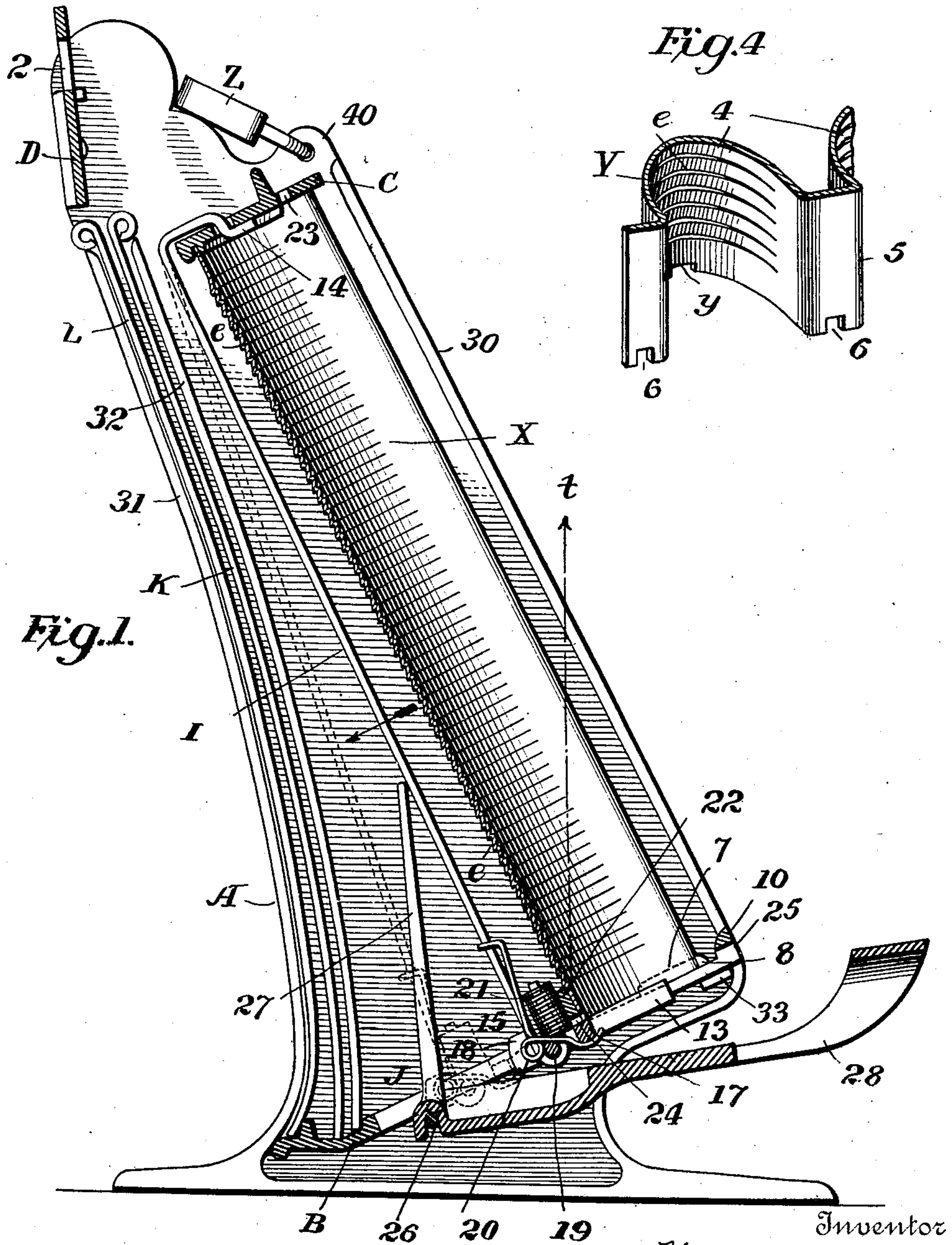


W. H. STAATS.
COIN CHANGER.
APPLICATION FILED MAR. 22, 1909.

