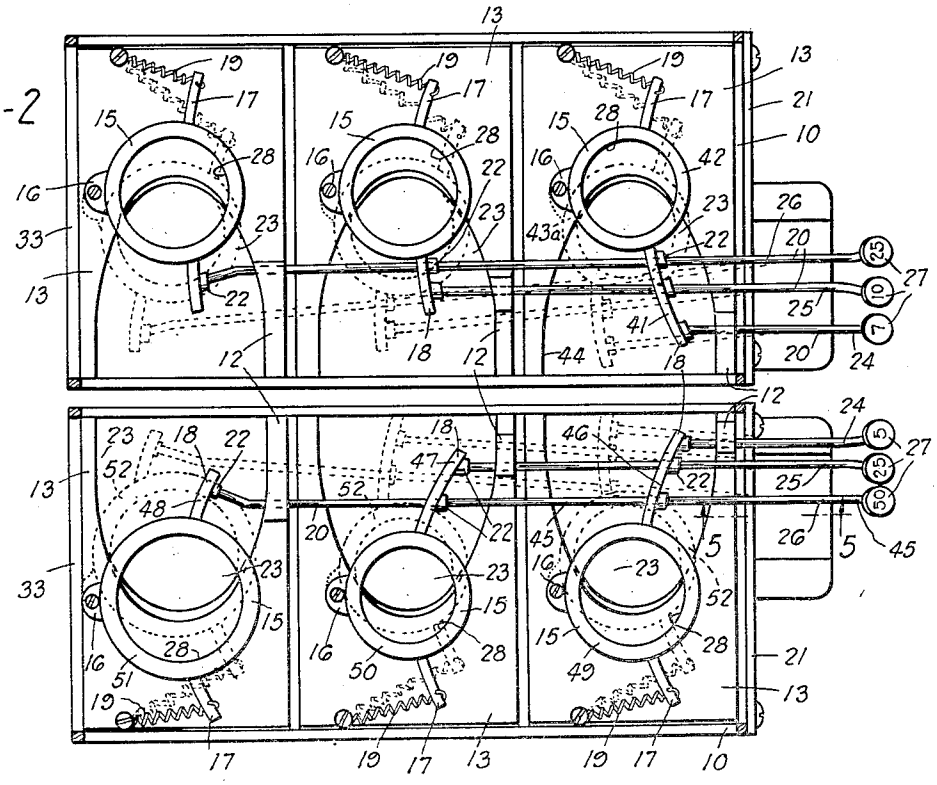


FIG.-3

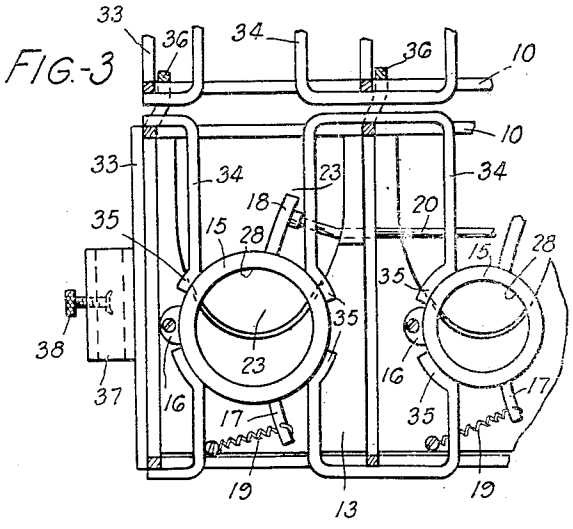
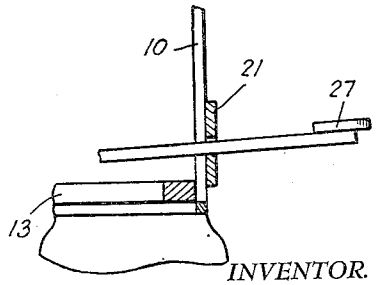


