

F. W. NALL.
COIN COUNTER AND DELIVERER.

No. 518,676.

Patented Apr. 24, 1894.

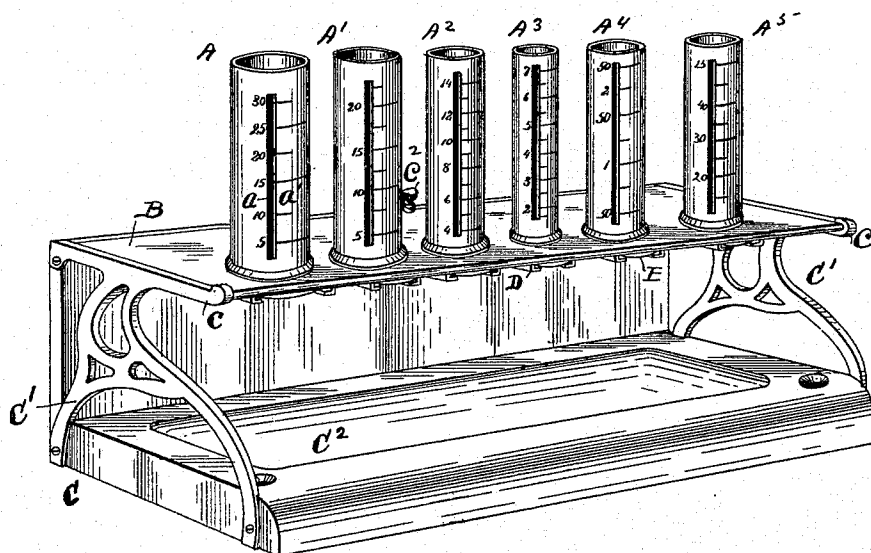


Fig. 1.

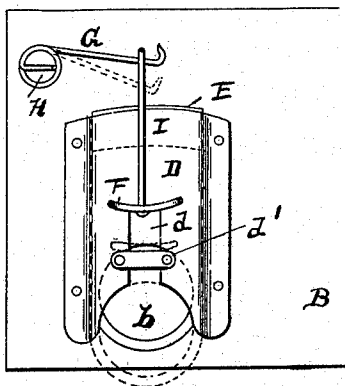


Fig. 2.

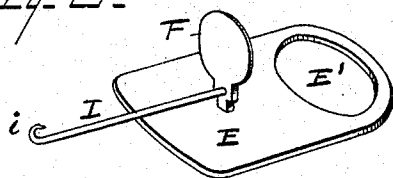


Fig. 4.

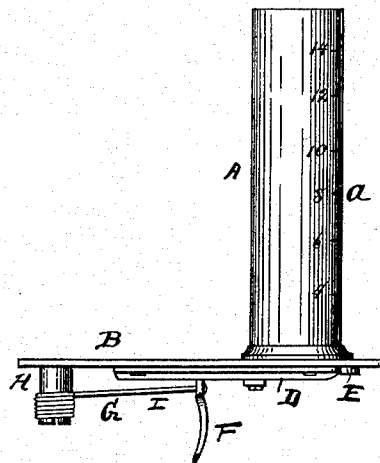


Fig. 3.

Witnesses

Q. B. Baerzinger.
John F. Miller

Inventor

Frederick W. Nall

By his Attorney

Wesley S. Wright.

(No Model.)