969,417.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

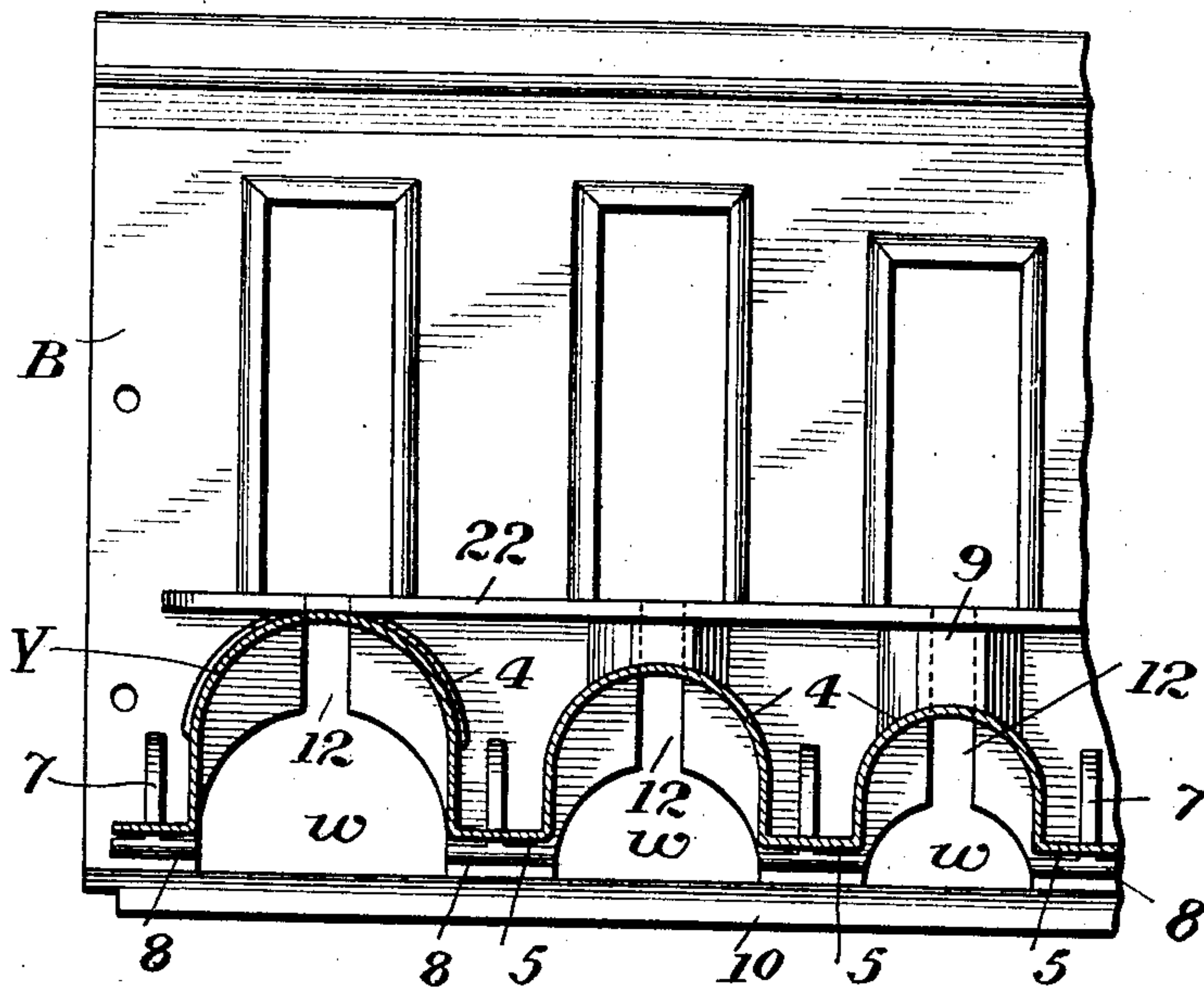


Fig. 3.

