Feb. 3, 1948. J. E. STOUT 2,435,371

SECTIONAL CASING

Filed Nov. 3, 1943 3 Sheets-Sheet 1

Fig. 1.

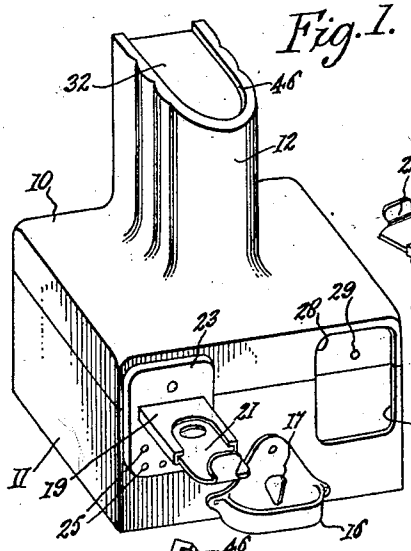


Fig. 2.

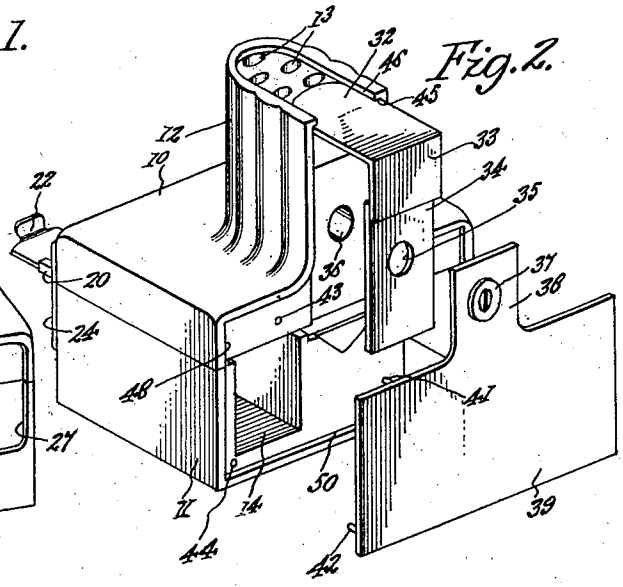


Fig. 3.

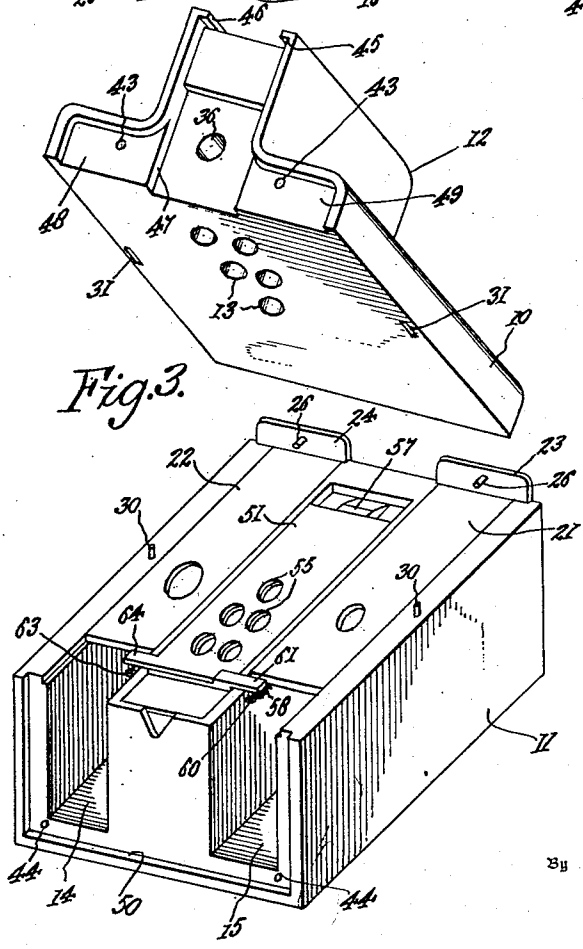
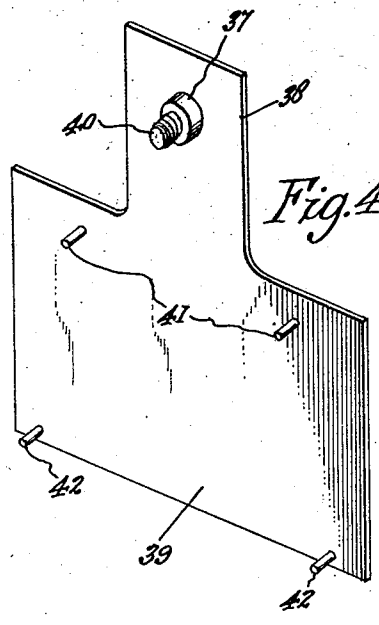


