

(No Model.)

2 Sheets—Sheet 1.

O. KATZENBERGER.
FARE BOX.

No. 581,164.

Patented Apr. 20, 1897.

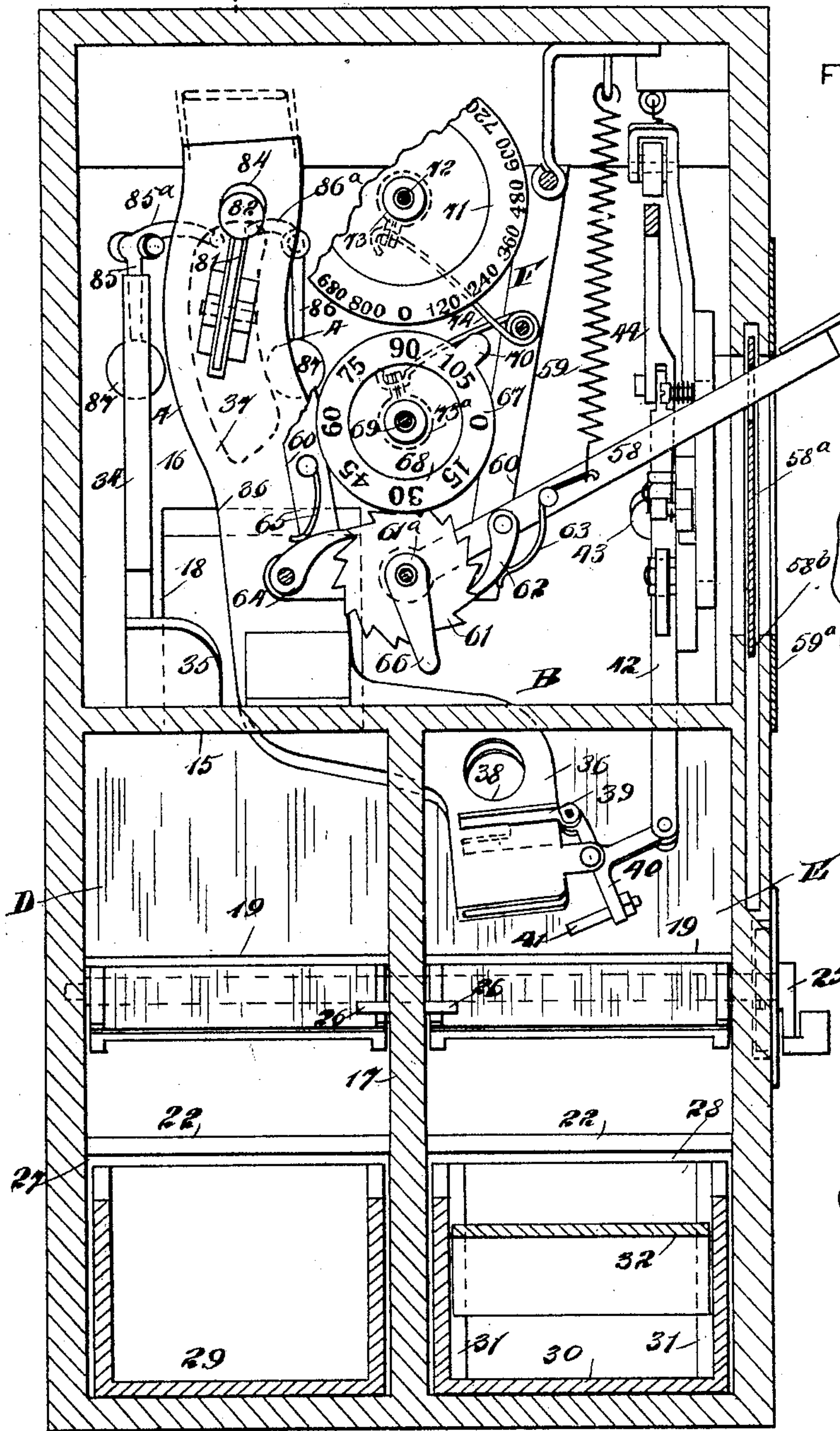


FIG. 1.

FIG. 3.

