

(No Model.)

2 Sheets—Sheet 1.

C. W. MUTH & H. MARTIN.
MONEY CHANGER FOR FARE BOXES.

No. 515,920.

Patented Mar. 6, 1894.

Fig. 1.

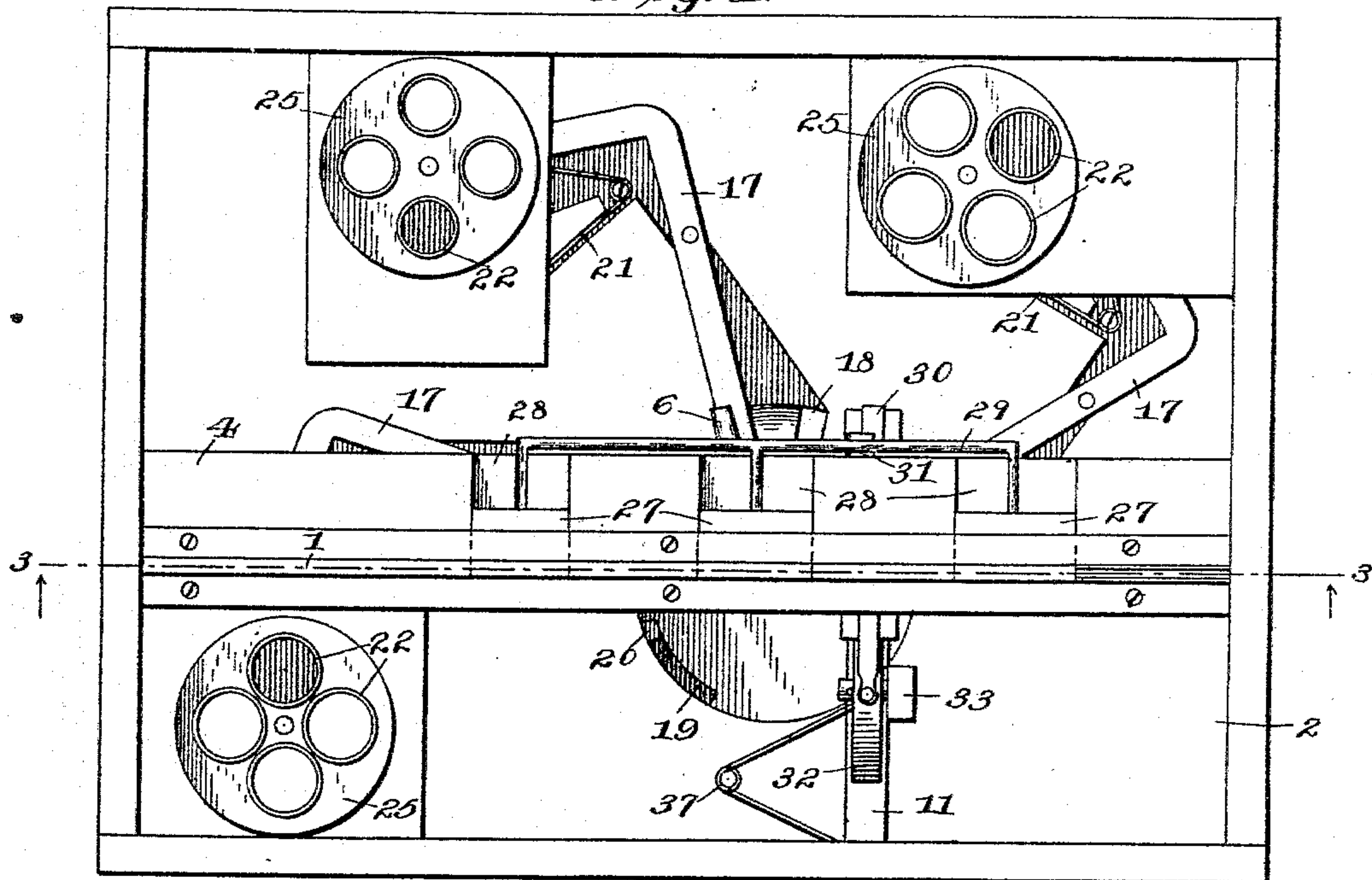
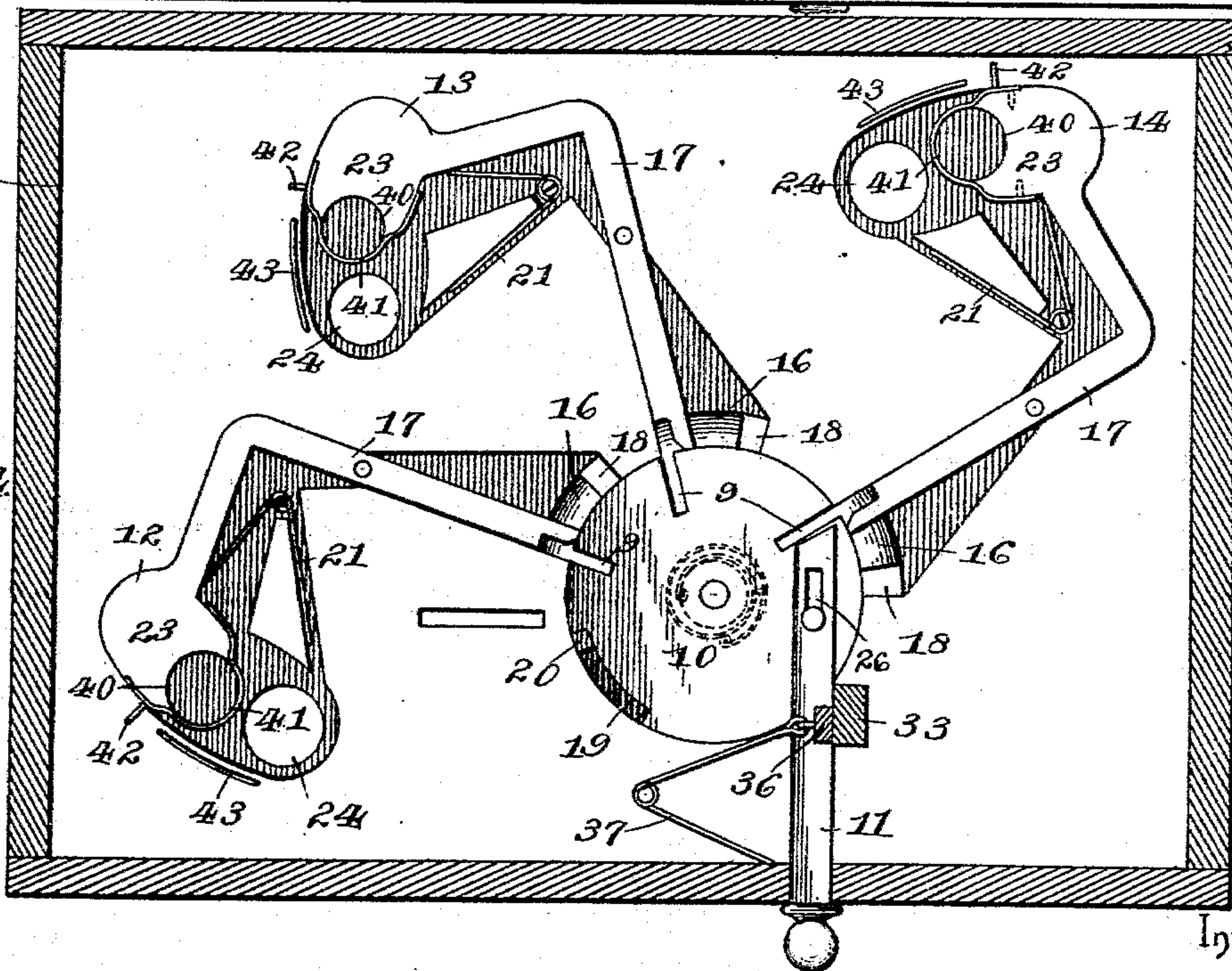


