(No Model.) 5 Sheets—Sheet 1.

S. D. REYNOLDS.

COIN ASSORTER AND DELIVERER.

No. 537,069. Patented Apr. 9, 1895.

Fig. 1.

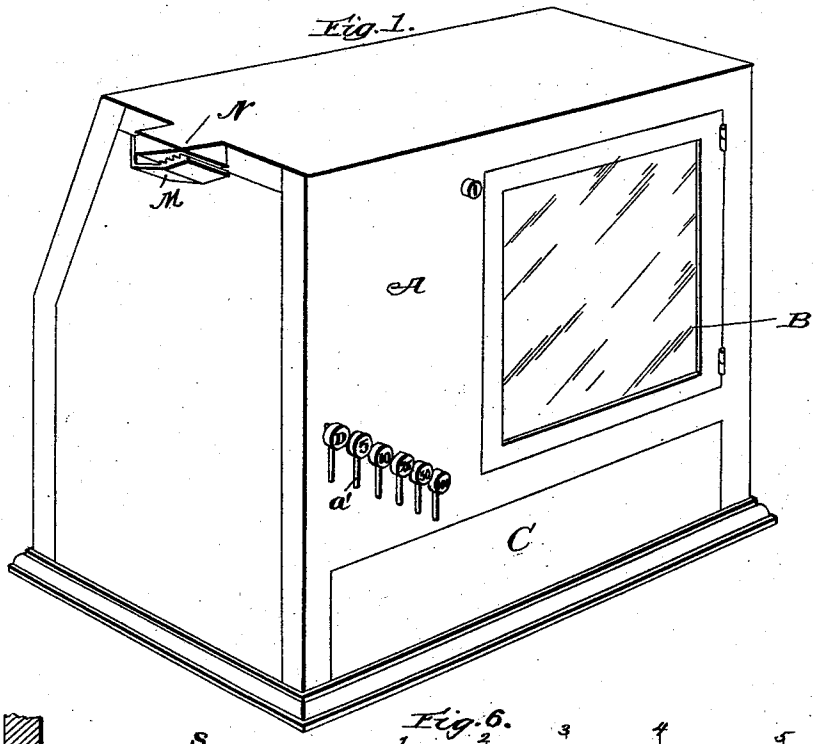

Fig. 6.

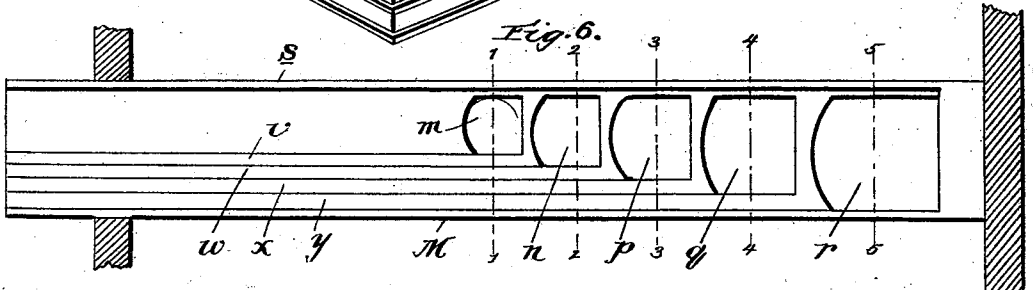

Fig. 7.

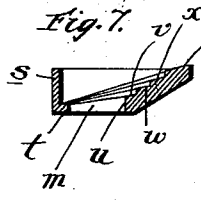

Fig. 8.

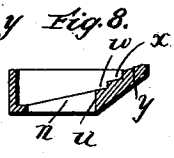

Fig. 9.

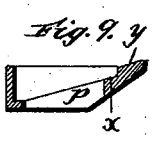

Fig. 10.

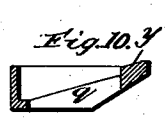

Fig. 11.