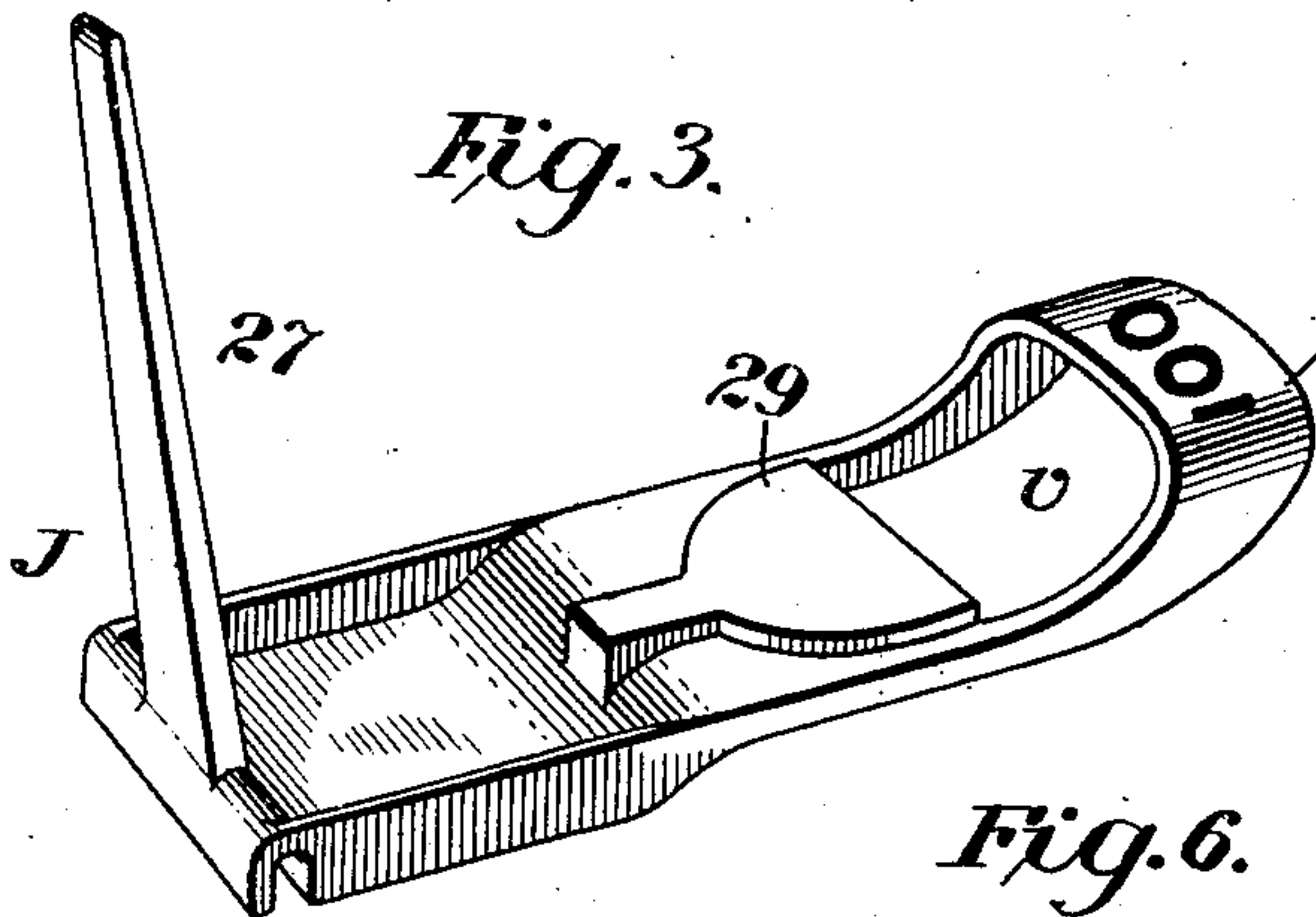


Fig. 5.