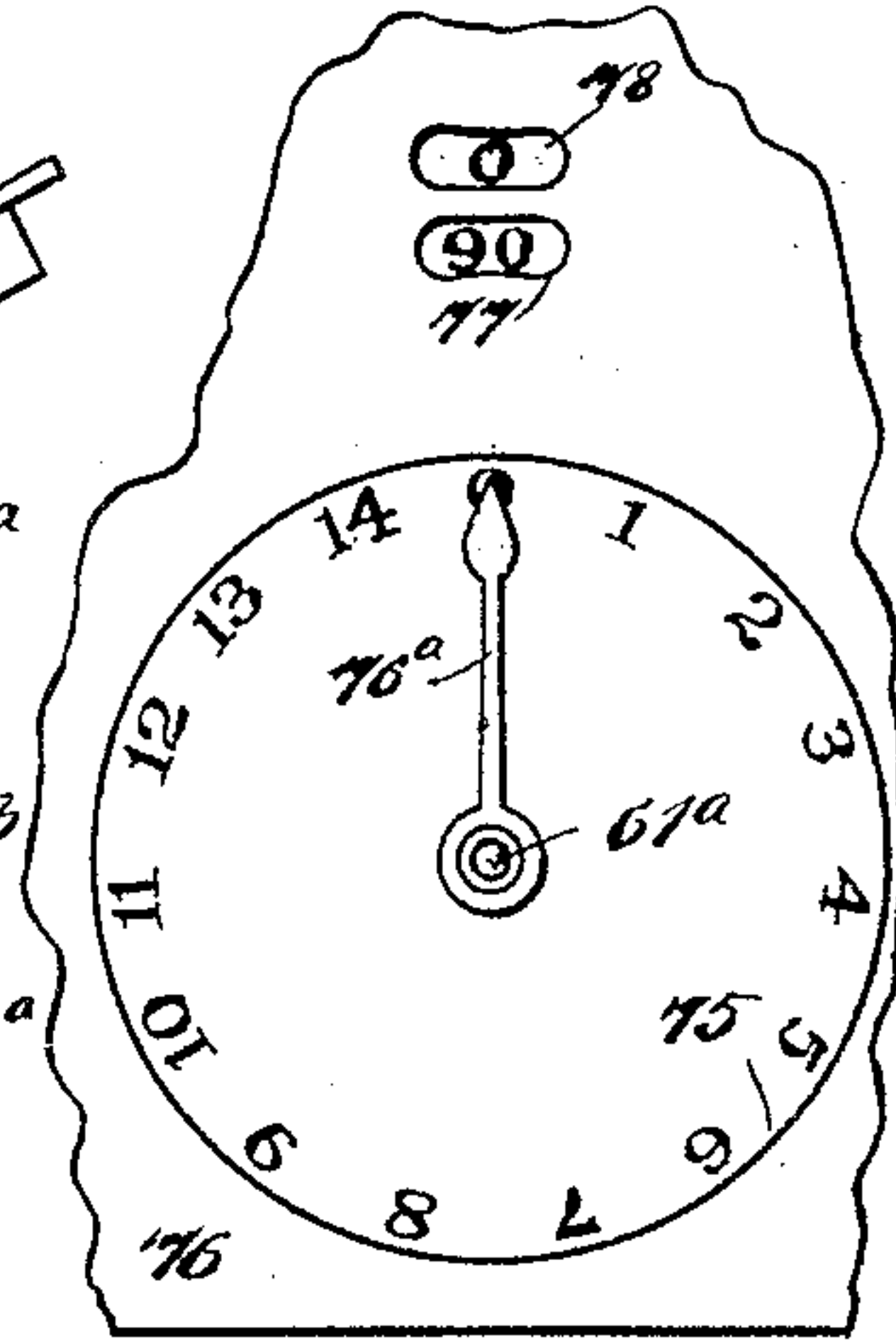


FIG. 4.

