Sept. 19, 1933. J. HUME 1,927,265

COIN ASSORTING MACHINE

Filed Dec. 3, 1931 2 Sheets-Sheet 1

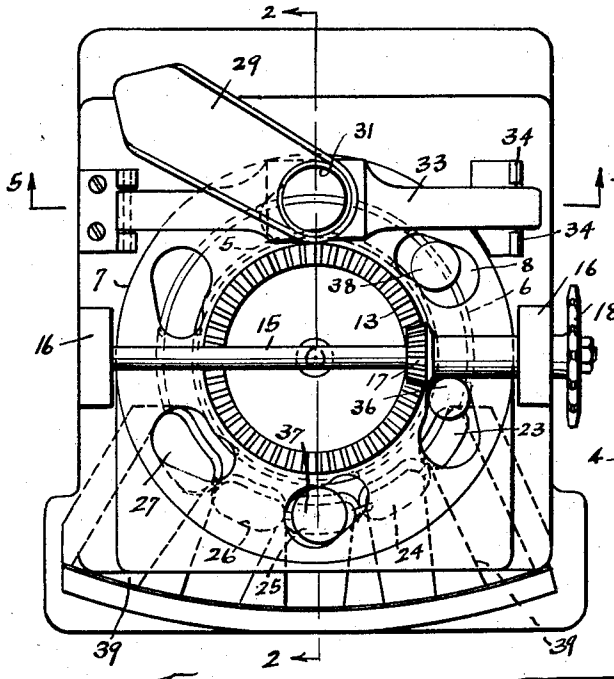


Fig. 1.

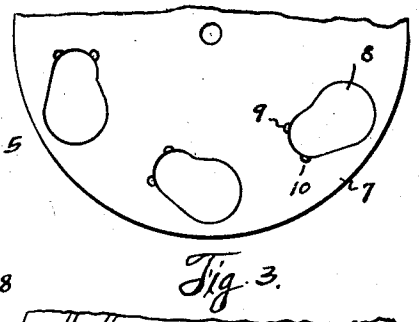


Fig. 3.

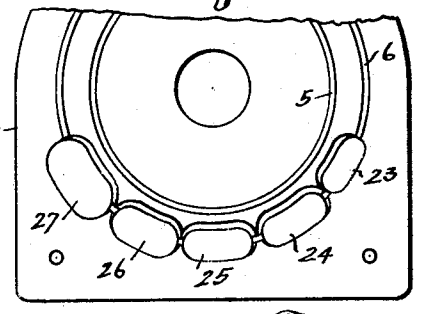


Fig. 4.

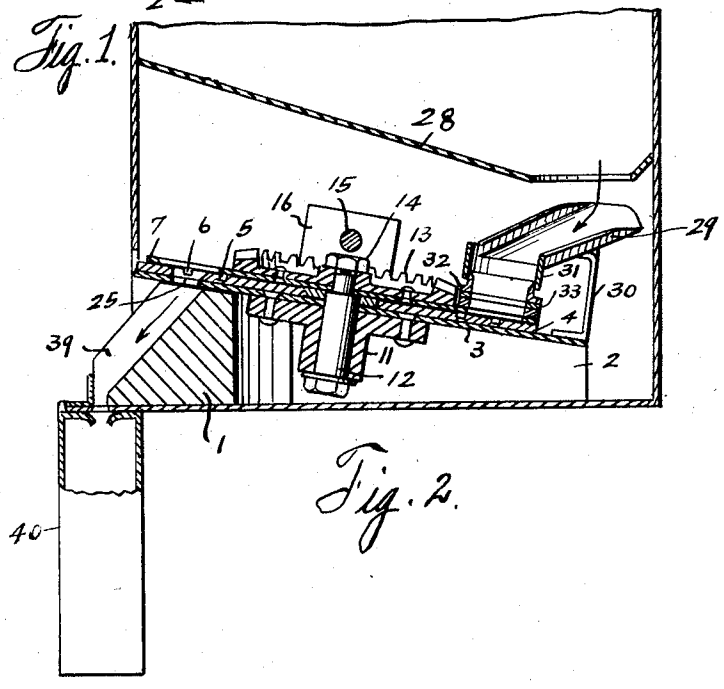


Fig. 2.