Fig. 4.



Inventor

James E. Stout

By Mawhinney & Mawhinney

Attorneys

Feb. 3, 1948. J. E. STOUT 2,435,371

SECTIONAL CASING

Filed Nov. 3, 1943 3 Sheets-Sheet 2

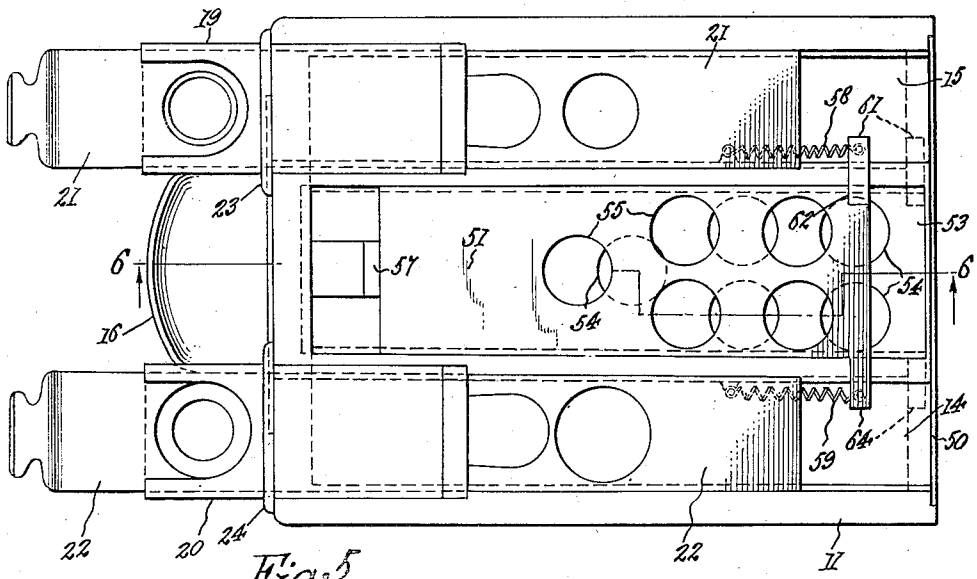


Fig. 5.