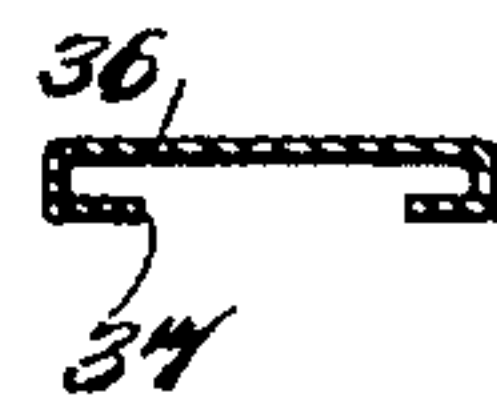
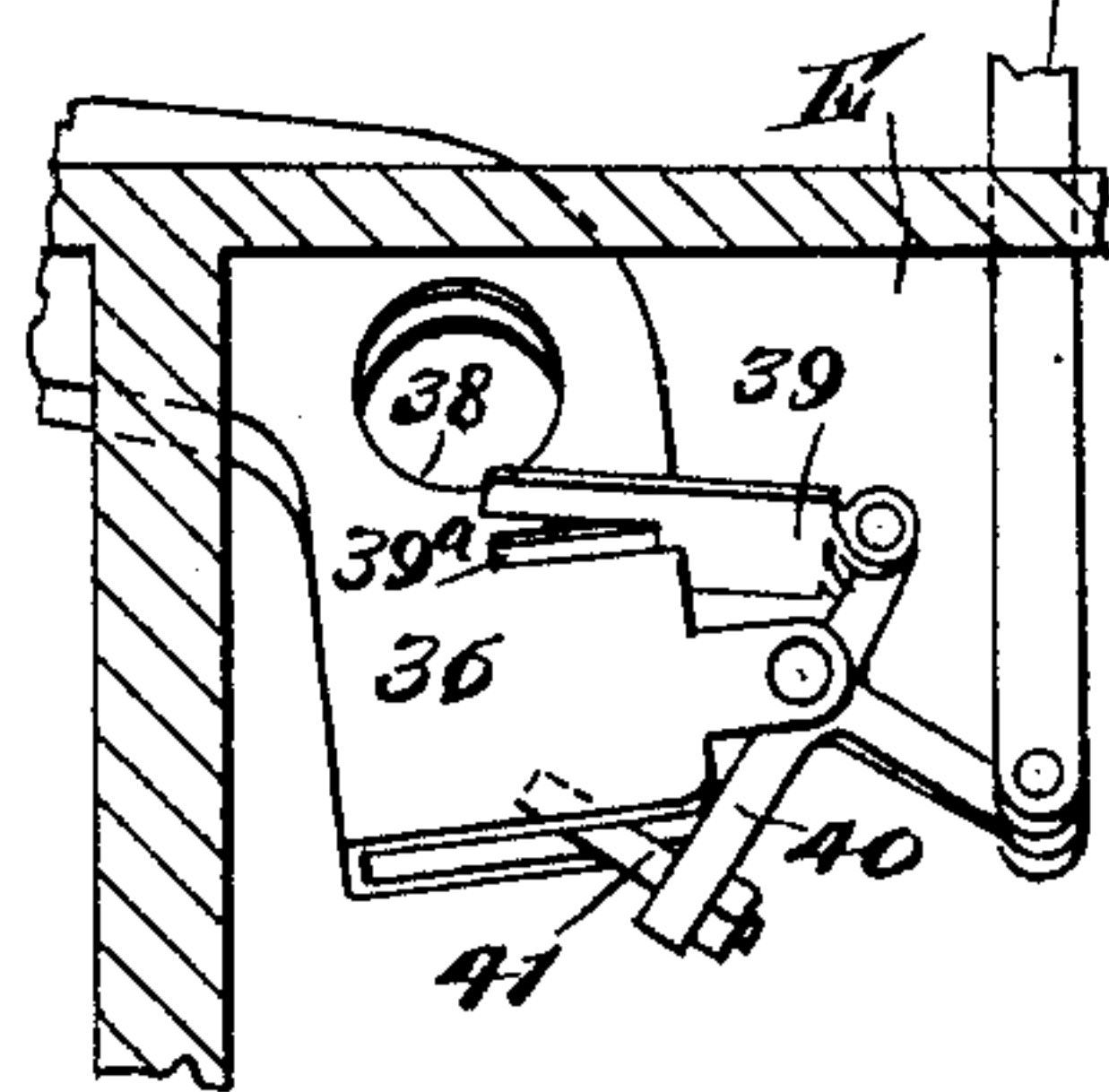


FIG. 5.