Inventor
John Hume

By Hardway & Cather
Attorneys

Sept. 19, 1933. J. HUME 1,927,265

COIN ASSORTING MACHINE

Filed Dec. 3, 1931 2 Sheets-Sheet 2

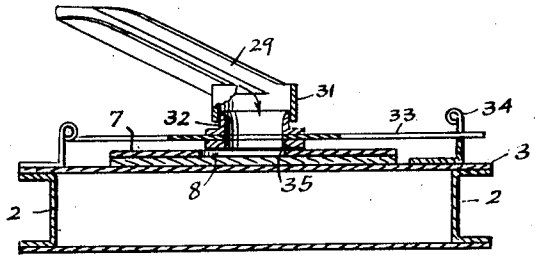


Fig. 5.

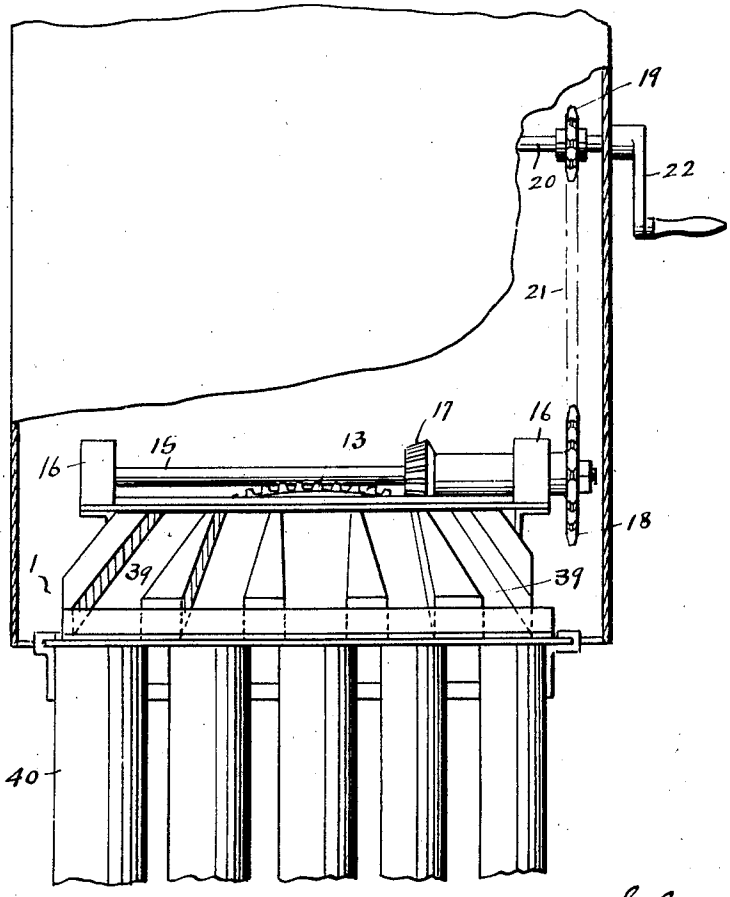


Fig. 6.

Inventor
John Hume

By Hardway & Cathey
Attorneys

Patented Sept. 19, 1933 1,927,265

UNITED STATES PATENT OFFICE

1,927,265

COIN ASSORTING MACHINE

John Hume, Houston, Tex.

Application December 3, 1931. Serial No. 578,722

9 Claims. (Cl. 133—3)

This invention relates to a coin assorting machine.

An object of the invention is to provide a machine of the character described, whereby coins, tokens, and the like, of different denominations, may be separated and coins or tokens of like denominations delivered separately from the machine into separate compartments, or receivers provided to receive the same, to the end that coins or tokens of the same denomination will be delivered into the same receptacle.

Another object of the invention is to provide a machine of the character described whereby coins or tokens may be moved, one at a time, from a mass and delivered, one at a time, into the proper receptacle to receive the coins of the particular denomination delivered.

A further object of the invention is to provide in a machine of the character described means for insuring the successive delivery of single coins or tokens.

A further feature of the invention resides in the provision of a machine of the character described that will deliver coins of the usual denominations irrespective of the thickness of the coins.

A still further feature of the invention resides in the provision of a machine of the character described which is of very simple construction and which has few cooperating parts to wear and get out of order.

The machine has been particularly designed for use in connection with the ordinary fare boxes commonly used on street cars and similar public conveyances, but it is to be understood that the machine is capable of general use for assorting coins, tokens and the like.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 shows a plan view of the machine.