FIG.-5



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CORRECT MONEY CHANGER

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FIG.-4

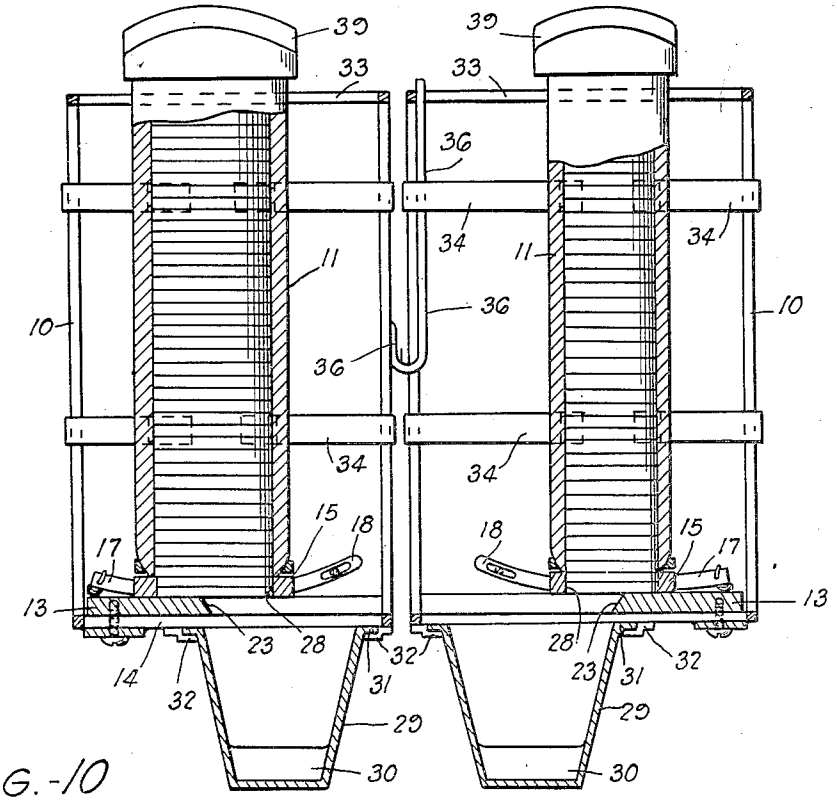



FIG.-10

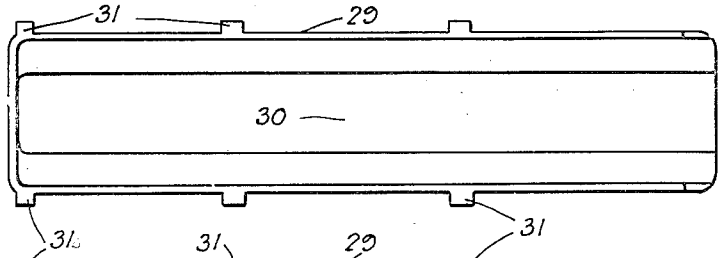
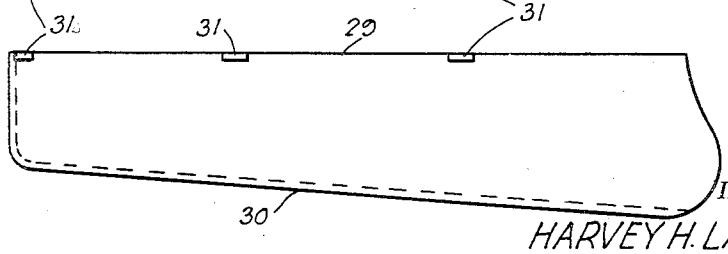



FIG.-11




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2,446,182

# UNITED STATES PATENT OFFICE

2,446,182

## CORRECT MONEY CHANGER

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Application November 16, 1945, Serial No. 629,043

4 Claims. (Cl. 133—4)

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This invention relates to apparatus for use in changing money and is more specially designed for use on public conveyances, in ticket offices and where ever it is desired to make change quickly and accurately.