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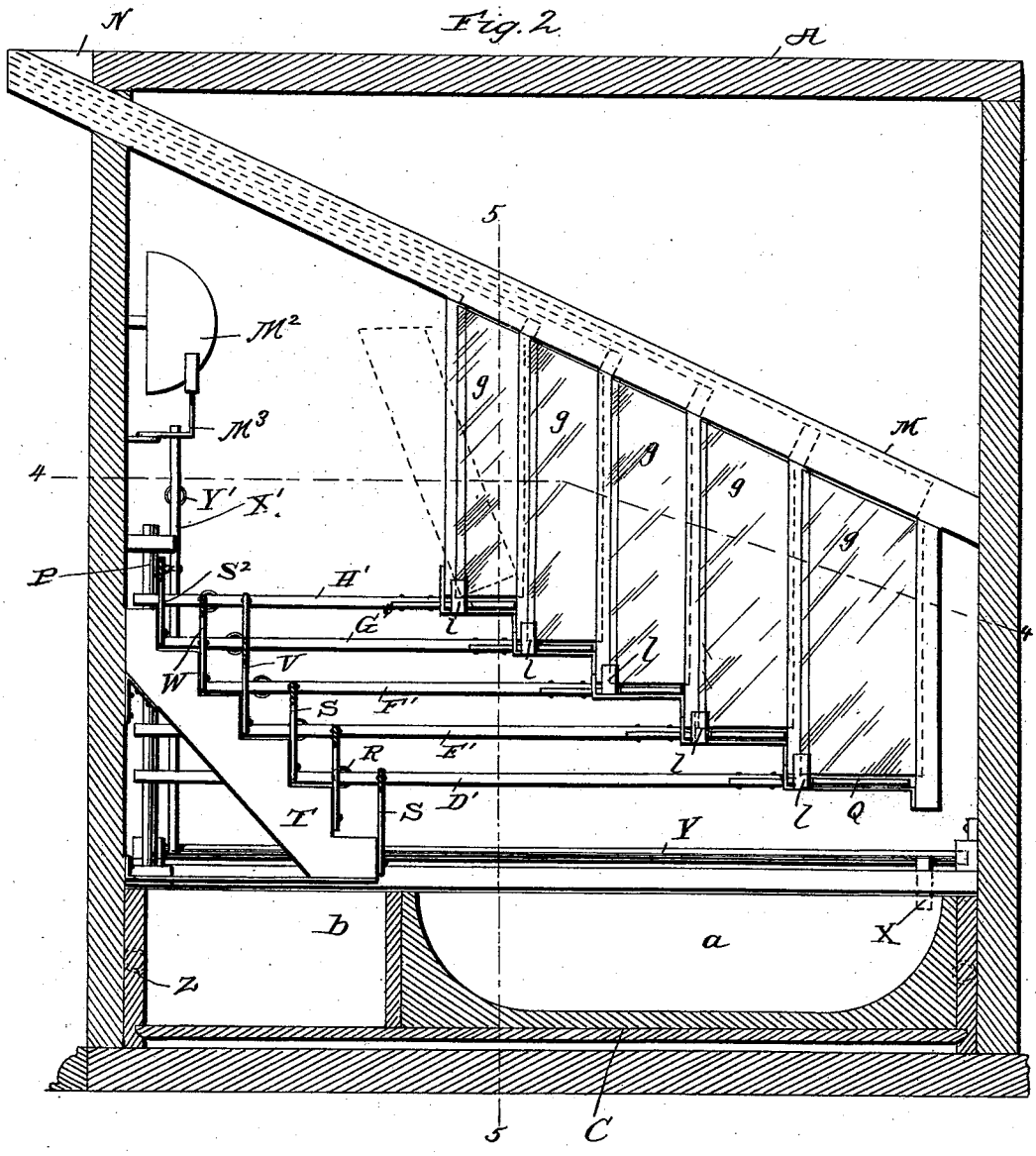
(No Model.) 5 Sheets—Sheet 2.

S. D. REYNOLDS.

COIN ASSORTER AND DELIVERER.

No. 537,069. Patented Apr. 9, 1895.

Fig. 2.



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5 Sheets—Sheet 3.