2 Sheets—Sheet 2.

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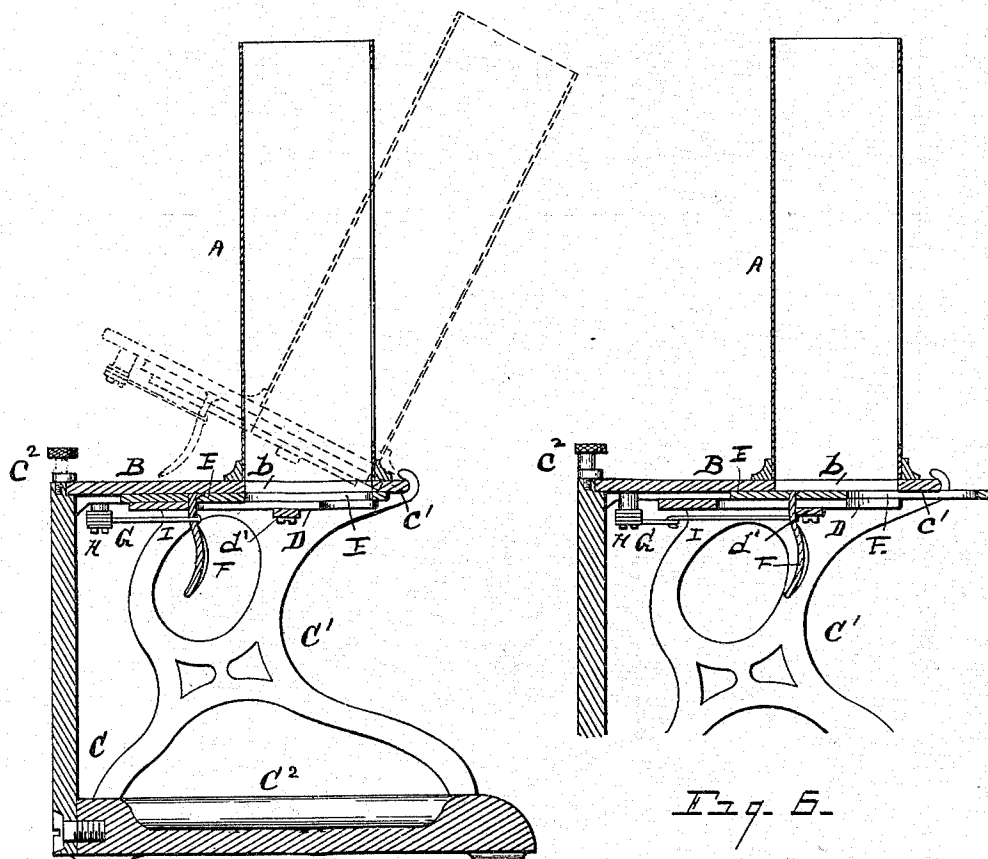


Fig. 5

Fig. 6

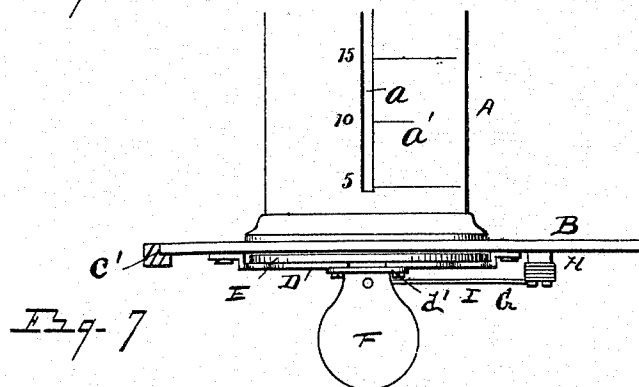


Fig. 7

Witnesses
Oliver Baerzger
John F. Miller

Inventor
Frederick W. Nall
By his Attorney
Newell S. Wright

UNITED STATES PATENT OFFICE.

FREDERICK W. NALL, OF DETROIT, MICHIGAN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO GEORGE HUNTINGTON, HUGH E. KENNY, AND SAMUEL I. SLADE, OF SAME PLACE.

COIN COUNTER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 518,676, dated April 24, 1894.

Application filed April 14, 1893. Serial No. 470,284. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. NALL, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Money-Changers; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to new and useful improvements in a money changer or change delivery apparatus, and consists of the devices and appliances, their construction, combination and arrangement, as hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective, illustrating my invention. Fig. 2 is an inverted plan view, showing one of the delivery devices beneath the coin tube. Fig. 3 is an end view. Fig. 4 is a detail view of the slide. Fig. 5 is a vertical cross section, showing parts in elevation, and the slide in normal position. Fig. 6 is a similar view showing the slide drawn forward in position to deliver the coin. Fig. 7 is a front elevation of portions of the device.

The object of my invention is to provide a money changer of simple and economical construction, and of superior efficiency, which may be conveniently and more easily operated than devices of this class heretofore made, and which the operator can operate with a single hand, the change being delivered into the same hand which manipulates the apparatus.

I carry out my invention as follows: A, A', A², A³, A⁴ and A⁵ represent a series of coin tubes, each made of the required diameter to hold a given denomination of coins, as for example, silver dollars, half dollars, quarters, dimes, nickels and pennies. Any number of coin tubes may be employed, others being added if the apparatus is desired for delivering gold coins, three cent pieces, two cent pieces, &c. I prefer to construct each

