No. 709,521. Patented Sept. 23, 1902.

P. H. STEDMAN.

CHANGE MAKING MACHINE.

(Application filed Sept. 13, 1901.)

(No Model.) 2 Sheets—Sheet 1.

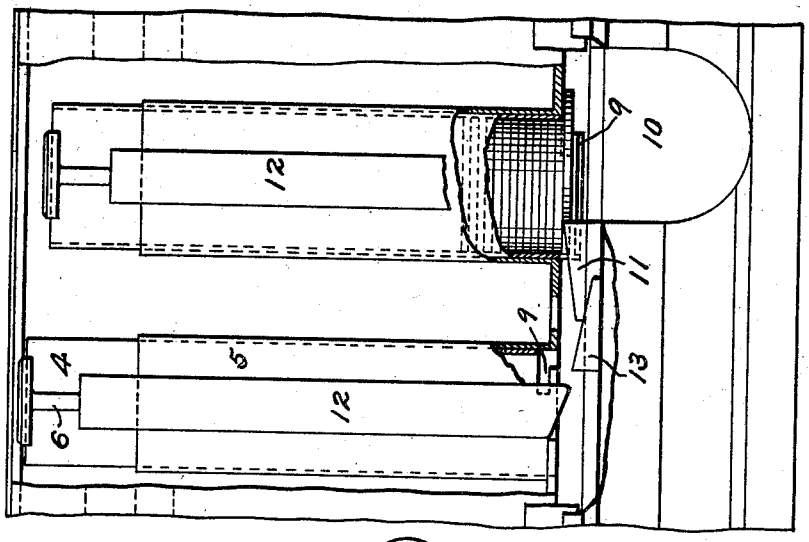


FIG. 2.