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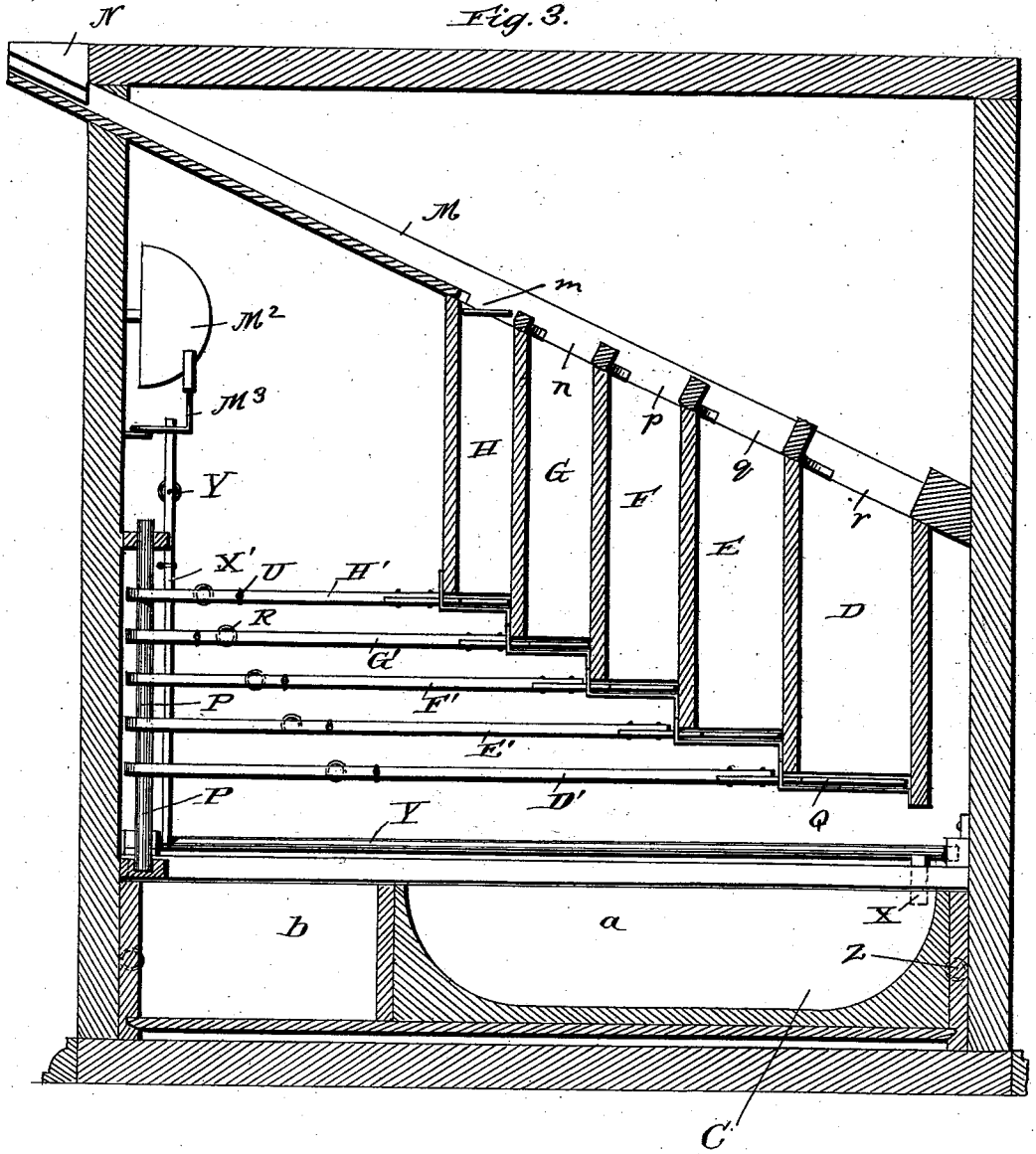
COIN ASSORTER AND DELIVERER.

No. 537,069. Patented Apr. 9, 1895.

Fig. 3.



Witnesses
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(No Model.) 5 Sheets—Sheet 4.

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COIN ASSORTER AND DELIVERER.

No. 537,069. Patented Apr. 9, 1895.