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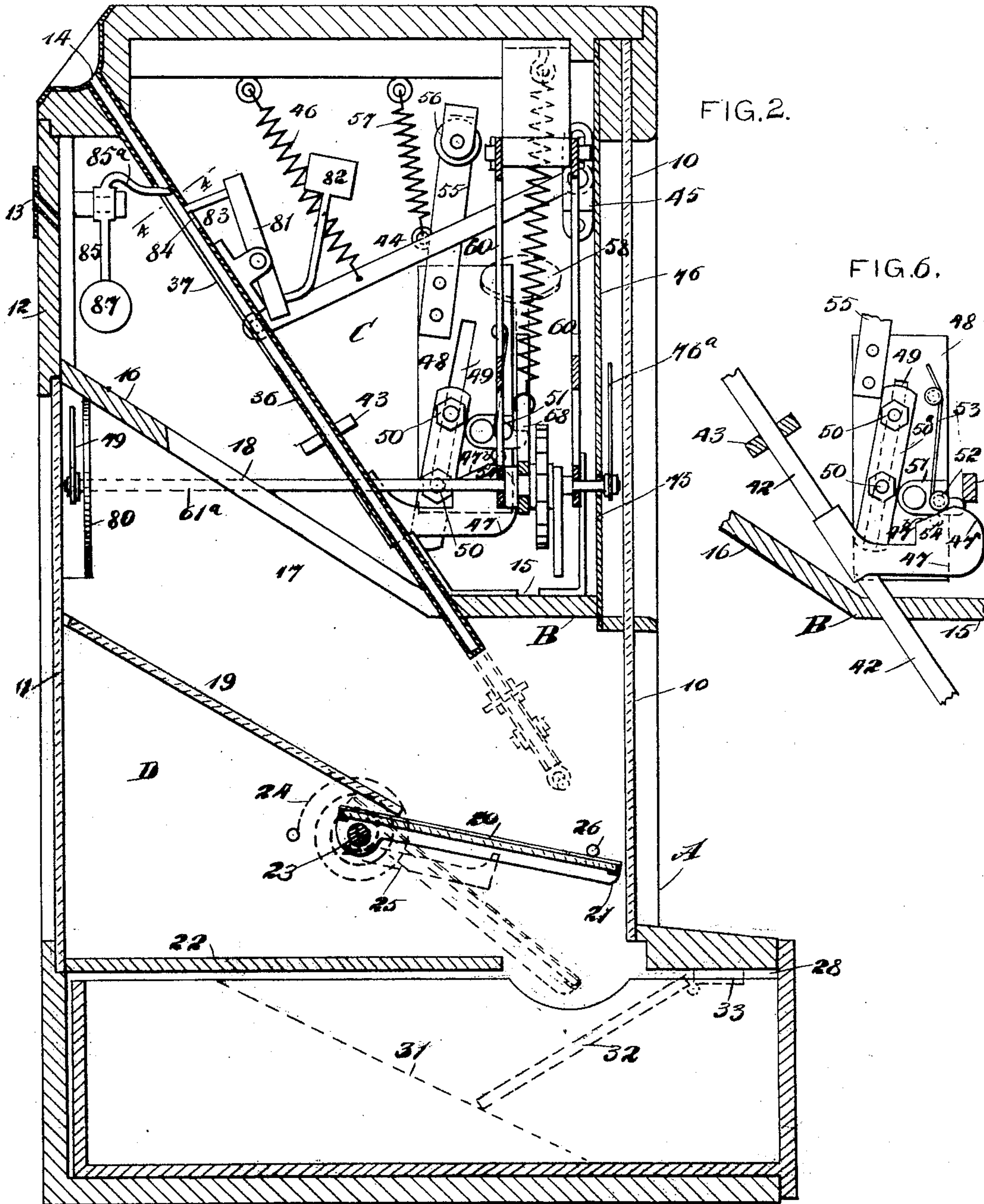
(No Model.)

2 Sheets—Sheet 2.

O. KATZENBERGER.
FARE BOX.

No. 581,164.

Patented Apr. 20, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

OSCAR KATZENBERGER, OF SAN ANTONIO, TEXAS, ASSIGNOR OF ONE-HALF
TO BERNARD KIOLBASSA, OF SAME PLACE.

FARE-BOX.

SPECIFICATION forming part of Letters Patent No. 581,164, dated April 20, 1897.

Application filed November 18, 1896. Serial No. 612,555. (No model.)

To all whom it may concern:

Be it known that I, OSCAR KATZENBERGER, of San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Improvement in Fare-Boxes, of which the following is a full, clear, and exact description.

My invention relates to a fare-box especially adapted for use upon cars or other vehicles where the fare of each occupant is to be paid upon entering the vehicle or soon thereafter.

The object of the invention is to so construct the box that the driver, motorman, or gripman, or a conductor, if one is employed, may readily ascertain the amount of fares paid into the box and whereby each fare will be registered as paid in, and the receptacle containing the fares may be opened by the driver or conductor at will for the purpose of making change.

A further object of the invention is to so construct a fare-box that the person depositing the fare may know immediately that the amount of the fare has been registered and whereby the fare paid in coins in excess of or in denominations less than the coin of the fare will be delivered to a receptacle not accessible to the conductor or driver and whereby also notice will be given at the delivery of each fare no matter in what character of coin it may be paid, so that the driver, conductor, or other attendant at the box may operate the mechanism to deposit the coin in the receptacle placed to receive it, register the amount of fare, and make change, if necessary, after registration.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section taken at the front side of the box, showing the registering mechanism in front elevation. Fig. 2 is a section taken at a right angle to the section shown in Fig. 1 practically on the line 2 2 of Fig. 1. Fig. 3 is a detail view of a plate located at the front of the fare-box from which

the amount paid into the box may be read. Fig. 4 is a section through the coin-chute, which section is taken substantially on the line 4 4 of Fig. 2. Fig. 5 is a detail view of the lower end of the coin-chute in perspective, and Fig. 6 is a detail view of a portion of the mechanism employed to effect a registration of the fares.

In carrying out the invention the box A may be of any desired size, made from any approved material, and given any shape. Ordinarily, however, the box is made substantially rectangular in general contour with its base larger than the portion above it.