Fig. 4.



Inventors

Witnesses

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By their Attorneys,

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C. A. Snow & Co.

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2 Sheets—Sheet 2.

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Fig. 3.

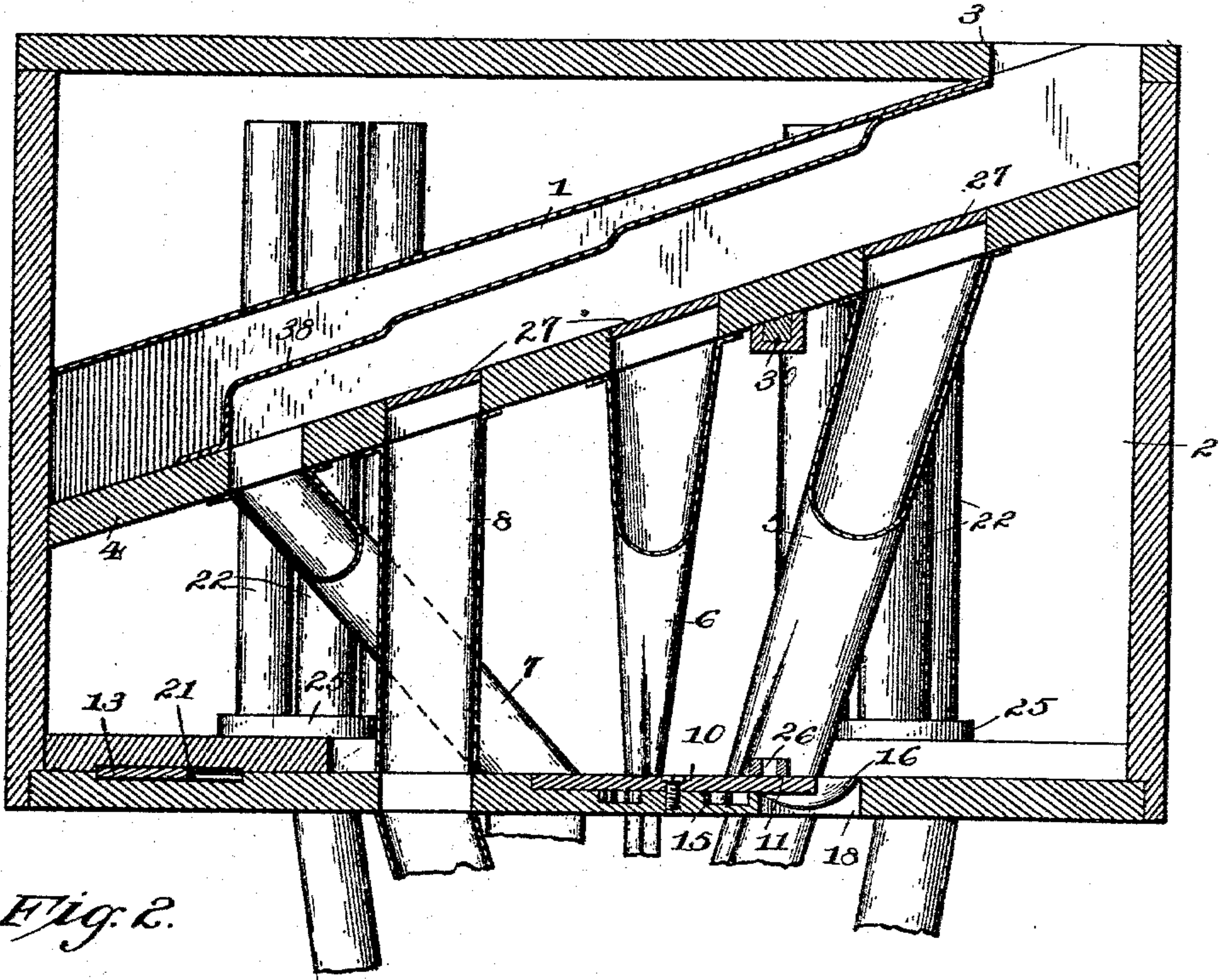


Fig. 2.