of said tubes with an elongated slot "a," and to mark the face of the tube adjacent thereto with a scale, as at "a'," and with numbers, as shown. By these means the amount of change in any given tube can readily be seen and counted without having to remove it from the tubes. These tubes are located upon a base plate B, perforated at the lower end of each tube, as shown at "b," so as to permit the corresponding coin to drop through the base plate. The base plate with its coin tubes may be engaged upon any suitable support C. For firmness and to dispense with the necessity of screwing the support down upon a counter or similar device, I prefer to make the support of suitable heft to hold the apparatus in place when being manipulated. Thus, for example, the support may be made of an angular shaped casting, having end brackets C' engaged therewith, the horizontal portion C² of the support being preferably countersunk or dished to receive packages of coin which may be placed thereon. The support may be constructed to be screwed down upon the counter, if desired. I prefer that the plate B should have a removable engagement with the support, so that the same, with its coin tubes may be easily removed, as when it is desired to deposit the money in the safe or vault for the night. This removable connection may be accomplished in any suitable manner. As shown, the upper horizontal arms "c" of the end bracket C' are each constructed with a longitudinal groove or recess, as indicated at "c'," into which grooves the operator may slide the plate B. The plate may be held in place by any suitable locking device, as by a button "c²," upon the vertical portion C³ of the support. The grooves c' preferably stop short of the forward ends of the arms "c."

On the under side of base plate B I locate a guide plate D, one for each of the coin tubes and corresponding therewith, the guide plate being depressed or countersunk intermediate its lateral edges to a depth corresponding to the thickness of a single coin located in the corresponding coin tube thereabove. These guide plates project beneath

the corresponding coin tube, so as to form a seat or rest beneath the aperture or perforation "b" in the base plate B. Being countersunk or depressed simply the thickness of the corresponding coin, it will be evident that the lower coin in the corresponding coin tube may fall through the corresponding perforation in the base plate B upon said guide plate.

Between each of the guide plates D and the adjacent face of the base plate B, I locate a delivery slide E, said slide being constructed with an orifice, as indicated at E', of a diameter corresponding to that of the adjacent coin tube and of the particular denomination of coin located therein.

My invention preferably contemplates a forward movement of the slide to deliver the coin. It will be seen that when the slide is in its retracted or normal position the rim of the orifice E' therein surrounds or partially surrounds the lower coin which has descended upon the corresponding guide plate. Consequently when the slide is moved forward it will force the coin therewith and permit said coin to drop into the hand of the operator. The forward end of the guide plate is preferably cut away on the arc of a circle, as shown in Fig. 2, so that the coin may drop freely, by a more limited movement of the slide, than would be the case were the guide plate not so cut away. A key or finger piece F is engaged with each of said slides, whereby they may be moved forward. The key connects with the slide through an elongated slot "d," in the guide plate, to permit the reciprocation of the key. A stop "d'" is located at the forward end of the slide to limit the movement of the key. The slides are made self-retracting by means of springs G engaged therewith respectively. These springs are each preferably engaged with a post H, and in such a way that the spring will be tightened when connected with the key. To connect the end of the spring with the key, I preferably employ a rod I provided with a hook "i" to engage the spring the opposite end of the rod being connected with the key.

The operation of the device will now be understood. The lower coin in the coin tube drops upon the guide plate beneath the base plate and within the orifice in the slide. With one of his fingers, the palm of the hand being uppermost, the key is drawn forward, delivering the coin into the hand, which is in position to receive it when the key is pulled forward.

It is not essential that the rim of the orifice E' should be continuous, as it may be partially cut away if desired. When the key is released the spring instantly retracts the delivery slide. It will be evident that in drawing forward the lower coin when the slide is moved forward the coin next above is sustained upon the rear portion of the slide until the slide is retracted into normal position. This construction is obviously very simple.

By using a coin tube, the money is effectually guarded, as access cannot be had thereto except by its proper delivery, or by bodily reversing the position of the whole machine.

The guide plates are preferably made of sheet metal stamped to required form, a separate guide plate being used with each coin tube.

What I claim as my invention is—

1. In a money changer, the combination of a base plate provided with a series of coin tubes communicating therewith, and delivery devices located underneath said plate to deliver the coin from each of the tubes through said plate, said devices each provided with a forwardly moving self retracting operating key, projecting downward therefrom at the rear of said coin tubes, whereby the coin may be delivered and received by one hand, substantially as described.

2. In a money changer, the combination with a base plate, of a series of coin tubes opening therethrough, delivery slides located beneath said plate to deliver the coin from each of the tubes through said plate, provided with a downwardly projecting operating key located rearward of the coin tubes, movable with the slide and rigidly connected therewith, the coin dropping through the base plate upon the slides, said slides working forward to deliver the coins, and made self-retracting, substantially as described.

3. In a money changer, the combination of a support, a base plate provided with a series of coin tubes communicating therethrough, a guide plate located below each of said tubes on the under side of said base plate, a delivery slide engaged with said guide plate between it and the under side of the base plate, and an operating key rigidly connected rearward of the tubes with said slide and movable therewith, said slide cut away permitting the coin to drop upon the guide plate below and to be ejected by the movement of the slide, substantially as described.