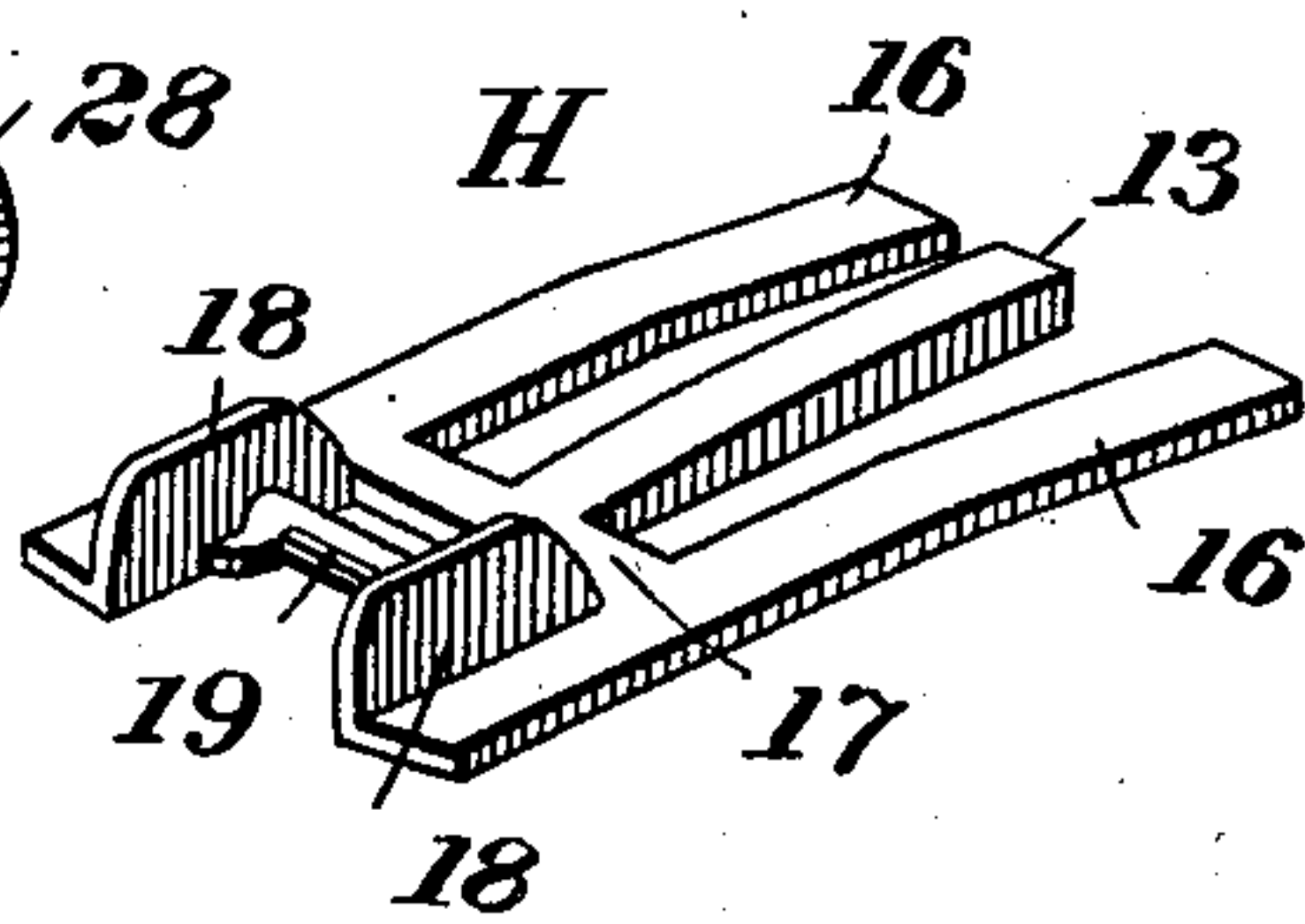