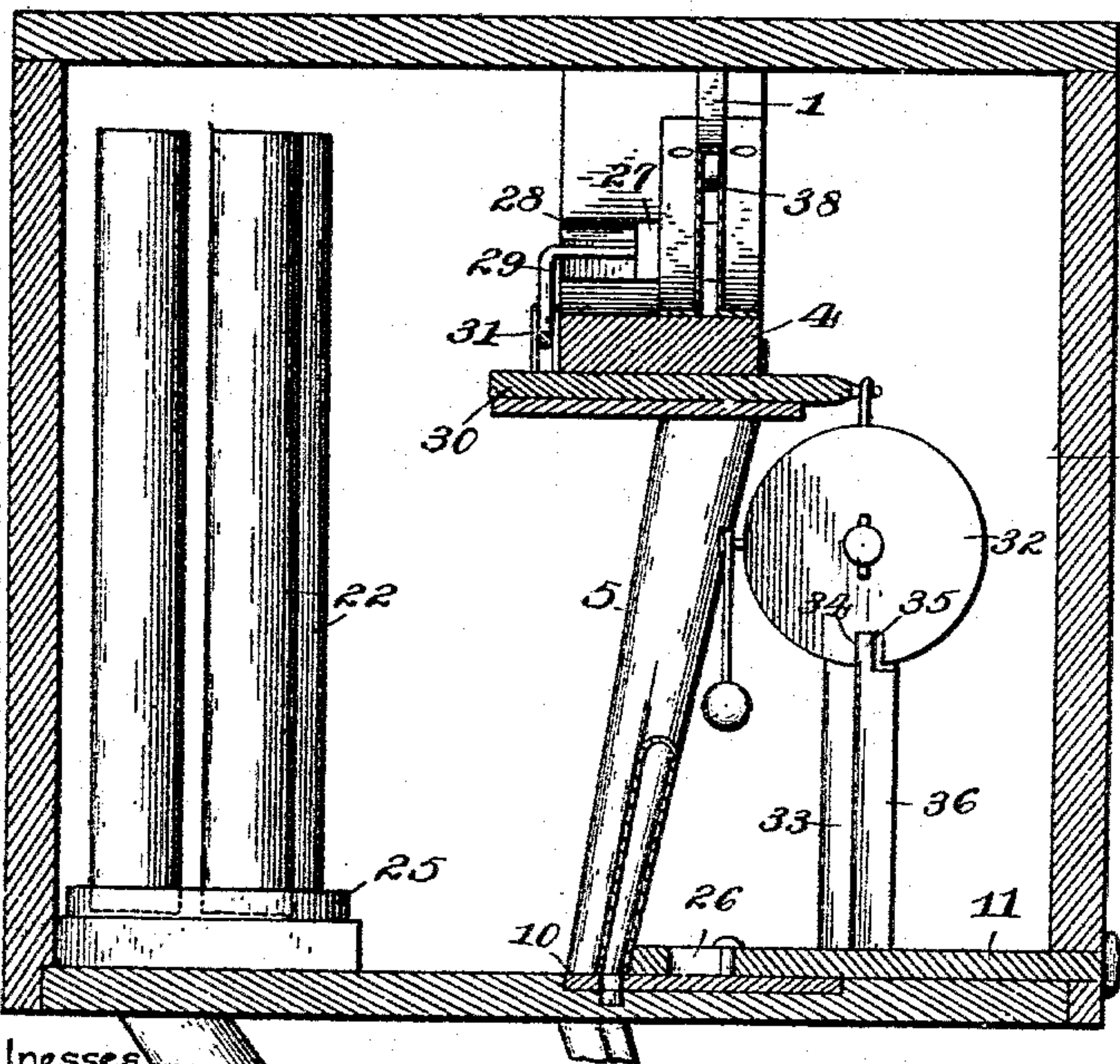


Fig. 6.