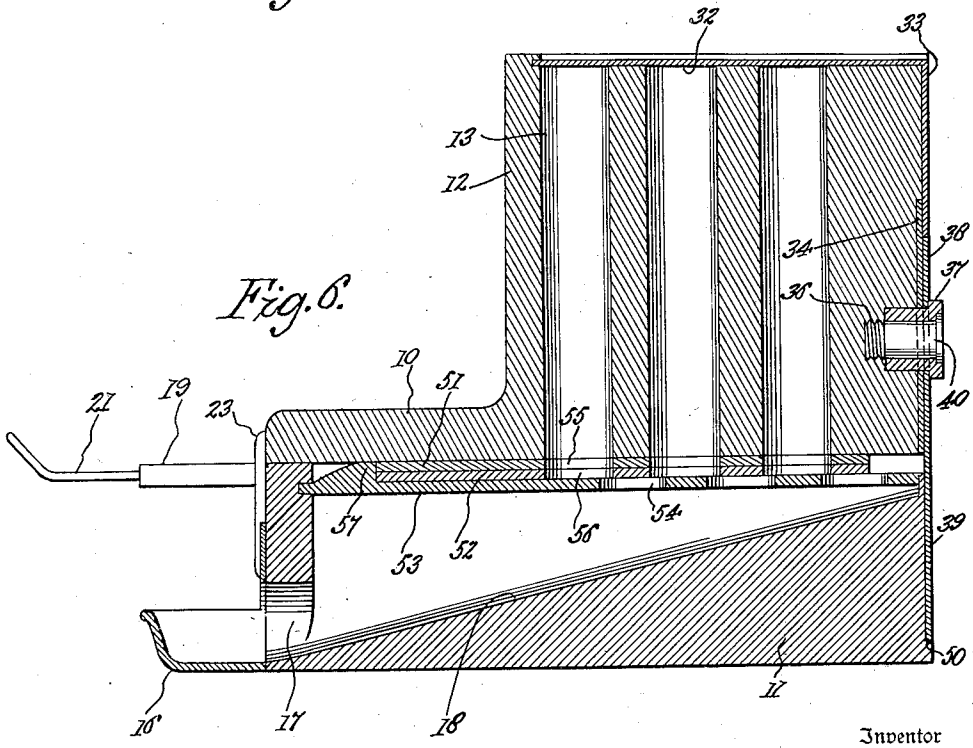


Fig. 6.

Inventor

James E. Stout

By Mawhinney & Mawhinney

Attorneys

Feb. 3, 1948. J. E. STOUT 2,435,371

SECTIONAL CASING

Filed Nov. 3, 1943 3 Sheets-Sheet 3

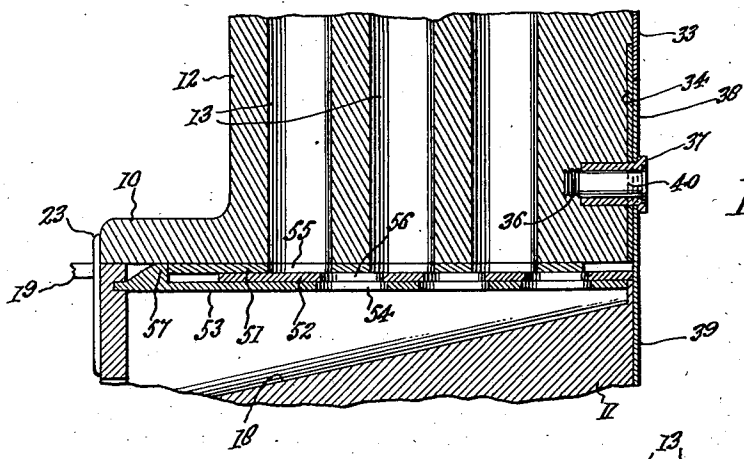


Fig. 7.

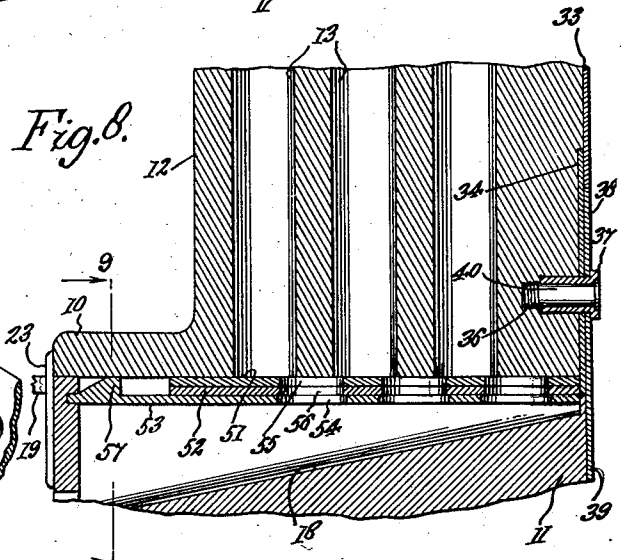


Fig. 8.