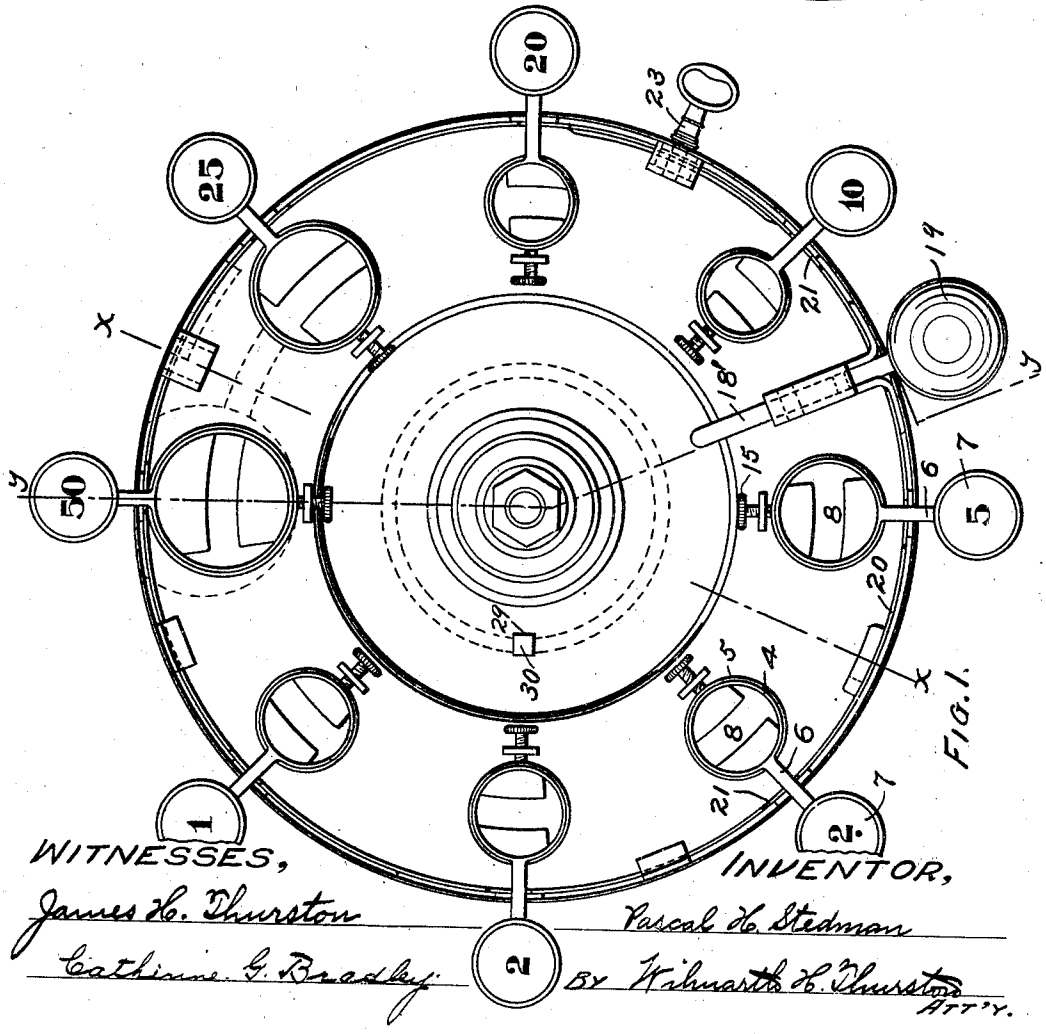


FIG. 1.

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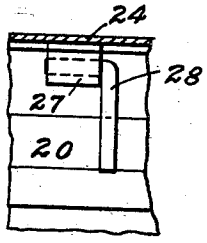


FIG. 5

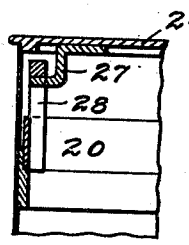
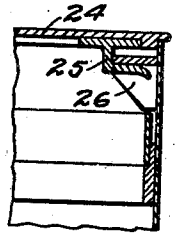


FIG. 4.



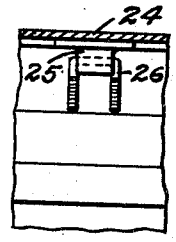


FIG. 6.