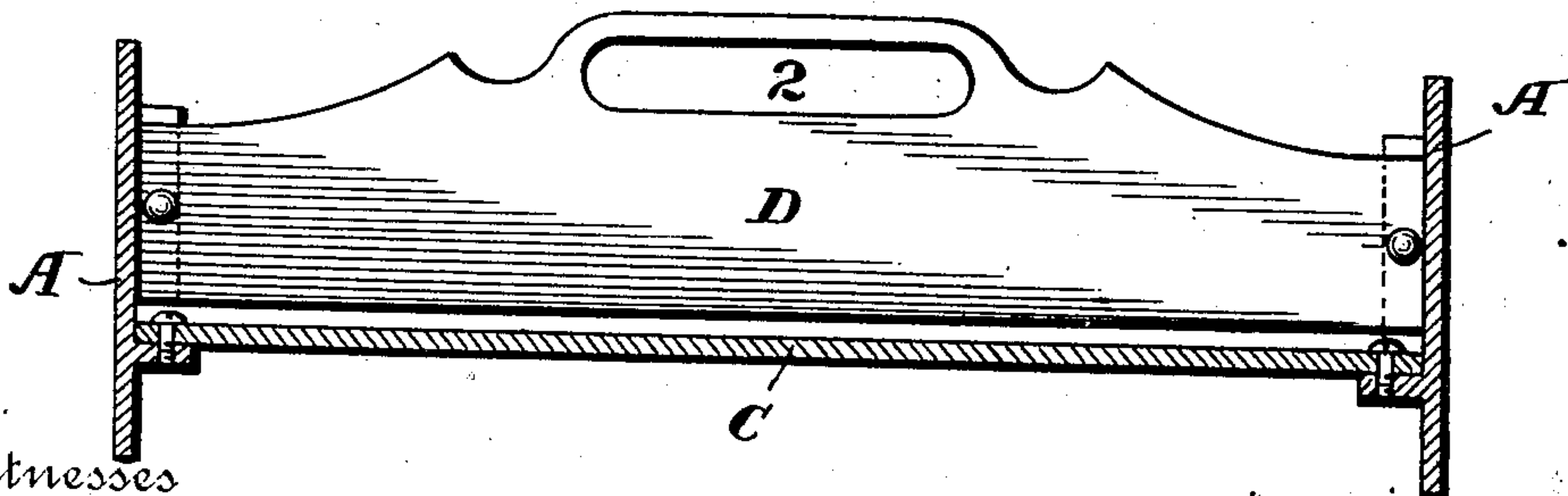