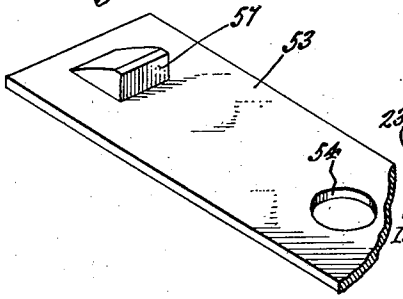


Fig. 11.

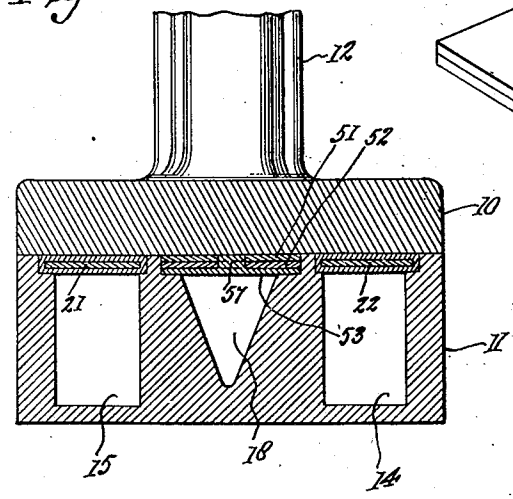


Fig. 9.

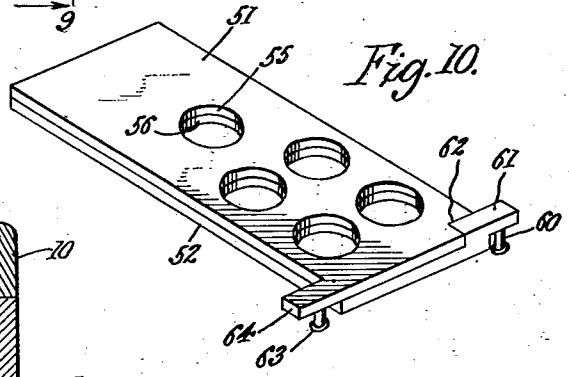


Fig. 10.

Inventor

James E. Stout

By Mawhinney & Mawhinney

Attorneys

Patented Feb. 3, 1948 2,435,371

UNITED STATES PATENT OFFICE

2,435,371

SECTIONAL CASING

James E. Stout, Mount Dora, Fla.

Application November 3, 1943, Serial No. 508,837

1 Claim. (Cl. 220—4)

1

The present invention relates to improvements in coin changing mechanism and is a continuation in part of my prior similarly entitled invention filed March 4, 1941, Serial No. 381,728, now abandoned.

An object of the present invention is to improve the design in the matter of symmetry in outline, simplicity of parts and reduction in manufacturing costs.

More specifically, an object of the invention is to produce the body of the machine, preferably of plastic or die-casting, with separable sections to give more ready accessibility to the interior of the body or casing whereby such preparations as replenishing the machine with coins, removing coins, replacing worn or damaged parts of the mechanism, etc., may be achieved more expeditiously.

The invention also contemplates a new construction and arrangement of the parts so as to permit of ready and quick assembly and disassembly, and wherein in the assembled position all of the parts may be locked securely against unauthorized tampering.

The invention has for its further object certain improvements in the coin control mechanism in its relation to the body structure.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claim appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Figure 1 is a perspective view of an improved coin changing mechanism constructed in accordance with the present invention and with one of the coin slot devices removed for clearness of illustration.

Figure 2 is a perspective view of the machine taken from the rear and with parts shown disassembled and partly disassembled.

Figure 3 is also a perspective view showing the two sections of the machine separated and in the act of being assembled.

Figure 4 is a perspective view of the back enclosing and holding plate.

Figure 5 is a plan view of the lower section of the machine taken on an enlarged scale.

Figure 6 is a longitudinal vertical section taken on the line 6—6 in Figure 5.

Figure 7 is a similar section, with parts broken away, showing the bottom coin slide in delivery position.

Figure 8 is a similar section showing both coin slides in delivery position.

Figure 9 is a vertical section taken on the line 9—9 in Figure 8.