At the front of the box a glass or other transparent pane 10 is introduced which extends from the base of the box to a point at or near the top. At the rear of the box a similar panel or pane 11 is located which extends from the base, but terminates short of the top of the box, being engaged at its upper end by a board or a metal plate 12, in which an opening 13 is made adapted to receive tickets, and in the upper portion of the rear of the box an apertured plate 14 is secured, and through the aperture of this plate the coin of the fare or other coin used in payment of the fare is to be introduced.

The interior of the box is provided with a partition B, extending from the front to the rear. The front portion 15 of this partition is preferably straight or horizontal, while the rear portion 16 has an upward inclination. This partition divides the interior to such an extent that an upper chamber C is formed, in which the main portion of the operative mechanism is placed. A second vertical partition 17 is likewise employed which extends from front to rear of the box and from the partition B to the bottom of the box. This vertical partition 17 divides the lower portion of the box into two compartments D and E. An opening 18 is made in the partition B at a point which will connect with the lower compartment D of the box, and preferably a transparent partition 19, made from glass or a like material, is located at the rear of each of the lower compartments D and E, which transparent partition 19 is given a downward and a forward inclination and terminates about half-way between the front and the rear por-

tion of the box. The lower end of this transparent partition 19 is located over the rear end portions of tables 20, likewise made preferably from glass, fitted in a suitable frame 21, and these tables are located over horizontal partitions 22 in each of the compartments D and E, separating the main portion of the box from the base, but the base-partitions 22 are stopped short of the front of the box, so that a space is formed in the bottom of each compartment D and E at the front into which the tables 20 may drop, as shown in dotted lines in Fig. 2. The tables are secured upon a shaft 23, which extends from side to side of the box, and the said shaft is held in a position which will maintain the tables 20 at a slight downward and forward inclination by means of one or more springs 24, secured at one end to the shaft and at the other end to the casing of the box, as illustrated in dotted lines in Fig. 2.

The shaft 23 is turned or rocked by means of a suitable handle, crank-arm, or the like 25, which is secured to one end of the shaft outside of the casing, and the tables are prevented from moving too far upward by engagement with stops 26, which are preferably secured to the vertical partition 17, as is particularly shown in Fig. 1. The vertical partition 17, as heretofore stated, extends to the bottom of the box, and this partition, taken in connection with the horizontal base-partition 22, divides the base-section of the box into two compartments 27 and 28, as shown in Fig. 1.

In the compartment 27, which is below the compartment D in the body, a drawer 29 is located which is adapted to be locked, and the opening 18 in the uppermost partition 13 will admit of coins or tickets being dropped into the compartment D and deposited through the medium of the table 20 in said compartment D into the drawer 29. In the opposite compartment 28 of the base a drawer 30 is located which is especially adapted for the driver's use. This drawer 30 is provided with inclined ways 31 at its inner end extending upwardly and rearwardly, while a hinged board 32 or its equivalent is attached to the front under portion of the base and arranged to travel on the inclines 31, so that when the drawer 30 is drawn outward for the purpose of making change, for example, the board 32 will have traveled up the inclines 31 and will close the opening establishing communication between the compartment E and the aforesaid drawer 30, so that any coin that may be accidentally deposited and should drop from the table 20 over the base-compartment 28 will not enter the drawer 30 while the drawer is open, enabling the operator to obtain a full view of the coin before it shall have entered the change-drawer.

At the outer side of the opening 18 in the upper compartment B a guard-plate 34 is located, and a similar plate 35 is placed at the forward end of the opening. The tickets,

which may be dropped into the box through the slot 13, will pass through this opening 18 in the upper partition and will be received on the table 20 over the drawer 29, that is to be locked, so that the driver, conductor, motor-man or attendant will have no access to these tickets, since no record will be made of the tickets that are placed in the box, a record being made of the coins only representing the fares deposited in the box.

A coin-receiving chute 36 extends from the slot in the top rear plate 14 or the coin-opening, and ordinarily this slot is carried downward through the upper compartment C into the lower compartment D and through the vertical partition 17 into the lower compartment E, terminating at a point over the table 20 in this compartment, beneath which the change-drawer is located. The coin-chute 36 has an opening 37 made in its back, and this opening is immediately over the opening 18 in the upper partition B.

Ordinarily the coin-chute is adapted to receive a nickel and to conduct this nickel into the lower compartment E, and in the event five pennies should be introduced into the chute one after the other these pennies will drop out through the opening 37 in the bottom of the coin-chute, since the pennies will be of less dimensions than the nickel, and these pennies will then fall on the inclined glass partition 19 and will be conducted to the table 20 in the compartment D. The driver or operator noticing the pennies on this table will press downward the arm 25, dropping both tables 20 and causing the pennies to be deposited in the drawer 29, that is to be locked. Should a person drop a dime into the chute, the dime will follow the same course as the pennies, and the driver or attendant will then draw out the change-box and give the passenger the necessary change. Previous to doing this, however, the driver will cause a registry of the fare, which is done whenever a fare is deposited, and the said registry will be effected before the tables 20 are tilted to deposit the coins or tickets in the boxes. In order that the fares deposited in the coin-chute may not be shaken out, which ordinarily could be accomplished provided the lever 58 were not depressed to deliver the fare into the boxes adapted to receive it, a safety-guard is provided which consists of a lever 81, fulcrumed upon the back portion of the coin-chute, being provided with a weight 82 and a pin 83, the pin and weight being at opposite ends of the lever. The pin is adapted to enter the coin-chute through an opening 84 made therein, as shown in Fig. 2, and the weight 82 serves to hold the pin 83 out from the chute while the coin-box is in its normal position.