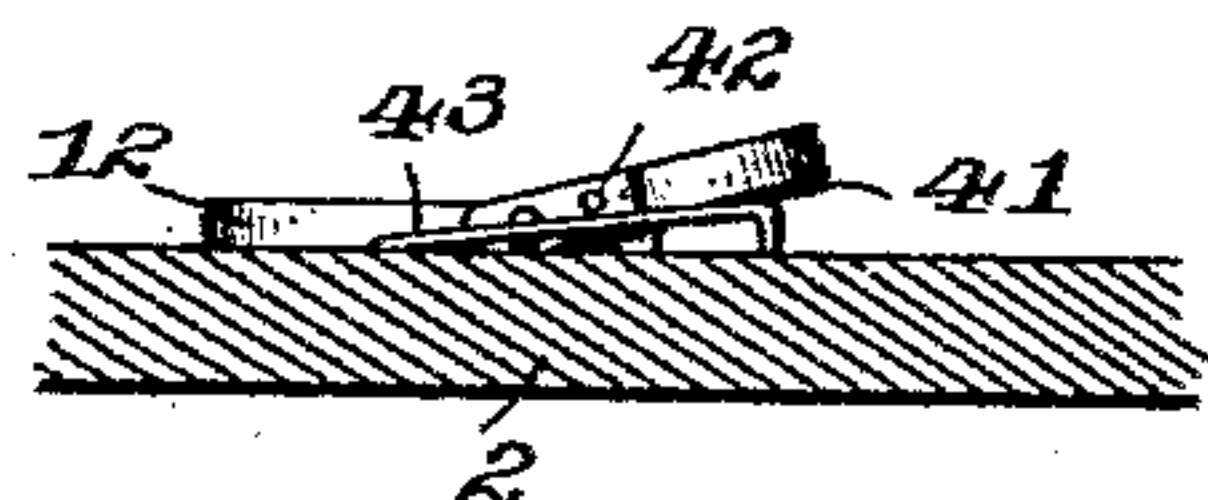
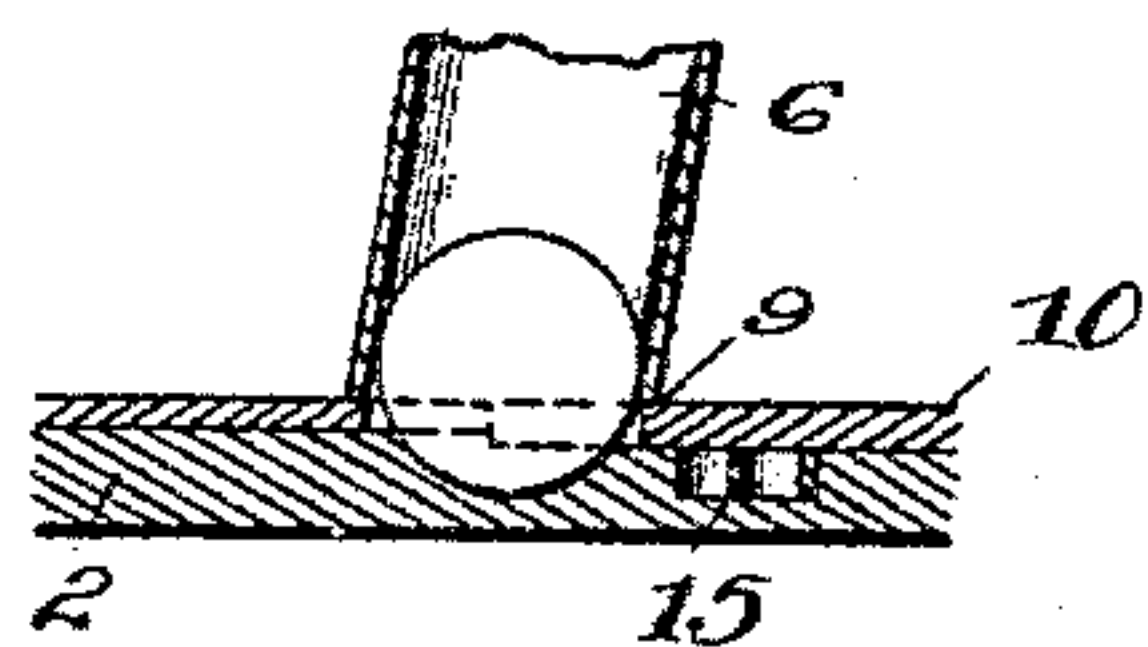


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES W. MUTH AND HENRY MARTIN, OF NEW CORYDON, INDIANA.

MONEY-CHANGER FOR FARE-BOXES.

SPECIFICATION forming part of Letters Patent No. 515,920, dated March 6, 1894.

Application filed September 23, 1893. Serial No. 486,274. (No model.)

To all whom it may concern:

Be it known that we, CHARLES W. MUTH and HENRY MARTIN, citizens of the United States, residing at New Corydon, in the county of Jay and State of Indiana, have invented a new and useful Money-Changer for Fare-Boxes, of which the following is a specification.

The invention relates to improvements in money changers for fare boxes.