In order to discharge a correct amount of change from most money changers in current use it is necessary to first perform a mental calculation of the number of coins of each denomination that are necessary to constitute the total amount of change desired. As a result errors are frequently made which are time consuming and often costly.

This invention provides a correct money changer by means of which a sum of money involving several coins of different denominations may be delivered to the operator at the pushing of a single key bearing figures thereon corresponding to that sum of money.

The invention will be better understood from the following detailed description of a preferred embodiment thereof with reference to the accompanying drawings in which:

Figure 1 is a side view of the money changer showing the frame, the various money holders, the keys and the money slide;

Figure 2 is a view in section along the lines 2—2 of Figure 1 and shows the direction of movement of the ring-shaped coin delivering plates as they are placed over the openings in the bottom member to discharge the coins held within each of said plates;

Figure 3 is a top view of a section of the money changer and shows the spring clips attached to the frame which are for maintaining the coin holders in vertical positions;

Figure 4 is a view in section along line 4—4 of Figure 1;

Figure 5 is a view in section along line 5—5 of Figure 2 and shows in detail the key-shaft and passage through the front wall of the money changer;

Figure 6 is a detailed plan view of a ring-shaped coin plate;

Figure 7 is a side elevation of the coin plate of Figure 6;

Figure 8 is a detailed bottom view of a bottom plate section which is positioned beneath each coin plate and shows the coin opening therein;

Figure 9 is a view in section along line 9—9 of Figure 9;

Figure 10 is a detailed top plan view of the coin trough and

Figure 11 is a side view of the coin trough showing the sloping bottom thereof.

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The money changer of this invention is preferably constructed entirely of metal and is mounted in a frame 10 having cylindrically shaped coin holders 11 removably secured thereto.

The coin holders 11 are held in the frame 10 above the bottom plate member 13 which are screwed, or otherwise secured, to the base members 14 of the frame 10.

A coin delivering plate 15 preferably ring shaped to conserve metal, is positioned beneath each of the coin holders 11 and is pivotally attached to a bottom plate member 13 by means of an apertured nib 16 secured to one side of the plate 15.

Each coin delivering plate 15 is further provided with an apertured spring-lever 17 on one side thereof and an apertured activating lever 18 on the opposite side thereof. A spring 19 is secured to the bottom plate member 13 at one of its ends and to the apertured spring lever 17 at its other end.

As best shown in Figure 2, rods or arms 20 are guided through openings in the front wall 21 of the frame 10 and through the apertured tabs 12. The rods or arms 20 are provided with nibs 22 on their inward section for engaging levers 18 so that when an arm 20 is pushed inwards the nibs 22 will engage the levers 18, causing the coin plates 15 to rotate into coin delivering positions above the passageways 23 in each bottom plate 13 as indicated by the dotted lines in Figure 2.

Some of the arms 20, as for instance the arms 24, terminate in nibs 22 and extend only to one of the levers 18 for rotating the same free of the other arms. Other arms, such as arm 25, extend through the first levers 18 and terminate with nibs 22 for engaging the second levers 18. Each arm 25 is provided with an additional nib 22 intermediate its length for engaging the first lever 18. Thus, when the arm 25 is pushed, it will rotate the first and second levers 18 simultaneously. Each arm 26 extends through the first and second levers 18 and terminates in a nib 22 for engaging the third lever 18. The arm 26 has a plurality of additional nibs 22 so that pushing of the arm 26 will rotate all three levers 18 simultaneously. Hence, for example, if arm 25 were pushed, only the first and second levers 18 would be actuated. Likewise, pushing arm 24, will only actuate the first lever 18. Arms of longer length than that of arm 26 are employed where the number of coin holders 11 in a single straight line is greater than three and such a construction is also within the scope of the invention.

Each of the arms 20 has a finger tab 27 on its outward end provided with a number or letter written thereon for advising the operator which arm to push in order to receive a desired amount of change, tokens, or the like.