Figure 10 is a perspective view of the double slide assembly, and

2

Figure 11 is a fragmentary perspective view of the bottom stationary plate showing the abutment block.

Referring more particularly to the drawings, 10 and 11 designate upper and lower sections respectively of the two-part body which is preferably of plastic or a die-casting. In the upper section is formed the magazine 12 for carrying the various stacks of coins, for instance nickels. The coin wells are indicated at 13 and are preferably arranged in a two-two-one grouping, as best seen in Figure 3. This grouping provides four of the wells in two pair, thus reducing the over-all length of the machine. A similar grouping is of course made in the coin control slides as indicated in the lower section of Figure 3 and as later described. These coin wells 13 open through the base of upper section 10, as shown in Figure 3, and through the upper end of the magazine 12, as shown in Figure 2.

As shown in Figure 3, the lower section 11 is constructed and detailed to readily receive the coin slots, coin delivery slides, and incorporates the cash receiving compartments 14 and 15 which open through the top and rear end of the lower section 11.

As shown in Figures 1 and 6 the coin delivery cup 16 is attached to the exterior of the front wall in alignment with a discharge opening 17 in such front wall which registers with the inclined-bottomed coin chute 18 (Figures 6, 8 and 9). In Figure 9 this coin chute 18 is shown as V-shaped in cross-section in order to require the falling coins to turn edgewise vertically so that they may roll on their edges, instead of slide flatwise, down the inclined bottom of the chute 18. This facilitates the delivery of the coins on the outside of the case or body into the exterior cup 16.

The coin control mechanism is shown generally at 19 and 20. As indicated in Figure 5 the control mechanism 19 is for the insertion of quarters and the other mechanism 20 for half dollars. In the one case (19) five nickels in change will be delivered to the exterior cup 16. In the other case (20) ten such nickels will be exchanged for the 50¢ piece.

The actuating slide members of the coin control mechanisms are indicated at 21 and 22. The mechanisms 19 and 20 are carried by front plates 23 and 24 which may be permanently secured, as by the fastenings 25 (Figure 1), to the lower body section 11 and free of the upper body section 10 which such plates overlap.

As seen in Figure 3 the plates 23 and 24 carry dowels 26 projecting from the inner faces which rise above the lower section 11. As shown at the right of Figure 1 both sections are formed with mating countersinks 27 and 28 in their front faces to receive the front plates 23 and 24. Addi-

tionally in the front wall of upper section 10 are provided holes or sockets 29 in alignment with the dowel pins 26 for receiving the same when the sections 10 and 11 are assembled.

As shown in Figure 3, the lower section carries other dowel pins 30 which arise from the upper edges of the side walls of the lower section 11 at intermediate parts thereof and in position to be received in the sockets 31 in the lower face of upper body section 10. These particular sockets 31 are preferably elongated slightly lengthwise of the body in order to allow that play with the pins 30 necessitated by the hinging movement of the two sections when assembling and removing the same.

As indicated to best advantage in Figure 2 a top plate 32 is adapted to removably enclose the upper ends of the wells or magazine tubes 13, this plate 32 having a dependent rear portion 33 and carrying either integrally or separately a rear web 34 perforated as indicated at 35 in alignment with a screw threaded socket 36 made in the upper section and which opens rearwardly. The perforation 35 is in alignment with a locking device 37 carried by an upstanding lug 38 of a back enclosing plate 39.

As shown in Figure 6, the locking device 37 has a rotary tumbler 40 having a rear extending portion screw threaded to enter and mate with the threads of the socket 36 for the purpose of locking the back plate 39 in place on the body.

As best seen in Figure 4 the inner face of the back enclosing plate 39 carries dowel pins 41 and 42. The upper dowels 41 are positioned to engage in the dowel sockets 43 in the upper body section 10, while the lower dowel pins 42 of the back enclosing plate 39 are positioned and adapted to engage in dowel sockets 44 provided in the lower body section 11.