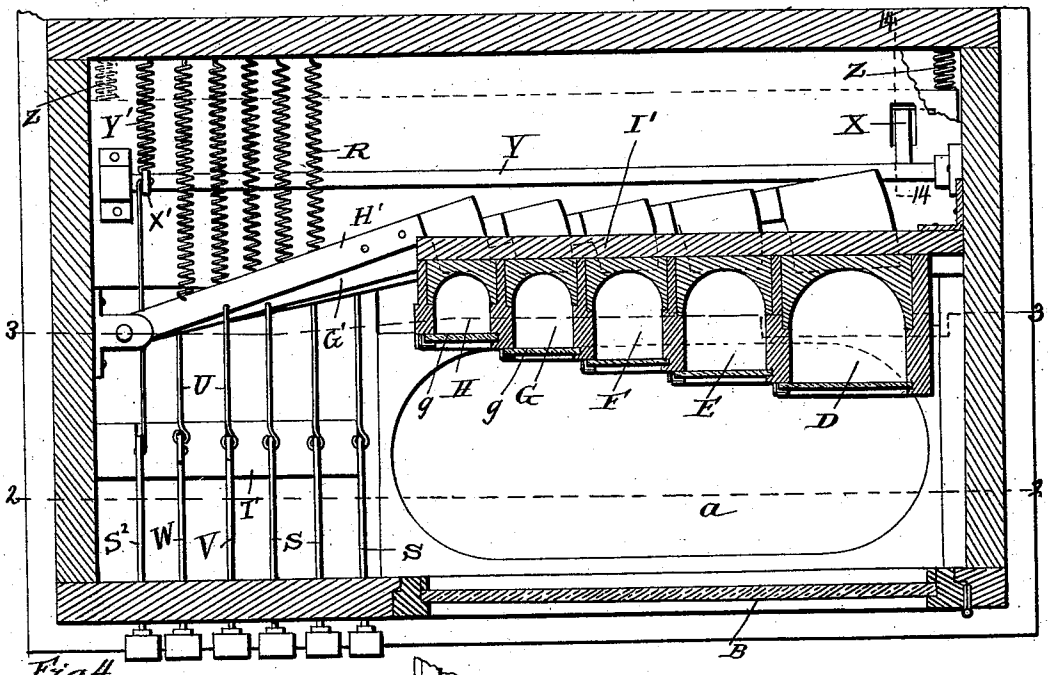

Fig. 4.

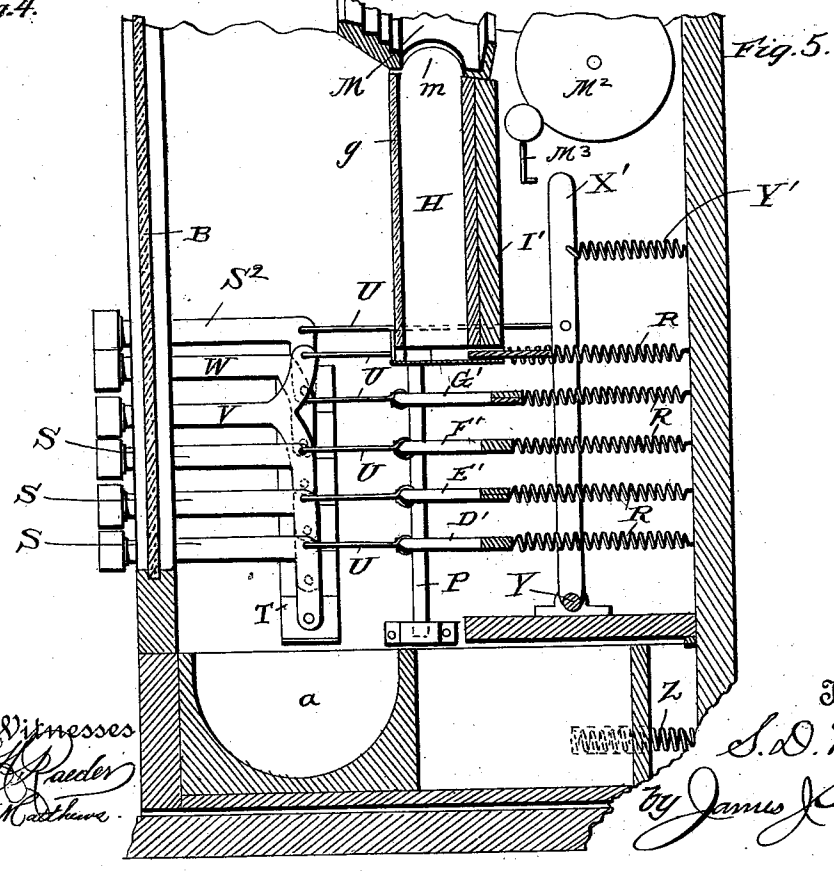

Fig. 5.

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(No Model.) 5 Sheets—Sheet 5.

S. D. REYNOLDS.

COIN ASSORTER AND DELIVERER.

No. 537,069. Patented Apr. 9, 1895.

Fig. 12.

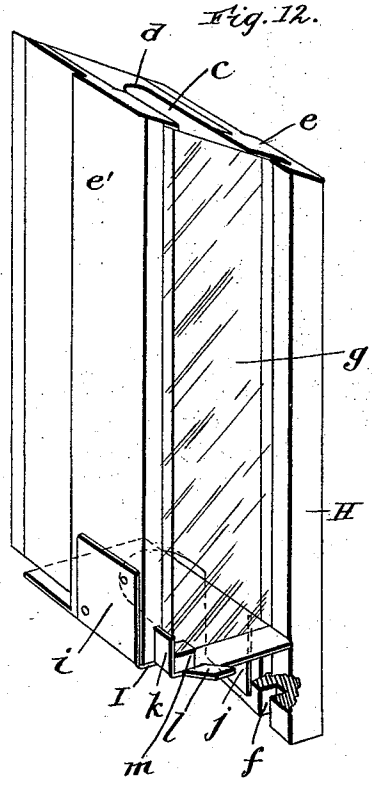


Fig. 13.