At the front of the coin-box, at each side of the coin-chute, two weighted levers 85 and 86 are fulcrumed, the weight 87 of each lever being located at its lower end, and the levers are respectively provided with horizontal

arms 85^a and 86^a, and these arms are curved or are formed so that they will extend in the opening 37 in the bottom of the coin-chute, the weights 87 holding the arms 85^a 86^a while the coin-box is in its normal position out of the path of the coin introduced into the chute; but in the event that the box is picked up and shaken in any direction either one or the other of the levers will constitute a barrier, preventing the coin in the bottom of the coin-chute from being shaken out at the opening through which it was introduced. The registering mechanism will be hereinafter described in detail.

Near the lower end of the coin-chute an opening 38 is made at which the nickel deposited in the chute will appear and may be viewed by the conductor or attendant to ascertain whether or not the coin is genuine, and if the coin is a counterfeit or otherwise not good the attention of the person depositing the coin may immediately be called to the fact before the registering mechanism has been operated. A slot 39^a is made in the coin-chute below the opening 38, adapted to receive a gate or cut-off 39, attached to one end of a lever 40, fulcrumed on the coin-chute, the other end of the lever carrying a pin 41 or a like device, and when the lever 40 is in its normal position the cut-off 39 will receive and support the coin placed in the chute, so that it will be exposed at the opening 38, and when the lever 40, which may be a T-lever, is rocked so as to draw the cut-off or slide 39 from the slot 39^a the pin 41 will enter at the bottom of the chute, receiving the coin and preventing it from leaving the chute, while the coin will pass by the slot at which the slide or cut-off formerly stood, and when the lever 40 is again restored to its normal position the slide or cut-off will be placed in position to support the next coin placed in the chute at the sight-opening 38, and the pin 41 will be carried from beneath the chute, permitting the coin previously placed therein to drop on the table 20 in the compartment E, and by tipping the table the coin will be deposited in the change-drawer 30.

A shifting arm 42 is pivotally connected with the lever 40, and the said shifting arm extends upward through the partition B into the upper compartment C, where it is pivotally attached to a link 44, the said shifting arm being held to slide through suitable guides 43. The upper end of the link 44 is pivotally attached to a suitable bearing 45, preferably placed near the front upper portion of the box at one side, as shown in Fig. 2. A spring 46 is attached to the link 44 and to the upper portion of the box, the spring serving to normally draw the link 44 in an upwardly direction. A head 47 is secured upon the shifting arm 42 at a point above the upper partition B, as shown in Fig. 6. This head is enlarged at its front end and is provided at said end with a curved upper surface 47^a, which meets an inclined surface 47^b.

A plate or a block 48 is held to slide vertically at one side of the box or casing, and this plate or block 48 is provided with a diagonal slot 49, through which pins or bolts 50 are passed from the side of the casing provided with suitable nuts and supporting a connecting-plate 50^a. The inclination of the slot 49 in the plate or block is downward and rearward, and the guide for the plate or block 48 is located adjacent to the outer side face of the head 47 of the shifting arm 42.

A bearing-arm 51 is pivoted on the block or plate 48, and this arm extends beyond the front edge of the block or plate, as shown in Fig. 6, the extended portion being narrower than the body portion of the arm. A pin 52 extends from the inner side of the arm 51 to such an extent that it may be brought in engagement with the head 47 of the shifting arm 42 when the plate 48 is carried downward, and a spring 53 is attached to the plate and is so shaped as to pass to an engagement with the pin 52, the spring being so shaped that in the event the arm 51 is raised it will bring the spring under tension, and the spring will return the arm to its lower position the moment that the factor raising the arm has released it. The arm is prevented from dropping beyond a horizontal position by means of a stop-pin 54, against which the arm will normally rest, the stop-pin being secured to the plate or block 48.

A rod 55 is secured to the upper portion of the block or plate 48, forming an extension of the same, and this rod at its top is bent upon itself or is provided with a bearing in which a friction-roller 56 is journaled, the roller being adapted for engagement with the upper surface of the link 44, connected with the shifting arm 42.