Figure 2 shows a vertical sectional view as installed in a fare box, taken on the line 2—2 of Figure 1.

Figure 3 shows a fragmentary bottom plan view of the delivery plate employed.

Figure 4 shows a fragmentary top plan view of the selector plate.

Figure 5 shows a vertical sectional view taken on the line 5—5 of Figure 1, and

Figure 6 shows a fragmentary front elevation of a fare box shown partly in section with the assorting machine installed therein.

Referring now more particularly to the drawings wherein like numerals of reference designate similar parts in each of the figures, the numeral 1 designates the base of the machine which may be of a general U-shape in contour having the rearwardly extended side supports 2—2.

The upper side of the base declines rearwardly forming a seat for the base plate 3 which is suitably secured thereon and on this base plate the selector plate 4 is fastened. The upper face of the selector plate has the inner and outer grooves 5, 6 arranged concentrically.

Rotatably mounted on the selector plate there is the disc like delivery plate 7 having the delivery openings 8 therethrough and also having at the rear ends of said openings the depending inner and outer fingers 9, 10 which move in the respective inner and outer grooves 5, 6 as the plate 7 rotates.

Secured to the underside of the base plate 3 there is a bearing 11 in which there is an axle 12 whose upper end projects through the base plate and selector plate and, above said selector plate, said axle is reduced and fitted through the delivery plate 7 and on the reduced end of said axle there is a beveled gear wheel 13 which is fastened to said delivery plate, and which is retained on the axle by suitable retaining means such as a nut 14.

There is a transverse shaft 15 rotatable in suitable end bearings 16, 16 upstanding from the base plate and fixed on this shaft is the bevelled pinion 17 which is in mesh with the gear 13. Fixed on the shaft 15 there is also a sprocket wheel 18 through which the machine may be driven. This sprocket wheel 18 will align with a similar sprocket wheel 19 on the crank shaft 20 of the conventional fare box and operating over said sprocket wheels and transmitting rotation from the latter to the former there is a suitable sprocket chain as 21. The crank shaft 20 is equipped with a suitable crank 22 whereby it may be manually operated by the operator of the vehicle.

The front elevated side of the selector plate 4 has the elongated elliptical discharge openings 23, 24, 25, 26 and 27 therethrough which are progressively increased in size to receive the coins of smaller and larger denominations and which are spaced progressively, from smaller to larger, out further from the center or axis of the delivery plate 7.

The openings 8 in the delivery plate 7 are elongated and diverge outwardly. Their inner ends

are shaped to receive snugly the coins of the smaller denominations and their outer ends are shaped to receive snugly the coins of larger denominations and the coins of intermediate denominations will be held at corresponding positions in said openings.

As the delivery plate 7 is rotated its openings 8 will successively register with the openings 23, to 27.

As coins are delivered into the fare box they will pass down along the hopper-like bottom 28 thereof into the chute 29 which is supported above the delivery plate by means of the bracket 30. The lower end of this chute is formed into a depending circular guide 31 which closely surrounds the upper end of the tubular coin receiver 32. This receiver rests on the delivery plate 7 and is supported by the transverse control bar 33. This bar is pivoted, at one end, to the base plate 3 and its other end works between the upstanding guides 34, 34, also carried by the base plate. As the coins pass down the chute 29 they fall into the receiver 32 and are supported therein, in superimposed position. As the delivery plate 7 is rotated the openings, or pockets, 8, will successively align with the stack of coins, or tokens, in said receiver and the bottom coin of the stack will be carried around with said delivery plate. The coins or tokens will vary in thickness and if thicker than the delivery plate, the control bar 33 will be slightly elevated by such thick coin to permit the coin to pass, but only one coin may pass at a time. The forward side of the receiver 32, at its bottom, is beveled, forming a guide 35, so that the thick coins will engage against said guide and lift the control bar rather than lock against the receiver to prevent the delivery plate from turning.

The size of the coin will determine its location in the opening 8. Coins of the smallest size, as 36, will be held in the extreme rear end, which is also the inner end, of the opening 8, and coins of the largest size, as 37, will be held in the extreme forward end, which is also the outer end, of the opening, or pocket 8. Coins of intermediate sizes, as 38, will take intermediate positions in said opening, the larger being located nearer the forward end of the opening and out further from the axis of the delivery plate than the smaller.