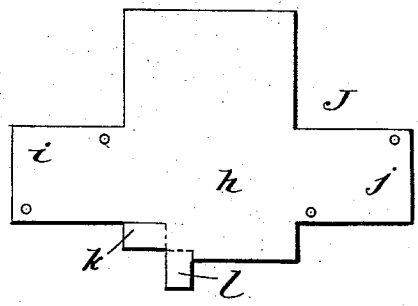


Fig. 14.

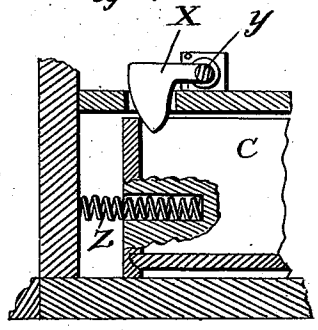


Fig. 15.

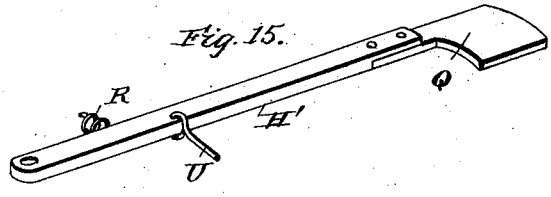


Fig. 16.

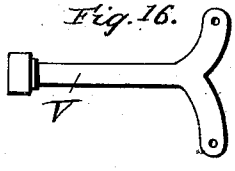


Fig. 18.

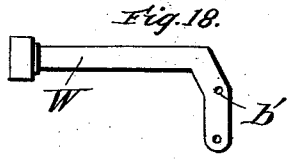
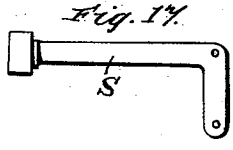


Fig. 17.



Witnesses
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K. F. Matthews.

Inventor
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By James J. Shuky
Attorney

UNITED STATES PATENT OFFICE.

STEPHEN D. REYNOLDS, OF SAN ANTONIO, TEXAS.

COIN ASSORTER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 537,069, dated April 9, 1895.

Application filed November 27, 1894. Serial No. 530,188. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN D. REYNOLDS, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Coin-Separators; and I do 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.

My invention relates to improvements in devices for separating and holding coins and facilitating the making of change; and its novelty will be fully understood from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a perspective view of my improved device. Fig. 2, is a vertical section, taken in the plane indicated by the line 2—2, of Fig. 4. Fig. 3, is a vertical section taken in the plane indicated by the line 3—3, of Fig. 4. Fig. 4, is a section taken in the plane indicated by the line 4—4, of Fig. 2. Fig. 5, is a detail, vertical section taken in the plane indicated by the line 5—5, of Fig. 2. Fig. 6, is a detail plan view of the coin slide. Figs. 7, 8, 9, 10, and 11, are transverse sections of the same taken in the planes indicated by the lines 1—1, 2—2, 3—3, 4—4, and 5—5, respectively, of Fig. 6. Fig. 12, is a perspective view, on an enlarged scale, illustrating one of the coin holders, removed from the casing. Fig. 13, is a plan view of the blank from which the bottom of the holder is formed. Fig. 14, is a detail section taken in the plane indicated by the line 14—14, of Fig. 4, illustrating the latch for securing the drawer in its closed position. Fig. 15, is a detail, perspective view of one of the coin pushing levers; and Figs. 16, 17, and 18, are detail views, illustrating the kinds of finger or hand levers employed.

Referring by letter to said drawings, in which similar letters of reference indicate corresponding parts throughout the several views:—A, indicates the casing of my improved device which may be formed of wood or other suitable material and is provided with a door B, preferably of glass.

C, indicates a drawer which is arranged in the bottom of the casing and is preferably provided with the compartments *a*, *b*, for coins and bills respectively, and D, E, F, G, and H, indicate the vertically-disposed coin holders which are preferably arranged in the manner illustrated in Fig. 4, and are connected to a vertical wall I′, disposed longitudinally within the casing as shown. These holders D, E, F, G, and H, are designed to receive coins of the denomination of one dollar, fifty cents, twenty five cents, five cents, and ten cents, respectively, and they are therefore graduated in size, as shown; the ten cent holder H, at one end being smaller than any of the others, and the dollar holder D, at the opposite end being larger. Said holders also vary in length as better shown in Fig. 3; the holder H, being of a less length than any of the others and the holder D, of a greater length, but all of the holders are similar in construction and therefore a description of one, the ten cent holder H, for instance, will suffice for all. This holder H, which is illustrated in detail in Fig. 12, is preferably of a rectangular form in cross section, and it is provided in one side with a recess *c*, which extends the full length of the holder and has its inner wall *d*, curved in conformity with the coins which it is designed to receive and also has its inner side wall *e*, extended below its other wall so as to form one side wall of the next holder G, which is longer. The said side wall *e*, is also of a greater width than the opposite side wall *e*,′ and in its extended portion is formed a groove *f*, designed to receive one edge of the wall *g*, (preferably of glass) which closes one side of the recess *c*.