The top plate 32 is slidably mounted in guideways 45 in the upper portion of the magazine 12. Preferably these guideways 45 are closed at the front of the machine and open at the rear. The front closed ends of such guideways 45 are also preferably rounded and the front edge of the top 32 is complementally rounded to agree with the same. The rounded front edge of top 32 also facilitates its entrance into the rear open portion of the guideways 45. The overhanging flanges 46 of the guideways prevent the top 32 from being lifted upwardly. This same result is also accomplished by the engagement of the locking device 37 in the perforation 35 and simultaneously in the socket 36.

As shown best in Figure 3, the upper body section 10 is formed with countersinks 47, 48 and 49. The countersink 47 receives therein the dependent apron 33 of top 32 and also the rear web or plate member 34 as well as the upstanding lug 38, the depth of the countersink being arranged to accommodate the thickness of the parts 33, 34 and 38 with these parts lying flush with the exterior edges of the casing or body. The purpose of setting the web 34 forwardly of flange 33 is to permit lug 38 to lie in the same vertical plane with flange 33 so that the edges of the same may abut as shown in Figures 7 and 8. The countersinks 48 and 49 receive upper portions of the rear enclosing plate 39, which plate is further received as to its lower portion in a countersink 50 of the lower body section 11.

As shown more particularly in Figures 5 to 11 inclusive, the coin wells or magazine tubes 13 are arranged above upper and lower coin discharge slides 51 and 52 and above a fixed plate 53 having coin discharge openings 54 offset out of registry with the axes of the magazine tubes 13. The upper slide 51 has therein coin receiving openings 55 and the lower slide 52 has similar coin receiving openings 56.

As shown in Figure 11 the fixed plate 53 which supports the slides 51 and 52 for movement, has thereon an abutment block 57 at its forward portion to receive the front edges of both slides 51 and 52 thereagainst. This is shown in Figures 3 and 6. Coil springs 58 and 59 (Figures 3 and 5) serve to bias the slides 51 and 52 to the forward position. Spring 58 is connected to a pin 60 projecting from the lower edge of a lug 61 projecting from one rear edge of the lower slide 52 and occupying a cut-away portion 62 of the upper slide 51. The other coil spring 59 is connected to a pin 63 depending from a lug 64 projecting from the opposite rear corner portion of the upper slide 51. The forward ends of the springs 58 and 59 are anchored to appropriate parts of the lower section 11.

In the assembly of the device, the upper and lower sections 10 and 11 may be initially brought to the position indicated in Figure 3 where the front edge of the upper section 10 is arranged so that its socket 29 may be received by the dowels 26. As the sockets 29 are slid onto the dowels 26 the sockets 31 are lowered over the side pins 30. The magazine tubes 13 are loaded with stacks of nickels after the upper and lower sections have acquired the position of Figure 2. Thereupon the top 32 is slid into place and finally the back enclosing plate 39 is moved up so that its dowels 42 enter the sockets 44 of lower section 11, its dowels 41 enter the sockets 43 of upper body section 10, and its locking device 37 enters the perforation 35 and the socket 36. By turning the tumbler 40 with a key held only by an authorized person the back plate 39 is locked securely in place. By this single lock it will be seen that the rear plate 39 is held in place, and in so doing its dowels 41 and 42 prevent the upward separation of the top body section 10 from the lower section 11. Moreover the pins 30 prevent any such range of backward, longitudinal movement of upper section 10 with respect to lower section 11 as would free sockets 29 from the front dowels 26. Thus the sections 10 and 11 are held together and against separation by any unauthorized person. The locking device also holds the cover 32 closed so that unauthorized access to the top of the magazine tubes 13 is effectively prevented.

Figure 1 shows substantially the fully assembled condition of the device except that the right coin control mechanism has been omitted for clearance in showing the countersinks 27 and 28 and the dowel socket 29. Figure 6 shows the completely assembled position.