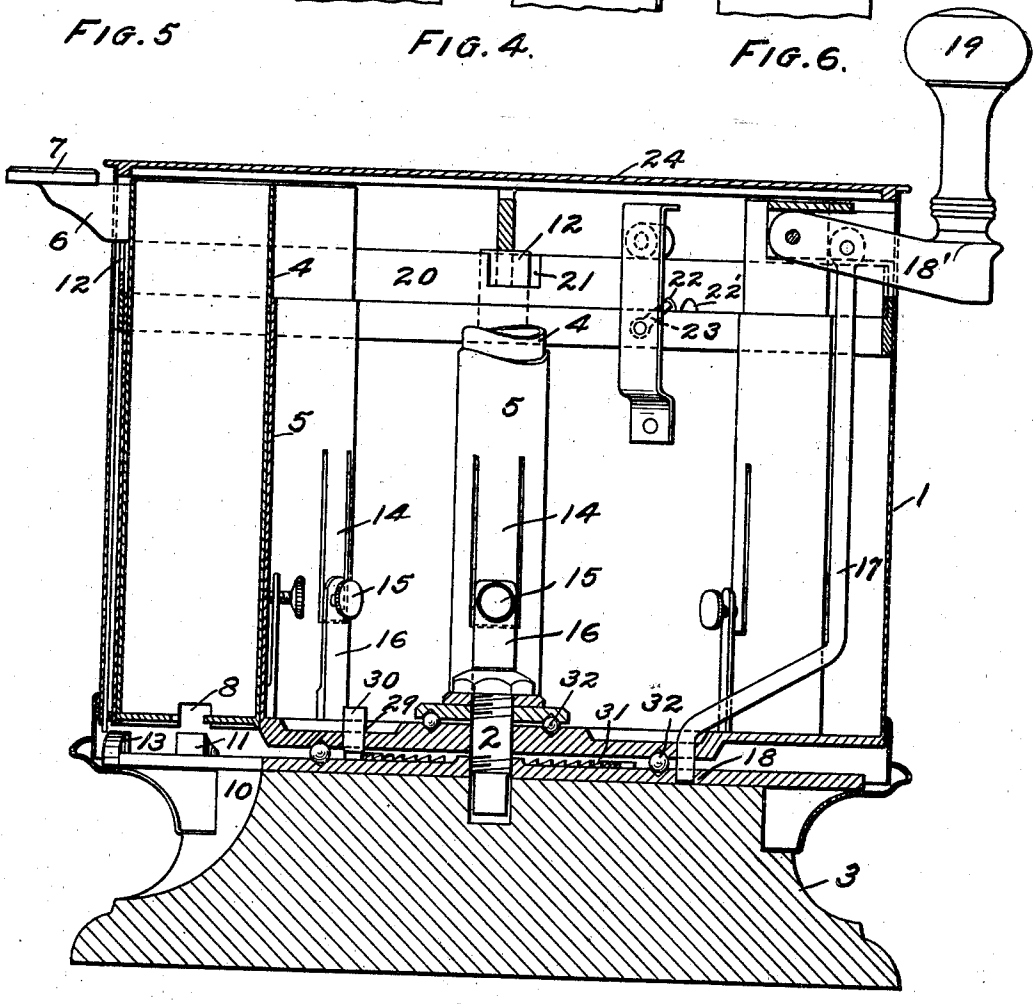


FIG. 3.

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UNITED STATES PATENT OFFICE.

PASCAL H. STEDMAN, OF NEWPORT, RHODE ISLAND.

CHANGE-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 709,521, dated September 23, 1902.

Application filed September 13, 1901. Serial No. 75,359. (No model.)

To all whom it may concern:

Be it known that I, PASCAL H. STEDMAN, of the city and county of Newport, State of Rhode Island, have invented a certain new and useful Change-Making Machine; and I do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a full, clear, and exact description thereof.

My invention relates in general to a machine for holding coin which can be manipulated to automatically deliver therefrom the amount of change required to be returned to a customer.

The object of my invention is to provide a machine of this character which is compact, simple, and effective in construction and is easily and accurately operated.

In describing my invention in detail reference will be made to the accompanying drawings, in which—

Figure 1 is a plan view of my improved change-making machine with the top or cover removed. Fig. 2 is a partial side view with the casing cut away, showing a coin being discharged from one of the tubes. Fig. 3 is a vertical sectional view on line *y y*, Fig. 1. Fig. 4 is a broken sectional view on line *x x*, Fig. 1; and Figs. 5 and 6 are details showing the means for locking the cover.

Referring to the drawings, the apparatus consists of the cylinder or carrier 1, arranged to revolve on the vertical post 2, mounted in the standard 3. The cylinder or carrier is provided with a series of vertically-arranged coin-tubes 4, which tubes have varying diameters to accommodate coins of different sizes and denominations. The tubes 4 are arranged to slide vertically in corresponding guide-tubes 5, mounted in the cylinder 1, and each tube is provided with a projecting arm 6, which extends laterally through a slot in the cylinder, the end of each projecting arm being provided with a thumb-piece 7, upon which which may be stamped the denomination of the coin contained in the corresponding tube, as shown in Fig. 1. The bottom of each coin-tube 4 is provided with a transverse curved slot 8 for a purpose hereinafter described, and a horizontal slot 9 is cut in the side wall of each tube, at or near the bottom thereof, of a size to admit the passage of one of the coins held in said tube. The coin-tubes having the figure "2" stamped on their thumb-pieces are for the reception of pennies, and the slots 8 in the side wall of said tubes are made wide enough for the passage of two pennies, which will be discharged when the tube is depressed and the cylinder revolved. This is the case also with regard to the coin-tube having the figure "20" on the thumb-piece thereof, which is for the reception of dimes and which delivers two at a time when the tube is depressed and the cylinder revolved.

On the standard 3, in proximity to a discharge-opening 10, is arranged a stationary lug or projection 11, adapted to enter the slot 8 in the coin-tube when said tube is pressed downward to its lower position.