I, indicates the bottom of the holder which is preferably formed from a blank of sheet metal J, such as illustrated in Fig. 13. This sheet metal bottom I, comprises a body portion *h*, which rests beneath the recess *c*, of the holder, the wing *i*, which is connected to the side wall *e*′, of the holder, the wing *j*, which is connected to the side wall *e*, of the holder and the short wings *k*, *l*, which are designed to be bent up at right angles to each other, shown in Fig. 12, to hold the glass *g*, against casual displacement and retain a small block *m*, the purpose of which will be presently described. The said bottom I, is so connected to the walls *e*, and *e*′, that a space or opening greater than the thickness of the coins in the holder will

be afforded between the body portion *h*, and the lower ends of the rear wall and the side walls *e*, *e'*; and the glass *g*, being mounted upon the block *m*, a space or opening will be afforded between its lower end and the body portion *h*, of the bottom. This construction permits of a pushing lever (presently described) entering between the bottom and the several vertical walls of the holder so as to knock the lowermost coin out between the lower end of the glass *g*, and the bottom; the vertical wall I', to which the holder is connected being apertured or cut off to afford a passage for the lever.

As better illustrated in Figs. 2, 3, and 12, of the drawings the upper ends of the several coin holders, are beveled in the direction of the length of the casing to correspond to the longitudinal pitch or inclination of the coin slide M, which is mounted thereon; and as better illustrated in Fig. 5, of the drawings, the upper ends of the several coin holders are beveled slightly in the direction of the width of the casing so that one side of the slide M, will rest in a plane slightly below the other side for a purpose presently to be described.

The slide M, is preferably cast in one piece and suitably planed to insure smooth surfaces and it is provided with the openings *m*, *n*, *p*, *q*, and *r*, which are gradually increased in size and have one wall curved and are designed to register with or rest over the recesses *c*, of the holders H, G, F, E, and D, respectively, to which holders the slide may be connected by nails, screws, or other suitable devices. The said slide M, comprises the lower side wall *s*, the bottom *t*, in which the several openings are formed and the side wall *u*. This wall *u*, is provided on its inner side with four (more or less) steps *v*, *w*, *x*, and *y*, to form ways for the coins; the lower step *v*, extending from the upper end of the slide to the curved forward end of the opening *n*, the second step *w*, extending from the upper end of the slide to the curved forward end of the opening *p*, the step *x*, extending from the upper end of the slide to the curved forward end of the opening *q*, and the upper step *y*, extending from the upper end of the slide to the curved forward end of the opening *r*. By reason of this construction a dime placed in the upper extended portion of the slide will rest on the bottom of the slide and between the step *v*, and the side *s*, a nickel will rest on the step *v*, and between the step *w*, and the side *s*, a twenty-five-cent piece will rest on the step *w*, and between the step *x*, and the side *s*, a half-dollar will rest on the step *x*, and between the step *y*, and the side *s*, and a dollar will rest on said step *y*, and bear at its lowermost point against the side *s*. Thus it will be seen that a nickel is enabled to pass over the opening *m*; a quarter is enabled to pass over the opening *n*; a half dollar is enabled to pass over the opening *p*, and a dollar piece is enabled to pass over the opening *q*.

In order to stop each coin when it comes over the opening through which it is designed to pass, I make the upper end of the rear, transverse wall of the opening *m*, flush with the upper side of the step *v*, so as to enable it to obstruct the passage of ten-cent pieces; the upper end of the rear wall of the opening *n*, flush with the upper side of the step *w*, so as to enable it to obstruct the passage of five-cent pieces; the upper end of the rear wall of the opening *p*, flush with the upper side of the step *x*, so as to enable it to obstruct the passage of twenty-five cent pieces; the upper end of the rear wall of the opening *q*, flush with the upper side of the step *y*, so as to enable it to obstruct the passage of fifty-cent pieces; and the rear wall of the opening *r*, flush with the upper edge of the side *n*, so as to enable it to obstruct the passage of one dollar pieces. The said rear walls of all the openings with the exception of that of the opening *r*, slope downwardly to the side *s*, of the slide, and it will therefore be seen that none of them will obstruct the passage of a coin greater in size than the coins which they are designed to stop.