Fig. 6.



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UNITED STATES PATENT OFFICE.

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COIN-CHANGER.

969,417.

Specification of Letters Patent.

Patented Sept. 6, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM H. STAATS, a citizen of the United States, and resident of Colonie, in the county of Albany and State of New York, have invented certain new and useful Improvements in Coin-Changers, of which the following is a specification.

My invention relates to coin changers, and consists in a coin changer in which the parts are constructed and arranged so as to facilitate the retention and delivery of series of coins of different denominations, as fully set forth hereinafter and as illustrated in the accompanying drawing, in which:

Figure 1 is a sectional elevation of a coin changer embodying my improvements; Fig. 2 is a plan showing part of the bottom plate; Fig. 3 a perspective view of one of the key levers; Fig. 4 a perspective view showing part of the plate which is bent to form the various receptacles; Fig. 5 is a perspective view of one of the pushers; Fig. 6 is an elevation in vertical section showing the upper portions of the side plates, top plate and back plate.

The main frame of the machine consists of side pieces A, A, a bottom plate B suitably bolted at the ends to the side pieces, a top plate C, and a back plate D, the plates B and C also bolted suitably to the side pieces and the back plate D having a hand grasp or handle 2 by means of which the whole structure may be readily carried.

Between the bottom plate B and the top plate C are the various coin receptacles X of graduated sizes and which preferably are formed by bending a sheet of metal Y, Fig. 4, so as to form a series of parallel curved gutters 4, 4, 4, Fig. 2, and intermediate vertical flat portions 5, and the lower edge of the sheet at each flat portion 5 has a notch 6 adapted to receive a rib 7 upon the base plate, which rib 7 is at right angles to another rib 8, against which the front face of each of the cross pieces 5 bears, as shown in Fig. 2. At the back of each gutter or curved portion of the plate and at the bottom is formed a recess y which conforms to the shape of a projection 9 upon the bottom plate, and each of these projections is back of a recess w through which the coins

may pass forward and beneath a cross rail 10 of the bottom plate, see Fig. 1. The bottom plate at the back of each recess has a channel 12 through which the pusher bar 13 of a pusher H may slide back and forth, as described hereinafter. Each gutter of the plate Y is transversely corrugated at the rounded portions, as shown in Figs. 1 and 4. The pusher H is suspended from a spring blade I bent at the upper end so as to pass through an opening in the top plate C and with a lip 14 engaging the bottom of this plate so that the blade tends to swing with a spring action in the direction of the arrow, Fig. 1, to carry the pusher to the position shown in dotted lines at 15, Fig. 1. The pusher is in the form of a frame having side bars 16, 16, a cross-bar 17, from which the pusher bar 13 extends somewhat upward and forward between the side bars, and at the rear of the cross-bar 17 are separated parallel flanges 18, 18, with rounded rear ends. A cross-pin 19 fits within the hooked end of the spring blade I so that the pusher is thus pivotally supported at the end of said blade, and a spring 20 bears against the blade and against the under side of the cross-bar 17 and tends to tilt upward the forward end of the pusher frame. The upturned end of the blade I receives a sleeve of rubber 21, which serves to deaden the shock when the spring blade swings forward, the said rubber buffer striking against a cross-flange 22 of the bottom plate as shown in Fig. 1.

The top plate C has a slot 23 above each coin compartment through which the coins may be introduced into the said compartment, falling downward until they rest flat upon the bottom plate on opposite sides of the channel 12 and back of the opening or recess w, and when the pusher moves forward the end of the pusher blade 13 will move forward through a notch 24 in the flange 22 and through the channel 12, and the forward end will strike the lowest of the coins in the receptacle and will push the latter forward and through a notch 25 in the cross-bar 10 until the coin falls through the opening w. The forward motion of the pusher is secured by pressure against the blade I and this is effected by means of a key lever J, the said levers each vibrating

on a cross-bar 26 and having an arm 27 bearing against the back face of the adjacent blade I and a forwardly extending handle 28. The handle 28 is of a width to receive the coin passing from the adjacent receptacle X and is provided with a raised portion or projection 29 which is of such a shape that when the handle is up this raised portion will extend into the recess *w* and channel 12 so as to secure a flat seat for the coin contained within the receptacle. Normally the spring action of the blade I, swinging the latter in the direction of the arrow Fig. 1, will carry the handle 28 upward and the pusher backward, and when the handle is depressed to the position shown in Fig. 1 one of the coins will be pushed outward and will be thrown beyond the projection 29 and through an opening *v* which is of sufficient width to permit the coin to escape and drop into the hand of the operator.

It is sometimes desirable to close the receptacles at the front and for this purpose I provide a front cover K which may be passed down between the plate Y, forming the receptacles, and ribs 30, 30 of the side pieces at the front edges thereof, but when such cover is not in use it may be slid upward and then introduced between two ribs 31, 32, on the inner faces of the side pieces, as shown in Fig. 1. There is also a back plate L which also may be passed downward and between the aforesaid ribs and thus held in place but so as to be detachable if required.

In order to prevent noise resulting from the quick action in bringing the handles 28 upward against the bottom of the bottom plate when the handles are released, I secure beneath the bottom plate at proper points a pad of rubber or other sound-deadening material 33, Fig. 1, against which the edges of the handles strike at the limit of their upward movements.