When any one of the tubes 4 is pressed downward, it brings the lowermost coin therein in a plane where, as the cylinder 1 is revolved, the lug 11 will enter the slot 8 and come in contact with said lowermost coin, the continued revolution of the cylinder 1 causing said coin to be discharged laterally through the slot 9, as shown in Fig. 2. Arranged to slide in the cylinder 1 are a series of vertical slides 12, one for each coin-tube, the purpose of said slides being to automatically raise said tube to its normal position as the casing is revolved. The upper end of each vertical slide underlies the projecting arm 6 of the tube 4, and the lower end of each slide is beveled, as shown in Fig. 2. When the coin-tube 4 is pressed downward and the cylinder 1 revolved, the lower beveled end of the slide 12 after the coin has been discharged engages a stationary cam 13, fixed to the standard 3, and rides up said cam, thereby raising the coin-tube 4 to its normal position. The guide-tubes 5 are each split lengthwise to form a friction-spring 14, which is engaged near its end by a thumb-screw 15, passing through a stationary vertical arm 16, said screw regulating the friction between the coin-tubes 4 and the guide-tubes 5 and holding the coin-tubes 4 in their normal or raised position.

The cylinder 1 is provided with a vertically-movable locking-bar 17, the free end of which is arranged to engage a hole 18 in the standard 3 when the bar 17 is depressed, and

thereby lock the cylinder 1 against revolution. The other end of the locking-bar 17 is attached to a lever 18', which lever is provided with a handle 19 for manipulating the locking-bar and turning the cylinder 1 on the standard 3. A rotary ring 20 extends in a suitable guideway around the inner circumference of the cylinder 1 and is provided with a series of slots 21 in its upper edge, which are so arranged that when the ring is in one position the slots underlie the projecting arms 6, as shown in Fig. 1, and permit the coin-tubes 4 to be depressed, and when the ring is in another position the high level of the ring underlies the projecting arms 6 and prevents the coin-tubes 4 from being depressed. With this construction all the coin-tubes may be simultaneously locked in their raised position. The lower edge of the ring 20 is provided with two notches 22 22', arranged to be engaged by a key 23 to turn said ring, as shown in Fig. 3. The top of the cylinder 1 has a removable cover 24, provided on its under side, near the edge thereof, with the L-shape arm 25, which engages the hollow lug 26 on the inside of the cylinder, and the L-shaped arm 27, arranged to be engaged by the bent arm 28 on the rotary ring 20, as shown in Figs. 4, 5, and 6. With this construction the cover is securely held and locked in place.

The bottom of the cylinder 1 is provided with a hole 29, in which is loosely held a detent 30, which engages a series of notches 31 in the standard 3 and prevents backward movement of the cylinder. Friction-balls 32 are preferably interposed between the cylinder 1 and the standard 3.

The operation of the apparatus is as follows: The operator presses down one or more of the coin-tubes 4, representing the amount of change desired, by means of the thumb-pieces 7. He then grasps the handle 19 and raises the locking-bar 17 out of engagement with the standard 3 and turns the cylinder to the right. As the cylinder is revolved the lowermost coin or coins in the depressed tubes come in contact with the lug 11 and are pushed laterally through the slot 9 and drop down through the discharge-opening 10. As will be seen, as many of the coin-tubes as may be desired may be depressed, and when the cylinder is revolved a coin will drop from each of the depressed tubes. After the coin has been discharged from its tube the beveled end of the slide 12 engages the stationary cam 13 on the standard 3 and rides up said cam, thereby raising the coin-tube 4 to its normal or raised position. Thus when the cylinder has made a complete revolution the coins have been discharged from the depressed coin-tubes and said tubes have been raised again to their normal positions and the apparatus is in readiness for another operation.

As above stated, any one of the tubes may be constructed so that two coins may be simultaneously discharged therefrom.

The operation of the device for locking the cover in place and the coin-tubes in their raised position is as follows: The L-shaped arm 25 is placed in the hollow lug 26 and the cover pressed down into place. The L-shaped arm 27 is now in a position to be engaged by the bent arm 28 on the rotary ring 20. By turning the key 23 so that it will traverse the slot 22, and thereby rotate the ring 20, the bent arm 28 will engage the L-shaped arm 27, and thereby lock the cover on the carrier. The slots 21 then underlie the laterally-projecting arms 6 on the coin-tubes. If now the key 23 is turned again so that it will traverse the slot 22', and thereby rotate the ring 20 still farther, the series of slots 21 will be moved out from under the projecting arms 6 and the high level of the ring 20 will underlie said arms and lock the coin-tubes against downward movement.