In order to prevent the coins from being introduced into the slide on edge, I provide the preferably wedge-shaped guard N, better illustrated in Fig. 1, which is preferably connected to the cover of the casing and is designed to rest over the upper end of the slide and prevent the coins from being introduced in any other manner except flat-side up.

By reason of the construction thus far described, it will be seen that when a coin of any of the denominations mentioned, is placed on the slide M, it will move downwardly on the same until it comes to the opening over the holder designed to receive it, when it will drop through the opening and by reason of the transverse cant of the slide, will be caused to turn over so as to fall flat in the holder. In this manner, the coins are automatically separated and are held compactly in upright piles.

In order to remove the coins from the several holders D, E, F, G, and H, I provide the pushing levers D' E' F' G' H'. These pushing levers are fulcrumed at one end on an upright post P, which is suitably connected with the casing, and they vary in length as better shown in Fig. 3, and are provided at their outer or free ends with plates or enlargements Q, which are designed to take between the bottom and the lower ends of the side walls of the holders and are therefore of various sizes in accordance with the various sizes of holders. Said pushing levers are normally held in and returned to the position shown in Fig. 3, by the coiled springs R, which are connected to them and to the rear wall of the casing, and the levers D' E' and F', are manipulated through the medium of the hand levers S, better illustrated in Figs. 5, and 17. These levers S, are of right angle form as shown and their longer arms pass through slots *a'*, in the casing and are provided at their

outer ends with knobs or heads while their shorter arms are pivotally connected to or fulcrumed on the sides of steps T, fixed in the casing as better shown in Fig. 2, so that the apex of the angle of each lever will normally rest in the same horizontal plane as the pushing lever with which it is connected by a suitable link U. (See Figs. 4, and 5.)

It is desirable for obvious reasons to have the hand levers arranged in numerical order, that is to say, the hand lever which manipulates the pushing lever that takes into the five cent holder G, first, and the hand lever that manipulates the pushing lever that takes into the ten cent holder H, second, and so on; and to this end, I provide the hand levers V, W, better illustrated in Figs. 5, 16, and 17, of the drawings. The hand lever V, which is designed to manipulate the pushing lever H′, that takes into the ten cent holder, is of general T-form and one of its T-branches is pivotally connected to or fulcrumed upon the side of the step next to the upper step T, while its upper branch which normally rests in the same plane as the lever H′, is connected with said lever by a link as U. The hand lever W, which is designed to be the first of the series and yet operate the second pushing lever G′, is of a general right-angle form, but instead of the connecting link U, being connected to said lever at the apex of its angle, it (the link) is connected to the lever at the point b', below the apex of the angle so as to enable the link to normally rest in the same horizontal plane as the pushing lever G′, to which it is connected.

The drawer C, of my improved device is normally held in its closed position by a latch X, which is mounted on a horizontal rock shaft Y; and said drawer is designed to be automatically pushed outwardly when released by the coil spring Z, illustrated in Figs. 4, 5, and 14, which spring is compressed as shown when the drawer is closed. The rock shaft Y on which the latch X, is fixed is provided with a crank arm X′, and to this arm is connected a coiled spring Y′, which is also connected to the casing and serves to normally hold the latch in position to engage the drawer. The rock shaft Y, is rocked to raise the latch and release the drawer, through the medium of the hand lever S^2, which is similar in construction to the hand levers S, and is pivotally mounted on the side of the uppermost step T, and is connected by a link U, with the crank arm X′. Thus it will be seen that when the outer end of the lever S^2, is pressed downwardly, the drawer C, will be released and will be forced outwardly by the spring Z, so as to allow convenient access to the compartment A.

In using my improved device, the coin tendered in payment of a purchase, is deposited on the slide M, by which it will be conveyed to its respective holder. If the coin is greater in amount than the cost of the purchase, for instance if a dollar is tendered in payment of a sixty-cent purchase, it is simply necessary for the clerk after or before placing the dollar on the slide to press the hand levers marked 5, 10, and 25, downwardly, when the pushing levers F′, G′, and H′, will be manipulated and the lowermost coin in each of the holders F, G, and H, will be forced out and will drop in the compartment a, of the drawer. It is then simply necessary for the operator to press the lever S^2, downwardly to open the drawer, and allow access to the correct change in the same. It is desirable in some cases to have a bell ring when the drawer is opened, and I therefore contemplate employing the bell M^2, and the spring hammer M^3, which latter is arranged in the path of the arm X′, on the rock shaft Y, so that it will be moved and caused to ring the bell every time the shaft Y, is rocked to release the drawer.