The rod 55 is attached to one end of a spring 57, the other end of the spring being secured to the upper portion of the casing, the tendency of the spring being to hold the block or plate in an upper position or return it to such position when it has been forced downward.

Owing to the inclination of the slot 49 in the block or plate, the said block or plate when pressed downward travels likewise in a rearwardly direction. Registering-lever 58 is adapted to engage with the arm 51 on the block or plate, which arm may be termed a "bearing-arm," as it presents a bearing-surface for the registering-lever. The registering-lever 58 has one end of a spring 59 attached to it, the other end of the spring being secured to the upper portion of the box, so that the registering-lever is normally held in an upper position, which is shown particularly in Fig. 1. This lever extends out through the slot in a face-plate 59^a at one side of the box, and the lever likewise extends through a slot in a cover-plate 58^a, held to slide in the box at the rear of the slotted face-plate 59^a in order that as the registering-lever is pressed downward the cover-plate 58^a will be carried with it, and when the registering-lever is drawn upward by its spring 59 the plate

58^a will cover the slot in the face-plate and prevent the registering mechanism in the compartment C from being tampered with.

A frame F is located within the compartment C, adapted to contain the registering mechanism, and this frame consists of side members 60, connected by suitable transverse members. In the lower portion of the frame F a shaft 61^a is journaled, which extends, preferably, from the front to the rear of the machine, and on this shaft a ratchet-wheel 61 is secured, the ratchet-wheel being moved by a dog 62, controlled by a spring 63 and carried by the registering-lever. The said ratchet-wheel is likewise provided with a detent or a pawl 64, controlled by a spring 65, which pawl engages with the ratchet-wheel at an opposite side to that at which the dog 62 engages.

An arm 66 is secured to the ratchet-wheel and extends beyond its periphery. At each complete rotation of the ratchet-wheel this arm is adapted to engage with one of a series of pins 67, secured in a registering-wheel 68, so as to turn the said wheel a predetermined distance, and the registering-wheel 68 is provided with an offset or a tooth 70, adapted to engage with one or a number of teeth or partitions in a second registering-wheel 71, mounted to turn on a shaft 72, the lower registering-wheel 68 turning on a shaft 69. The two registering-wheels have suitable numbers produced on their front faces and are prevented from turning unless purposely moved, preferably by the use of strap-brakes which are carried around the hubs of the wheels, the said brakes being designated by the reference-numerals 73 and 73^a and the two brakes being connected with the ends of a spring 74, carried by the frame F, as shown in Fig. 1.

A dial 75 is produced upon the face-plate 76, located back of the front transparent pane of the casing, and this dial has numbers which range from "1" to "10," or which may have a greater or less range, indicating the number of fares that have been paid, and a pointer 76^a travels across the face of this dial 75, being attached to the shaft 61^a, and above the dial 75 openings 77 and 78 are made at which the numbers in the registering wheels or disks 68 and 71 appear, the two wheels indicating at the openings 77 and 78 either the number of fares paid in a given trip or the amount of money of the total of fares paid on said trip up to a certain time.

In order that the passenger may ascertain whether or not his fare has been registered, a second dial 80 is located at the back of the fare-box, as shown in Fig. 2, and a pointer 79 traverses this dial, carried by the shaft 61^a, to which the rear pointer 76^a is secured.

In the operation of the machine the coin, a nickel for example, is dropped into the chute 36. This coin will run down the chute until it is stopped by the gate or slide 39, sounding an alarm during its passage down the chute.

The attention of the driver or other attendant having been called to the fact that a fare has been deposited the said attendant views the coin through the opening 38 in the chute and satisfies himself that the coin is not a counterfeit. The attendant will then press down the lever 58, which brings into action the pointers on the dials 75 and 80 and may also bring into action one or both of the wheels of the registering-gears. As the registering-lever 58 is pressed downward it will be brought into engagement with the bearing-arm 51 on the sliding block 48, and the pin 52 on the said arm will engage with the head 47 on the shifting arm 42 and will carry this arm downward. As the plate or block 48 is carried downward it also moves rearward. Therefore after the head 47 of the shifting arm 42 has been pressed downward to a certain extent by the bearing-arm 51 the arm will move from the registering-lever and the lever will bear directly on the aforesaid head, the registering-lever being shown in Fig. 6 as just about to leave the bearing-arm and have bearing directly on the head.