The object of the present invention is to provide for street-car fare boxes, a money changer capable of delivering to a passenger his exact change, and adapted to prevent the money from being handled by the employes of a railroad company, and designed to facilitate making change without inconvenience to the passenger.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a plan view of a money changer constructed in accordance with this invention, the top of the casing being removed. Fig. 2 is a transverse sectional view. Fig. 3 is a longitudinal sectional view on line 3—3 of Fig. 1. Fig. 4 is a horizontal sectional view. Fig. 5 is a detail sectional view showing a coin in engagement with one of the bell crank levers. Fig. 6 is a detail view showing one of the coin carriers, the pivoted frame thereof being raised.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates an inclined coin chute, arranged within a casing 2, and having its upper end communicating with an entrance slot 3 at the top of the casing, or at any other desired point. The inclined coin chute is mounted upon a suitable supporting bar 4, which forms a bottom for the coin chute, and which is provided at intervals with slots communicating with auxiliary depending branch chutes 5, 6, 7 and 8, designed to receive coins from the inclined main chute, and to carry them to proper points to insure operation of the changemaker or money changer. The depending branch chutes 5, 6 and 7 are adapted to receive respectively half dollars, quarters and

dimes, and are arranged over recesses or slots 9, of a rotating spring actuated disk 10, which has a limited movement, and is operated by a sliding bar 11 to actuate coin carriers 12, 13 and 14, and is returned to its initial position by a coiled spring 15 shown in Figs. 3 and 4. The slots or recesses of the disk 10 are located adjacent to curved recesses 16, which vary in size to suit the coin which they are intended to receive, and which are approximately semi-cylindrical or segmental, and each snugly receives its proper coin and prevents the entrance of a coin of greater diameter. A coin, as illustrated in Fig. 5 of the accompanying drawings, is received edgewise into the slot 9, and projects beyond the disk 10, and is adapted to engage the adjacent end of a bell-crank lever 17, one of which is fulcrumed adjacent to each of the recesses 16. Each partial rotation of the disk 10 by the operating bar 11 actuates the bell-crank lever 17 to reciprocate one of the coin carriers, and at the end of this partial rotation of the disk 10 the bell-crank lever, which is spring actuated, disengages itself from the coin and returns to its initial position, and the coin is deposited over an opening 18, and is carried away to a suitable money receptacle (not shown) by a suitable coin chute. An opening 18 is arranged at one of the terminals of each recess 16; and the inner ends of the bell-crank levers are recessed to receive the coins. The spring which returns the disk 10 is arranged beneath the latter; and the disk is limited in its partial rotation by means of a segmental opening 19 of it, and a stop 20 of the casing arranged in the opening. Each bell crank lever 17 is actuated by a spring 21, which engages the outer arm of the bell-crank lever, and normally holds the inner end of the bell-crank lever adjacent to its companion slot or recess of the disk 10.

Each coin carrier is arranged beneath a circular series of coin holding tubes 22, and consists of a head provided with a circular coin receiving opening 23, which is arranged normally beneath a coin tube, and is of a predetermined depth to receive the desired number of coins to make the proper change, and when the coin carrier is reciprocated by its bell-crank lever, the number of coins necessary to make the proper change is carried

from the coin holding tube to a discharge opening 24, from which point the change may be delivered by suitable tubes to any desired form of exterior receptacle within easy reach of the passenger. When the circular opening 23 registers with the discharge opening 24, the solid portion of the head, which may be formed integral with the bell crank lever or be constructed separate therefrom, is arranged beneath the coin tube until the spring 21 of the bell-crank lever returns the latter to its initial position.

Each series of coin holding tubes is arranged in the form of a circle, and is mounted on a suitable rotating holder 25, whereby when one coin tube of a series is empty the holder may be rotated sufficiently to bring another one in proper position over the opening of the coin carrier. The coin tubes of the coin carrier 12 are designed to furnish the change for a half a dollar, and the coins in each tube of this series should be arranged so that four dimes and a nickel or five cent piece will be delivered as change at each operation of the coin carrier 12. In the other series of coin tubes nickels or five cent pieces may be employed and the coin carriers 13 and 14 should be of the proper depth or thickness to carry the necessary number of coins for furnishing the proper change.