4. In a money changer, the combination of a support, a base plate, a series of coin tubes opening therethrough, self-retracting delivery slides located beneath the base plate to deliver the coin from said coin tubes, each of said slides constructed with a coin orifice at its forward end and provided with a key located rearward of the forward portion of said slides, whereby the coin will be delivered in advance of the keys, substantially as described.

5. In a money changer, the combination of a base plate, a series of coin tubes supported thereon, and communicating therethrough, a countersunk guide plate located beneath each of said tubes, and a delivery slide made horizontally reciprocatory in the countersunk portion of the guide plate between the guide plate and the base plate, said slide constructed with an orifice to receive the coin, and a downwardly projecting operating key at the rear of said orifice, substantially as described.

6. In a money changer, the combination of a base plate, a series of coin tubes supported thereon, and communicating therethrough, a countersunk guide plate located beneath the base plate and beneath each of said tubes, and a delivery slide made reciprocatory in the countersunk portion of the guide plate between the guide plate and base plate, said slide constructed with an orifice at its forward end to receive the coin, and with a downwardly projecting operating key, said guide plate cut away on its forward end and projecting beneath the adjacent coin tube to form a seat for the coin, substantially as described.

7. In a money changer, the combination with a support, of a removable base plate provided with a series of coin tubes communicating therethrough, and delivery devices engaged upon the under side of the base plate to deliver the coin from each of the tubes, substantially as described.

8. In a money changer, the combination of a base plate, a series of coin tubes opening at the base thereof through the base plate, a reciprocatory slide located beneath the base plate to deliver the coin, a retracting spring to restore the slide into normal position, a post engaging one end of the spring, and a rod connecting the slide with the opposite end of said spring, substantially as described.

9. In a money changer, the combination of a base plate, a series of vertical coin tubes communicating therethrough and arranged to hold the coin in horizontal position, a countersunk guide plate located beneath said base plate and spaced from said plate a distance equal to the thickness of the coin to be delivered, and a reciprocatory slide located between the guide plate and base plate constructed with an orifice at its forward end to receive the lower coin in the tubes, and with a downwardly projecting operating key, the remaining coin supported on the rear end of the slide while the lower coin is being delivered, substantially as described.

10. In a money changer, the combination of a base plate, a coin tube opening at its base through said plate, a rest or support for the coin located beneath the said tube and spaced therefrom the thickness of a single coin, a delivery slide located between said support and said plate constructed to move forward the lower coin to deliver the same to the operator, and to support the balance of the coin in said tube while the lower coin is being delivered, and a downwardly projecting operating key rigidly connected to the rear of the tubes with said slide and movable therewith, said coin being delivered through the base plate, support and slide therebeneath, substantially as described.

11. In a money changer, the combination with a base plate, of a coin tube opening at its base therethrough, a horizontally reciprocating slide provided with a downwardly projecting operating key rigidly connected therewith, located beneath the base plate and made self-retracting, said key located rearward of the coin tube, the construction being such that the operator may deliver and receive the coin with a single hand, substantially as described.

12. In a money changer, the combination with a support, of a base plate provided with a series of coin tubes communicating therethrough, a series of independent countersunk guide plates, each located on the under side of the base plate below a corresponding coin tube, a horizontally reciprocatory delivery slide engaged between each of the guide plates and the under side of the base plate, and a downwardly projecting operating key rigidly connected with said slide and movable therewith, substantially as described.

13. In a money changer, the combination of a support, a base plate, a coin tube opening at its lower end through said base plate, a countersunk guide plate located beneath the base plate, a reciprocatory slide engaged between said guide plate and the base plate to deliver the coin, a spring engaged with said base plate at one end and with said plate at the opposite end, the construction being such that the operator may deliver and receive the coin with a single hand, substantially as described.

14. In a money changer, a base plate, a coin tube opening at its lower end therethrough, a guide plate located therebeneath constructed with an elongated slot, a reciprocatory self retracting slide located between the base plate and guide plate, provided with a downwardly projecting operating key rearward of said tubes extended through said elongated slot and with a delivery orifice forward of said key, and a stop to limit the movement of said slide, the construction being such that the operator may deliver and receive the coin with a single hand, substantially as described.

15. In a money changer, the combination of a base plate B, a series of coin tubes communicating therethrough, a guide plate engaged upon the under side of the base plate, a delivery slide E engaged to reciprocate between said guide plate and base plate, provided with a downwardly projecting operating key rearward of said tube and with a delivery orifice forward of said key, and a retracting spring G, the construction being such that the operator may deliver the coin through the base plate and receive the coin therebeneath with the same hand, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

FREDERICK W. NALL.

Witnesses:

N. S. WRIGHT,
JOHN F. MILLER.