The roller 56, connected with the sliding block or plate, will bear on the link 44, connected with the shifting arm, assisting the said arm in its downward movement, thereby taking off more or less of the strain from the bearing-arm 51, and the moment that this bearing-arm is released from the registering-lever the plate 48 will ascend to its normal position. The downward movement of the shifting arm 42 will bring about a release of the coin from the opening 38 in the chute by drawing outward the gate or slide 39, but the coin will not drop onto the table 20 beneath the outlet of the chute until the registering-lever together with the shifting arm have been drawn upward by their springs. The coin will now rest on one of the tables and may be emptied into the change-box by dropping the said table. Preferably a number of these tables 20 are used, one below the other, so that a coin may remain in sight for some time before it is finally deposited in the change-box.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a fare-box, a coin-receiving chute having an opening at a point between its ends for the exit of coins of less size than those which the chute is intended to receive, an inclined partition located below the opening in the coin-chute, a dumping-table arranged to receive the coins from the said inclined partition, and a drawer located beneath the said dumping-table, as and for the purpose set forth.

2. In a fare-box, a coin-receiving chute provided with a sight-opening near its delivery end, a movable support for the coin located adjacent to the sight-opening, a registering device, a registering-lever operating the said registering device, and a shifting device for

the said support for the coin operated from the said registering-lever, as and for the purpose specified.

3. In a fare-box, a coin-receiving chute provided with a sight-opening near its delivery end for the exposure of a coin, a gate slidably located in the said chute below the said sight-opening, a lever connected with the said gate, the said lever being provided with a retaining-arm arranged to enter the outlet of the said chute when the gate is drawn from the chute, a shifting arm connected with the said lever, and a lever arranged to act upon the shifting arm, as and for the purpose set forth.

4. In a fare-box, a coin-receiving chute provided with a sight-opening near its delivery end, a movable support for the coin located adjacent to the said sight-opening, a lever connected with the said support, a shifting arm connected with the said lever, a registering device, and a lever operating the said registering device and arranged to act upon the said shifting arm, as and for the purpose set forth.

5. In a fare-box, a coin-receiving chute provided with openings in its front and back wall between its ends, and weighted levers provided with members arranged to enter the openings in the chute and form a barrier to the extraction of a coin, the weights of the levers normally holding them out of the path of the coin introduced into the chute, substantially as shown and described.

6. In a fare-box, a coin-receiving chute provided with a sight-opening near its delivery end, a gate slidably located in the said chute below the said sight-opening, a lever connected with the said gate, the said lever being provided with a retaining-arm arranged to enter the outlet of the said chute when the gate is drawn from the chute, a shifting arm connected with the lever, a registering device, and a lever operating the said device and arranged to act upon the said shifting arm, as and for the purpose specified.

7. In a fare-box, a coin-receiving chute, a gate slidably mounted in the said chute, a lever connected with the said gate, a shifting arm attached to the said lever, registering-dials arranged one to impart movement to the other, a ratchet connected with a pointer, the ratchet being provided with an extension for shifting engagement with one of the registering-dials, a registering-lever connected with the said ratchet in a manner to operate the same, the registering-lever being also arranged to operate the shifting arm in one direction, and tension devices arranged to return the registering-lever and shifting arm to their normal position, as and for the purpose specified.

8. In a fare-box, the combination, with a coin-chute provided with a sliding gate, and

a sight-opening above the gate, of registering-dials, a ratchet-wheel operating the said dials, a pointer operated from the ratchet-wheel, a spring-controlled registering-lever carrying a dog engaging with the ratchet-wheel, a detent for the ratchet-wheel, and a shifting device for the said gate, as and for the purpose specified.

9. In a fare-box, the combination, with a coin-chute provided with a sliding gate and a sight-opening above the gate, of registering-dials, a ratchet-wheel operating the said dials, a pointer operated from the ratchet-wheel, a spring-controlled registering-lever carrying a dog engaging with the ratchet-wheel, a detent for the ratchet-wheel, a shifting device for the said gate operated from the registering-lever, and springs controlling the shifting device and registering-lever at one point in their movement, as and for the purpose set forth.

10. In a fare-box, a coin-receiving chute having an opening between its ends for the exit of coins of less size than those intended to be received by the chute, a compartment at the lower end of the chute adapted to receive the coins passed through the length of the chute, and a second compartment arranged to receive the coins from the said opening intermediate of the ends of the chute, substantially as described.

11. In a fare-box, a registering device, a lever operating the registering device, a coin-receiving chute having an opening for the exit of coins of less size than those intended to be received by the chute, compartments located below the chute, one being beneath the outlet of the chute and the other receiving coins from the opening in the body of the chute, drawers adapted to receive coins from the chute, one receiving the coins from the outlet end of the chute and the other from an opening in the body, and dumping-tables located between the chute and the said boxes or drawers, as and for the purpose specified.

12. In a fare-box, a casing, a change-drawer located in the said casing and provided with inclined planes at its sides, a fixed partition located above the said drawer, the said partition terminating short of the front of the casing whereby an opening is formed communicating with the said drawer, and a plate having a hinged connection at one end with the said casing and an engagement at its free end with the inclined planes whereby when the drawer is opened the said plate will ride up on the said inclined planes and close the opening at the front of the said partition, as and for the purpose set forth.

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