Each coin delivering plate 15 is provided with an aperture 28 therethrough for the holding and delivering of coins from the coin holders 11 to the passageways 23 in the bottom members 13. The thickness of each of the plates 15 predetermines the number of coins it will deliver at a single actuation.

As best shown in Figure 4, coin slides or troughs 29 each of substantially V-shaped construction in cross section, and each having a sloping bottom 30, are secured to base frame members 14 by means of the wings 31 on the troughs 29. The wings 31 slide into brackets 32, which latter are soldered to the base frame members 14.

The money changer may be constructed in any desired number of sections 33, each section having a parallel row of the coin holders mounted therein by means of the springs 34, which latter are soldered or otherwise secured to the frame 10. Each spring 34, as best seen in Figure 3, has its inner ends 35 bent into semi-circular form for engaging the circular sides of coin holders 11.

Each section 33 of the money changer is secured to adjacent sections by means of U-shaped bars 36 of the framework 10 soldered to the remaining frame work 10 of each section 33.

At its rearward end 35, the frame 10 is provided with a hanger 37 of inverted V-shape and adapted to fit over a mounting bar (not shown) in a public conveyance or the like. The hanger 37 has an adjusting screw 38 therethrough for tightly securing the money changer to a mounting bar.

Caps 39 are provided for preventing the escape of coins from the tops of coin holders 11 and are provided with coin slots 40 for allowing the insertion of coins into holders 11.

In operation, coins are placed in holders 11 either by removing caps 39 or by using slots 40. Any desired quantity or denomination of coins are thus available to the operator upon his pushing the corresponding tab 27.

Thus, as illustrated in Figure 2, should a token be desired the token tab 27 is pushed actuating the token lever 41 and rotating the token plate 42 independently of other plates. When the token plate 43 is in the dotted line position 43A, over the token passageway 44, a predetermined number of tokens corresponding in total thickness to the thickness of token plate 42 will be discharged through token passageway 44 and will slide down trough 29 into the operator's hand.

A co-action of two or more plates 15 occurs however when coins of different denominations are desired, as for instance, when a total of fifty cents is desired in change.

Thus, as illustrated in Figure 2, should fifty cents in change be desired, the arm 45 is pushed in and nibs 22 engage the levers 46, 47 and 48 of the nickel holder 49, dime holder 50, and quarter holder 51, respectively. As each corresponding plate 15 moves into its discharge position as indicated by the dotted lines 52, a nickel, two dimes and a quarter are discharged into trough 29. The plates 15 then spring back into their original positions and are refilled with coins. The dime plate 15 is of a thickness of two dimes preferably while the nickel and quarter plates 15 are each only of the thickness of one coin.

Thus it will be seen that correct change is delivered without the mental calculation of the total number of cash denomination of coins necessary to arrive at the total sum desired.



Although the present invention is described in detail it is to be understood that the invention is not limited to the details of construction and the specific arrangement of parts herein illustrated and described as the invention obviously may take other forms. It is also to be understood that the phraseology or terminology herein employed is for the purpose of description and not of limitation.

Having thus fully described my invention, what I claim is:

1. In a money changer, the combination of a frame, a plurality of separate coin holders, means holding the same in said frame, a separate apertured coin-delivering plate positioned under each of said coin holders, an apertured lever attached to each coin-delivering plate, bottom members attached to said frame and positioned under each said coin-delivering plate, means pivoting each said coin-delivery plate to each bottom member, each said bottom member having a coin passageway offset from the coin holder to prevent coins from escaping through said coin-delivering plate, except when each said coin-delivering plate is in register with each said pasesageway and means extending normal and through said apertured levers for selectively engaging one or more of the same for simultaneous movement of said coin-delivering plates to bring the apertures of the same into register with one or more, respectively, coin passageways corresponding to each of said coin delivering plates.