The operating bar 11 is provided at its inner end with a longitudinal slot 26, and is secured to the disk 10 by a screw or bolt arranged in the slot 26, whereby the operating bar 11 has a limited movement independent of the disk 10 in order to actuate a series of cutoffs 27. The cutoffs 27 are slidably mounted in recesses 28 of the supporting bar or bottom of the main chute 1, and are connected with a rod 29 in order that the entire series of cutoffs may be simultaneously operated by a sliding bar 30. The sliding bar 30 is mounted in suitable ways transversely of the main chute 1, and is located below the same and has its inner end connected by fingers 31 with the rod 29, and its outer end is loosely connected with a partially rotating wheel 32. The wheel is journaled on a suitable support 33, and is provided at its bottom with a notch 34, which is engaged by a tooth or projection 35 of an arm 36, which extends upward from the operating bar 11, and which engages and rotates the wheel 34 to uncover the slots at the bottom of the coin chute 1 before the disk 10 is actuated. The slot 26 of the operating bar permits this movement of the cutoffs prior to the movement of the disk 10; and the operating bar is connected with a spring 37, and is moved inward by the spring, and is held in proper position for operating the cutoffs preparatory to operating the disk 10.

The inclined coin chute 1 has a tapering coin way, which is formed by an upper wall 38, which is provided with a depression or shoulder to contract the coin way at the uppermost, the half dollar slot, to cause half dollars to descend through the half dollar

slot, and to prevent them passing farther down the main coin tube 1. Adjacent to the quarter slot, the upper wall 38 is slightly depressed to cause quarters to drop into the quarter slot; and adjacent to the depending branch tube 8 the top wall 38 is depressed to such an extent that only dimes can pass down the coin chute to the dime tube 7. This construction causes cents and other coins of a size between a dime and a quarter to pass down the depending branch chute 8, without operating the change making mechanism. As soon as a proper coin is deposited in the chute, it passes down the same and is stopped over the proper branch chute by the shoulder corresponding to the same, and when the cutoffs are moved to open the branch tubes, the coin drops in the proper one.

It will be readily apparent that the money changer is adapted to give the proper change to a passenger without inconvenience to him, and without the employes of a road on a car handling the money.

The number of passengers may be readily ascertained by obtaining the difference between the entire amount of money within the device and the amount placed therein for change.

The operating rod 11 is provided at its outer end with a suitable handle or knob and may be arranged to be operated by a passenger or an employe of a road, and such changes to adapt the invention to the particular fare box in connection with which it is to be used fully come within the scope of the invention, and we desire it to be understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In order to insure the dropping of the change from the coin carrier 23, its coin receiving opening is formed by a semi-circular recess 40 of the head and a curved frame 41, which completes the circular opening of the carrier, and which has its ends extended beyond the recess 40 and pivoted to opposite sides of the head. The pivoted frame is provided at its outer side with a projection 42, which, when the carrier head 23 is moved in the direction of the opening 24 engages a clip 43, which is provided with an inclined upper edge, whereby the pivoted frame is lifted to free the change. It will thus be seen that the discharge of change is rendered positive, and that the coins cannot be accidentally retained in the coin carriers.

What we claim is—

1. In a money changer, the combination of a casing, a coin chute, a disk arranged to receive a coin to be changed, a coin holding tube, a coin carrier, and a lever actuating the coin carrier and arranged adjacent to said disk and adapted to be engaged by a coin thereof, substantially as described.

2. In a money changer, the combination of a coin chute provided with a series of depend-

ing branches, a disk arranged adjacent to the lower ends of the branches of the coin chute and adapted to receive coins therefrom, coin holding tubes, and a series of levers having their inner ends arranged adjacent to the disk and adapted to be engaged by a coin thereof and having their outer ends provided with coin carriers arranged beneath the coin tubes, substantially as and for the purpose described.

3. In a money changer, the combination of a casing, a coin chute, a partially rotating disk provided at its periphery with a slot arranged to receive a coin from the chute, a coin tube, a lever fulcrumed in the casing and provided at its outer end adjacent to the coin tube with a coin carrier and having its inner end arranged adjacent to the disk and adapted to be engaged by a coin thereof, substantially as described.

4. In a money changer, the combination of a casing, a coin chute, a disk provided at its periphery with a slot adapted to receive a coin from the coin chute, and a spring actuated bell-crank lever having its inner end adjacent to the disk and provided at its outer end with a coin carrier, substantially as described.

5. In a money changer, the combination of a casing provided with an annular series of semi-cylindrical coin receiving recesses and provided with adjacent discharge openings, a disk arranged adjacent to said recesses and openings and provided with peripheral coin receiving slots, a coin chute provided with branch tubes adapted to deliver coins to the slots of the disk, coin tubes, coin carriers arranged adjacent to the coin tubes, and levers fulcrumed in the casing and having their inner ends arranged adjacent to the recesses of the casing and adapted to be engaged by coins of the disk and having their outer ends actuating the coin carriers, substantially as described.