When the smallest coin reaches the discharge opening 23 its outer margin will be unsupported and it will drop, by gravity, through said opening, but a coin of larger size will be located out further from the axis of the delivery plate and will bridge over the opening 23 and will not be discharged until it reaches an opening of the ejector plate which it cannot bridge whereupon it will fall through. The largest coin will be located at the outer end of the opening, or pocket, 8 and will bridge over all of the ejector plate openings but the last through which it will fall. It is thus obvious that coins of the same diameters will fall through the same discharge openings and will thus be collected together and will pass down the forwardly declining chutes 39 into the separate receptacles provided to receive them.

The fingers 9, 10 have been provided to run in the grooves 5 and 6 to engage behind very thin coins and prevent such thin coins from working in between the delivery plate and selector plate.

The drawings and description disclose what is now considered to be a preferred form of the invention by way of illustration only while the broad principle of the invention will be defined by the appended claims.

What I claim is:—

1. A machine for assorting coins, and the like, comprising a selector plate having openings and concentric grooves, a delivery plate on the selector plate having an opening forming a pocket to receive coins of different dimensions, fingers on the delivery plate provided to engage the coins in said pocket and which run in said grooves, means to rotate the delivery plate to carry said pocket into registration with the selector plate openings, successively.

2. A machine for assorting coins, and the like, comprising a selector plate having discharge openings and a circular groove, a delivery plate rotatable on the selector plate and having a coin receiving pocket which registers successively with the discharge openings as the delivery plate rotates, a finger on the delivery plate behind said pocket to engage the coin therein and which runs in said groove.

3. A machine for assorting coins, and the like, comprising a selector having a series of discharge openings, a rotatable delivery member on the selector having a coin receiving pocket arranged to register, successively, with said discharge openings as said delivery member rotates, a coin receiver arranged to receive coins and maintain said coins on the delivery member in position to be fed into said pocket as this pocket registers with the receiver, a bar associated with said coin receiver and delivery plate and removably supporting the receiver so as to allow coins of varying thickness to pass.

4. A machine for assorting coins, and the like, comprising a selector having discharge openings, a delivery member rotatable on the selector and having a coin receiving pocket which registers with the discharge openings as the delivery member rotates, a movable bar above the delivery member having a coin receiver thereon arranged to receive and assemble coins in the path of said pocket.

5. In a machine for assorting coins provided with a stationary selector having discharge openings and a rotatable delivery member thereon having a coin carrying pocket movable into registration, successively, with said openings as the delivery member rotates; a vertically movable coin receiver above the delivery member in the path of said pocket arranged to receive coins and deliver them into said pocket upon registration of the pocket with said receiver and a bar supporting said receiver.

6. A machine for assorting coins comprising a stationary selector and a rotatable delivery member thereon, a vertically movable coin receiver above the delivery member arranged to receive and maintain the coins assembled for the successive delivery of the coins, said receiver forming retaining means for the coins therein, and means for delivering the coins singly from the receiver.

7. In a machine for assorting coins provided with a stationary selector having discharge openings and a rotatable delivery member thereon having a coin receiving pocket movable into registration, successively, with said openings, as the delivery member rotates; a coin receiver above the delivery member in the path of said pocket arranged to receive and maintain the coins assembled for the successive delivery of the coins into said pocket, said receiver being movable to-

ward and from the delivery member to permit coins of different thicknesses to pass.

8. In a machine for assorting coins having a stationary selector provided with discharge openings, and having a rotatable delivery member on the selector provided with a coin receiving pocket movable into registration, successively, with said openings, as the delivery member rotates; a coin receiver above the delivery member in the path of said pocket arranged to receive and maintain the coins assembled for the successive delivery of the coins into said pocket, said receiver being movable toward and from the delivery member to permit coins of different thicknesses to pass, and having a beveled guide face at its forward side arranged to be engaged by thick coins and the receiver thereby lifted clear of the path of the coin.

9. In a coin assorting machine having selector and delivery means; a support, a receiver on said support above said delivery means and arranged to receive and maintain coins assembled for successive delivery, said support and receiver being movable toward and from the delivery means to permit coins of different thicknesses to pass from said receiver.

JOHN HUME.