2. In a money changer, the combination of a frame, a plurality of parallel rows of coin holders, means holding the same in said frame, a separate apertured coin-delivering plate positioned under each of said coin holders, an apertured lever attached to each coin delivering plate, bottom members attached to said frame and positioned under said coin delivering plates, means pivoting said coin-delivery plates to the bottom members, each said bottom members having a coin passageway offset from the aperture in each coin holder to prevent coins from escaping through said coin-delivering plates, except when the apertures of said coin-delivering plates are in register with said passageways and means extending normal and through said apertured levers for selectively engaging one or more of the same for simultaneous movement of said coin-delivery plates to bring the apertures of the same into register with one or more, respectively, coin passageway corresponding to each of said coin-delivering plates, coin troughs for each of said parallel rows of coin holders, means attached to said bottom members and said coin-delivering plates for yieldably retaining the same out of register with said coin passageways, said means for engaging one or more of said plates, including a plurality of arms, each of said arms having a section thereof extending through the outside of said frame and another section thereof extending inside of said frame, each of said arms having nibs attached to the inside section thereof for engaging certain of said apertured levers whereby the apertures of said coin-delivering plates may be selectively moved into register with the said coin passageways.

3. In a money changer, a frame, a plurality of aligned tubular coin holders arranged in a single row, each holder adapted to receive a quantity of coins and having a discharge outlet therefor, spring means securing said tubular coin holders to

said frame, bottom members secured to said frame below each said tubular holder and spaced from the discharge outlet thereof a predetermined distance substantially equal to the thickness of the coin to be discharged from said associated tubular coin holder, each bottom member having a discharge recess laterally offset from its associated tubular coin holder discharge outlet, a coin-delivering plate in the space between each tubular coin holder and its associated bottom member, each coin delivering plate having a coin opening substantially equal to the discharge outlet with which it cooperates, means pivoting each said coin-delivering plate to its adjacent bottom member, spring means between each bottom member and adjacent coin-delivering plate for yieldably retaining the same with the opening thereof in alignment with the discharge outlet of its associated tubular coin holder, a lever attached to each coin-delivering plate, each of said levers being provided with an elongated slot, a group of arms slidably mounted in said frame, the number of said arms being equal to the number of the coin-delivering plates and serially arranged for manual actuation, the first arm of said serially arranged arms terminating in a nib and adapted to contact one of said levers to shift the same, each succeeding arm of said group passing through the elongated slots of the levers actuated by the preceding arms of said group and terminating in a nib adjacent to an additional one of said levers for actuating the same, each said succeeding arms having additional nibs equal in number to the number of elongated slots through which each succeeding arm passes, said additional nibs contacting such levers through which each succeeding arm passes for actuating said levers whereby each succeeding arm moves such levers simultaneously and independently of the remaining levers and arms.

4. In a money changer the combination of a frame, a plurality of separate coin holders held by said frame, separate apertured coin delivering plates positioned under each of said coin holders, bottom members attached to said frame and positioned under said coin delivering plates in such a manner as to prevent coins from escaping



through the bottom of each of said coin delivering plates except at times when said coin delivering plates are in coin delivering positions and means for engaging two or more of said coin delivering plates to cause simultaneous movement thereof, each of said bottom members having a coin passageway therein corresponding to each of said coin delivering plates, the walls of each of said passageways being positioned so that coins can pass between said walls when said plates are in coin delivering positions, said coin delivering plates being pivotally secured to one of said bottom members, said plates each having a spring attached thereto, said springs each being also attached to one of said bottom members, said means for engaging two or more of said plates including a plurality of levers, each of said levers being attached to one of said plates, and a plurality of arms, each of said arms having a section thereof extending through the outside of said frame and another section thereof extending inside of said frame, said arms having nibs attached to the inside section thereof for engaging said levers to move said plates into coin delivering relationship with the said coin apertures, some of said arms having a plurality of nibs thereon and said some of said arms being of such lengths that said nibs engage a plurality of said levers for releasing coins of differing types from said coin delivering machine by a movement of a single one of said arms, said arms having tabs on the outer ends thereof bearing indicia thereon for differentiating each of said arms and for indicating the total change which will result from a pushing of each of said arms.

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