In the arrangement shown and described the carrier is arranged to revolve and the coin-discharging lug or device is fixed. It will be understood, however, that, if desired, the carrier may be stationary and the discharging-lug revolved to discharge the coins from the coin-tubes contained in said carrier.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A carrier provided with coin-tubes arranged to slide longitudinally in said carrier.

2. A carrier provided with coin-tubes arranged to slide longitudinally in said carrier, each of said tubes having a discharge-opening.

3. The combination of a carrier provided with a coin-tube arranged to slide therein and means for ejecting a coin from said tube, one of said parts, viz., the carrier and ejecting means, having a movement with relation to the other part to eject a coin from said tube.

4. The combination of a carrier provided with coin-tubes and means for ejecting coins from said tubes, one of said parts, viz., the carrier and ejecting means, having a rotary movement with relation to the other part to eject coins from said tubes, said coin-tubes being movable into and out of the path of said ejecting means.

5. The combination of a carrier provided with coin-tubes and means for ejecting coins from said tubes, one of said parts having a rotary movement with relation to the other part to eject coins from said tubes, said coin-tubes being independently movable into and out of the path of said ejecting means.

6. The combination of a carrier provided with coin-tubes and means for ejecting coins from said tubes, one of said parts having a rotary movement with relation to the other part to eject coins from said tubes, said coin-tubes being movable into the path of said ejecting means, and means for automatically moving said tubes out of the path of said ejecting means.

7. The combination of a carrier provided with coin-tubes and means for ejecting coins

from said tubes, one of said parts having a rotary movement with relation to the other part to eject coins from said tubes, said coin-tubes being independently movable into the path of said ejecting means, and means for automatically moving out of said path all of the tubes that may have been moved into said path.

8. The combination of a carrier provided with coin-tubes and means for ejecting coins from said tubes, one of said parts having a rotary movement with relation to the other part to eject coins from said tube, said coin-tubes being movable into and out of the path of said ejecting means, and means for locking said tubes out of said path.

9. The combination of a rotary carrier having a series of guide-tubes and a series of coin-tubes arranged to slide in said guide-tubes and means for automatically ejecting coins from said coin-tubes by revolving the carrier.

10. The combination of a rotary carrier, a series of guide-tubes, a series of coin-tubes arranged to slide in said guide-tubes, means for depressing said coin-tubes and means for automatically ejecting the coins from said coin-tubes when the carrier is revolved.

11. The combination of a rotary carrier having a series of guide-tubes, a series of coin-tubes arranged to slide in said guide-tubes and provided with laterally-projecting arms for depressing said tubes and means for automatically ejecting the coins from the coin-tubes when the carrier is revolved.

12. The combination, with a standard, of a rotary carrier having a series of guide-tubes, a series of coin-tubes arranged to slide in said guide-tubes, each coin-tube being provided with a laterally-projecting arm and a discharge-opening, and means for automatically ejecting a coin through said opening when the carrier is revolved.

13. The combination, with a standard, of a rotary carrier having a series of guide-tubes, a series of coin-tubes, arranged to slide in said guide-tubes, each coin-tube being provided with a laterally-projecting arm, a transverse slot in the bottom and a discharge-opening in the side of said tube, and means arranged to enter said slot for automatically ejecting a coin through said discharge-opening when the carrier is revolved.

14. The combination, with a standard, of a rotary carrier, a series of coin-tubes arranged to slide in said carrier, each coin-tube having a slot in one end and a discharge-opening in the side thereof, and a lug or projection arranged to enter said slot and eject a coin through said discharge-opening when the carrier is revolved.

15. The combination, with a standard, of a rotary carrier having a series of guide-tubes, a series of tubes arranged to slide therein, each coin-tube being provided with a curved slot in one end and a discharge-opening in the side thereof of a size to allow the passage of one of the coins in said tube, means arranged to enter said slot and engaging the lowermost coin in the coin-tube and eject it through said discharge-opening, and means for revolving the carrier.