In operation when a quarter or twenty-five cent piece is inserted in the coin control mechanism 19 and the slide 21 pushed back, such operator 21 encounters at its rear edge the lug 61 and thus moves rearwardly, as indicated at dotted lines in Figure 5, the lower slide 52 to a position where its coin openings 56, previously filled with nickels are shifted to a rear position directly over the coin discharge openings 54 of the immovable bottom plate 53. Thus the nickels drop down on the inclined bottom of the chute 18 and roll to the exterior cup 16 from which they may be readily picked up by the customer. In case a half dollar or fifty cent piece is placed in the other control mechanism 20 and the slide 22

pushed forwardly, the inner end of such slide will encounter the lug 64 of the upper coin slide 51, moving it rearwardly to the dotted line position as shown in Figure 5. The rearward movement of upper coin slide 51 entrains with it the lower coin delivery slide 53 by reason of the wall 62 engaging the lug 61 (Figure 10). Thus both slides are shifted so that their coin discharge openings 55 and 56 previously filled with nickels, are shifted above the coin discharge openings 54 of the fixed bottom plate 53; whereupon 10 nickels fall upon the inclined bottom of chute 18, are turned edgewise and permitted to roll to the external cup 16.

After each coin control mechanism is released it will be returned to initial position by well known mechanism and the springs 58 and 59 will draw the coin discharge slides 51 and 52 rearwardly until they strike the abutment 57, in which position slides 51 and 52 will again receive coins or nickles from magazine tubes.

The quarters and half dollars will be received respectively in the compartments 15 and 14 from which they may be removed from time to time when the back enclosing plate 39 is withdrawn (Figure 3).

The magazine tubes 13 could simply consist of holes in the casting which is the magazine 12.

By simply removing the back enclosing plate 39 and the top slide plate 32 the magazine 13 may be loaded with coins without separating the body sections 10 and 11. Inasmuch as the dowels 26 and 30 are only freed by a combined sliding and hinging movement of the upper body member 10, the back enclosing plate 39 which prevents any lifting movement of the back portion of upper section 10 with respect to lower section 11, by reason of its dowels 41 and 42, effectively locks the two sections against separation. The plate 39 being first removed, the upper section 10 may be slid and angularly raised off the dowels 26. The downward extension of the slot bodies or plates 23 are secured by blind screws 25 to the lower body member 11, the screws being entered through the coin compartments 13 and 15.

It will be appreciated that the arrangement and construction of parts relative to one another permits of the embodiment of the device into a bottom section 11 which carries all of the movable mechanism, a top section 10 which is extremely flat as to its side portions to symmetrically carry the central tower like magazine 12; that such construction and arrangement involves simplicity of parts and reduction in manufacturing costs, accompanied by easy and quick assembly and by ease and quickness of access for

replenishing the coin magazines and the removal of the coins of larger denomination which have been changed.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claim.

What is claimed is:

A body casing comprising two sections meeting in a substantially horizontal plane having sockets in one end of the upper section above said plane and slots in the under face of the upper section with the elongation of the slots in the same direction as the axial length of the sockets, plates upstanding from and connected to the lower section at the socketed end of the upper section and overlapping said sockets, dowels projecting from the plates above the said plane in position to enter said sockets, pins upstanding from the upper face of the lower section in position to enter the slots of the upper section and substantially abutting the ends of said slots nearest said plates, the ends of both sections opposite said sockets having dowel pockets, a plate extending in common over such pocketed ends of both sections and having dowels to occupy such pockets to prevent the separation of the sections at the pocketed ends and means for locking said last named plate to the upper section.

JAMES E. STOUT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
851,598	LaPaugh	Apr. 23, 1907
1,212,052	Hanusch	Jan. 9, 1917
2,246,431	Cochran	June 17, 1941
621,032	Chalmers	Mar. 14, 1899
1,070,832	Murphy	Aug. 19, 1913
926,246	Dorff	June 29, 1909
2,079,608	Erickson	May 11, 1937
298,821	Brolaski	May 20, 1884
687,740	French	Dec. 3, 1901
1,411,765	Worthington	Apr. 4, 1922
1,698,252	Ashe	Jan. 8, 1929
2,378,406	Harris	June 19, 1945
1,223,253	Britton	Apr. 17, 1917
1,270,286	Grant	June 25, 1918