When it is desired to remove the coins in piles from the several holders, as at closing-time, so that they may be placed compactly in a safe or the like, it is simply necessary for the authorized person to open the door B, and remove the glasses g, of the holders, and with one hand successively actuate the coin pushing levers while with the thumb and forefinger of the other hand, he grasps the piles of coins as they are moved laterally out of the holders on the pushing lever. In this manner the several denominations of coins in the device may be readily removed and may be placed in separate piles in a safe or the like, ready to be again placed in the separator and change maker when business is resumed.

It will be seen from the foregoing that while my improved device is very cheap and simple, it serves to quickly and correctly separate the coins of various denominations into compact piles, and also serves to facilitate the making of change and greatly reduces the liability of error which is a desideratum.

I have in some respects specifically described the construction and relative arrangement of the parts of my improved device, in order to impart a full, clear, and exact explanation of the same, but I do not desire to be understood as confining myself to such construction and arrangement as such changes or modifications may be made in practice as fairly fall within the scope of my invention.

Having described my invention, what I claim is—

1. A change making device comprising upright holders of various sizes and lengths having transverse openings adjacent to their lower ends, coin pushing levers arranged one above the other and adapted to enter the transverse openings of the holders, a stepped frame, a T-lever V, fulcrumed on the side of one step of the frame and connected with the upper coin pushing lever, and an angular lever W, fulcrumed on the side of the step above the step on which the lever V, is fulcrumed and connected with the lower coin pushing lever, substantially as and for the purpose set forth.

2. In a change making device, the combination of a casing, a series of upright holders of various sizes having transverse openings adjacent to their lower ends which are arranged in different horizontal planes, the straight coin pushing levers of various lengths fulcrumed at various elevations so as to enable them to enter the transverse openings of the holders, the stepped frame T, and hand levers fulcrumed on the sides of the steps of said frame and connected with the coin pushing levers and extending outside of the casing, substantially as specified.

3. In a change making device, the combination of a series of upright holders of various sizes having transverse openings adjacent to their lower ends which are arranged in different horizontal planes, the straight coin pushing levers of various lengths fulcrumed at various elevations so as to enable them to enter the transverse openings of the holders, the stepped frame T, a T-lever V, fulcrumed on the side of one step of the frame and connected with the upper coin pushing lever, an angular lever W, fulcrumed on the side of the step above the step on which the lever V, is fulcrumed and connected with the second lower coin pushing lever, and levers S, fulcrumed on the side of the steps below that on which the lever V, is fulcrumed and connected to the lower coin pushing levers, substantially as and for the purpose set forth.

4. In a coin holding device, an upright coin holder having one of its side walls of a greater width than the other and provided in the inner side of its extended portion with a groove *f*, the sheet metal bottom connected to the lower end of the holder and having the short, upwardly-bent wings *k*, *l*, the block *m*, retained by the wings *k*, *l*, of the bottom and the removable glass *g*, mounted upon the block *m*, and arranged in the groove *f*, of the side walls, all substantially as and for the purpose set forth.

5. A coin separating and change making device, comprising a casing, an inclined slide having holes of various sizes and ways of various widths leading to said holes, a series of upright holders of various sizes disposed below the holes of the slide and having transverse openings adjacent to their lower ends which are arranged in different horizontal planes, the straight coin pushing levers of various lengths fulcrumed at various elevations so as to enable them to enter the transverse openings of the holders, the slidable drawer arranged in the casing and provided with a spring adapted to force it outwardly when released, a shaft Y, having the arm X′, and also having the latch X, adapted to engage and hold the drawer in its closed position, a spring connected to the arm X′, and the casing and adapted to normally hold the latch in position to engage the drawer, the stepped frame T, the lever S^2, fulcrumed on the side of the upper step of said frame and connected with the arm X′, an angular lever W, fulcrumed on the side of the step below that to which the lever S^2, is connected and connected with the second coin pushing lever, a T-lever V, fulcrumed on the side of the step below that to which the lever W, is connected and connected with the first or upper coin pushing lever, and levers S, fulcrumed on the side of the steps below that on which the lever V, if fulcrumed and connected with the lower coin pushing levers, all substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN D. REYNOLDS.

Witnesses:

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GEORGE WITTE.