6. In a money changer, the combination of a casing, a disk provided at its periphery with coin receiving slots, and a series of levers arranged adjacent to the slots of the disk and adapted to be actuated by coins thereof and provided with coin carriers, substantially as described.

7. In a money changer, the combination of a casing, a disk mounted therein, a coin chute provided with a series of branches terminating adjacent to the periphery of the disk and adapted to deliver coins to the same, and a series of levers arranged adjacent to the periphery of the disk and provided with coin carriers, substantially as described.

8. In a money changer, the combination of a casing, a reciprocating coin carrier, and an annular series of removable coin holding tubes arranged adjacent to the coin carrier and rotatively mounted, whereby any one of the series of tubes may be brought into operative position over and adjacent to the coin carrier, all of the tubes of the series being of

the same diameter, substantially as and for the purpose described.

9. In a money changer, the combination of a casing, a coin chute provided with a series of branches, a disk arranged adjacent to the terminals of the branches of the coin chute and adapted to receive coins thereof and provided with a curved opening, a stop arranged in the opening and limiting the movement of the disk, means for actuating the disk, and a spring for returning the disk to its initial position, substantially as described.

10. In a money changer, the combination of a casing, an inclined coin chute provided with depending branch tubes and having openings in its bottom communicating with said tubes, a series of sliding cutoffs normally closing the openings of the bottom of the coin chute, and means for simultaneously operating the cutoffs, substantially as described.

11. In a money changer, the combination of a casing, a coin chute having depending branch tubes and provided in its bottom with openings communicating with the branch tubes, a series of cutoffs closing the openings of the chute, a disk arranged adjacent to the lower terminals of the branch tubes and adapted to receive coins therefrom, levers fulcrumed in the casing and located adjacent to the disk and provided with coin carriers, an operating bar connected with and actuating the disk, and means for connecting the cutoffs with the operating bar for simultaneously actuating the cutoffs, substantially as described.

12. In a money changer, the combination of a casing, a coin chute provided with branch tubes and having openings in its bottom communicating with the same, cutoffs slidably mounted on the chute and closing the openings in the bottom thereof, a rod connecting the cutoffs, a slide having one end connected to said rod, a wheel connected with the other end of the slide and adapted to actuate the same, and an operating bar arranged to engage and actuate the disk, substantially as described.

13. In a money changer, the combination of a casing, a coin chute provided with branch tubes, and having openings communicating with the same, a series of cutoffs normally closing said openings, a slide connected with and adapted to actuate simultaneously the cutoffs, a wheel connected with the slide and provided with a notch, and an operating bar having a tooth arranged to engage the notch of the wheel, substantially as and for the purpose described.

14. In a money changer, the combination of a casing, a coin chute having depending branch chutes and provided in its bottom with openings communicating with the branch tubes, a series of cutoffs closing the openings, a disk arranged adjacent to the lower terminals of the branch tubes and receiving coins therefrom, coin carriers adapted to be operated by said disk, an operating bar loosely

connected with the disk and having a limited movement independent thereof and provided with a tooth, a slide connected with the cut-offs, and a wheel connected with the slide and provided with a notch arranged to be engaged by the tooth of the operating bar, substantially as described.

15. In a money changer, the combination with a casing having a discharge opening, of a coin tube, a coin carrier arranged beneath the tube and having a semi-circular recess, a curved frame pivoted to the coin carrier and arranged adjacent to the recess thereof and forming a circular opening with the same, and a trip arranged to lift the frame when the coin carrier is arranged at the discharge opening, substantially as described.

16. In a money changer, the combination of

a casing provided with a discharge opening, a coin tube, a coin carrier arranged beneath the coin tube and comprising a head having a curved recess and a frame pivoted to the head and provided with a projection and having a curved portion arranged adjacent to said recess and forming a circular opening, and a trip provided with an inclined upper edge to engage said projection, substantially as and for the purpose described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CHARLES W. MUTH.
HENRY MARTIN.

Witnesses:

JOSEPH W. BOEHM,
ANDREW SONDAY.