16. The combination, with a standard provided with a cam, of a rotary carrier having a series of coin-tubes mounted to slide therein, each coin-tube being provided with a laterally-extending arm for moving it in one direction, means actuated by said cam for moving the coin-tubes in the other direction, and means for rotating the carrier.

17. The combination, with a standard provided with a stationary cam, of a rotary carrier having a series of coin-tubes mounted to slide therein, each coin-tube being provided with a laterally-extending arm, a series of slides having their upper ends arranged to engage said laterally-extending arms and their lower ends arranged to engage said stationary cam as the carrier is revolved and automatically raise the coin-tubes.

18. The combination, with a standard provided with a stationary cam, of a rotary carrier having a series of coin-tubes provided with laterally-extending arms for depressing said tubes, a series of slides mounted in the carrier having their upper ends engaging said laterally-extending arms and their lower ends arranged to engage the stationary cam on the standard when the coin-tubes are depressed and the carrier revolved.

19. The combination of a carrier provided with guide-tubes, coin-tubes arranged to slide in said guide-tubes and friction devices acting on said coin-tubes.

20. The combination, of a carrier provided with coin-tubes arranged to slide longitudinally in said carrier, and means for locking said coin-tubes against sliding movement in one direction.

21. The combination of a carrier provided with coin-tubes arranged to slide longitudinally in said carrier, a cover for said carrier, means for locking said cover in place and means for locking said coin-tubes against sliding movement in one direction.

22. The combination of a carrier provided with coin-tubes arranged to slide longitudinally in said carrier, a cover for said carrier, and means for locking said cover in place and also locking said coin-tubes against sliding movement in one direction.

23. The combination of a carrier provided with coin-tubes arranged to slide longitudinally in said carrier, a cover for said carrier, and means operating to lock said cover in place by one movement and by a further movement to lock said coin-tubes against movement in one direction.

24. The combination, with a rotary carrier, of a series of coin-tubes mounted to slide therein and provided with laterally-extending arms, a rotary ring mounted on the carrier and provided on its edge with a series of slots arranged to normally underlie the

laterally-extending arms, and means for rotating said ring to bring the edge thereof under said arms and thereby lock said coin-tubes against sliding movement.

25. The combination of a rotary carrier, a cover therefor, a series of coin-tubes arranged to slide in said carrier, a rotary ring mounted on said carrier and provided with means for locking the coin-tubes against movement in one direction.

26. The combination of a rotary carrier, a cover therefor, a series of coin-tubes arranged to slide in said carrier, and provided with laterally-extending arms, a rotary ring mounted on said carrier and provided with a series of slots arranged to normally underlie said laterally-extending arms and with means for engaging the cover to lock the same on the carrier.

27. The combination of a rotary carrier, a cover therefor, a series of coin-tubes arranged to slide in said carrier and provided with laterally-extending arms, a rotary ring mounted on said carrier and provided with a series of slots arranged to normally underlie said laterally-extending arms and with means for engaging the cover to lock the same on the carrier, and means for giving to said ring two movements, one movement to lock the cover and another movement to lock the coin-tubes against sliding movement in one direction.

28. The combination, with a standard, of a rotary carrier provided with a handle for rotating said carrier and means connected with said handle for locking the carrier against revolution.

29. The combination, with a standard provided with an opening, of a rotary carrier provided with a lever, a handle attached to one end of said lever and a bar attached to the other end of said lever, the free end of said bar being arranged to engage the opening in said standard when the bar is depressed.

30. The combination, with a standard provided with an opening and a series of notches, of a rotary carrier provided with a locking-bar for engaging said opening, and a detent for engaging said notches.

31. The combination of a carrier provided with coin-tubes, means for ejecting coins from said tubes, one of said parts having a movement with relation to the other part to eject coins from said tubes, said coin-tubes being movable into and out of the path of said ejecting means, and means for locking said tubes out of said path.

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Witnesses:
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THOS. S. TILLEY.