It will be seen that each pusher blade 13 projects upward to a certain extent above the upper faces of the side bars 16, which faces, when the pusher moves forward, bear against the lower face of the bottom plate B. This prevents the pusher blade from rising beyond the extent necessary to meet the edge of the coin of proper thickness.

By corrugating the receptacle as set forth the pressure of the superposed coins on the lower coins is prevented so that there is little resistance to the forward movement of the lower coins by the pusher. As shown in Fig. 1, the only pressure on the lower coins will be the weight of the coins and parts of coins at the right of the line *t*, in consequence of the support of the coins at the left of said line by their engagement with the corrugations *e*. As the lower coins are successively removed however those above

will slide down readily without interference by the corrugations.

Any suitable arrangement of shoulders or projections to engage the coins may be substituted for that shown.

The receptacles may be formed by bending a sheet of metal as described, or of cast metal, or rubber or other material.

It will be seen that when the cover K is in place at the front its lower edge obstructs the opening through which the coins otherwise pass, and that by locking the cover in place the abstraction of coins during the absence of the proprietor may be prevented. Any suitable locking means may be employed. As shown one of the side plates has a perforated ear 40 through which to pass the hasp of a padlock Z, which holds the cover down.

Without limiting myself to the precise construction and arrangement of parts shown, I claim as my invention:

1. The combination in a coin changer of a suitable frame and a plurality of coin receptacles supported by the frame and having their side walls provided with corrugations for the purpose specified.

2. The combination in a coin changer of a frame having upper and lower plates, and a plurality of receptacles formed by a single strip of metal bent to form parallel channels or gutters the rounded portion of each gutter having corrugations as set forth.

3. The combination in a coin changer of a suitable frame, and a channel-like coin receptacle supported by the frame and inclined rearwardly from its lower to its upper end, the coin engaging surface of said receptacle being transversely corrugated for the purpose specified.

4. The combination in a coin changer of a frame having an upper plate and a lower plate with projections 7, 8, at right angles to each other, and an intermediate plate bent to form gutters and intermediate flat portions 5 each of the latter having a notch 6 at the lower edge to receive one of the projections 7.

5. The combination in a coin changer of a frame having an upper plate, a lower plate provided with a plurality of pairs of upwardly extending projections 7, 8, the member 8 of each pair extending at right angles to and beyond both sides of the projection 7 of the same pair, and an intermediate plate bent to form gutters, the portions of said plate intermediate said gutters being notched to receive the projections 7 and adapted to bear against the projections 8.

6. The combination in a coin changer of the upper and lower plates the latter having recesses for the passage of coins, and projections 9, a cross-flange 22, and a plate Y bent to form a series of parallel gutters

with recesses *y* at the bottom of each gutter adapted to one of the projections 9, as set forth.

7. The combination with the receptacle and channeled bottom plate of a coin changer, of a spring blade back of said receptacle, and a pusher pivotally supported by said blade and consisting of side bars, and a cross-piece with a tongue or pusher bar intermediate and projecting upward above the side bars for the purpose set forth.

8. The combination in a coin changer of a series of receptacles, a swinging blade back of each receptacle, a pusher connected with each blade, a spring engaging each blade and its pusher and acting to lift the latter into the lower end of the adjacent receptacle, and a pivotally mounted handle or key projecting forward from each receptacle and having an arm bearing against the rear face of the blade in rear of such receptacle.

9. The combination in a coin changer of a series of receptacles, a pusher for each receptacle, a spring blade supporting each pusher, and a handle or key pivoted at the rear and provided with an arm bearing against the blade and projecting forward beyond the receptacle and having a projection 29 adapted to the recess of the bottom plate.

10. The combination in a coin changer of a coin receptacle open at its lower end, a swinging blade mounted in rear of said receptacle, a pusher supported at the lower end of the blade and adapted to be moved across the bottom of the coin receptacle, said blade being normally held in position to maintain the pusher in rear of the receptacle, a pivotally mounted key having a projection adapted to extend into the receptacle to prevent the escape of the lowest coin therein when the pusher is retracted by its blade, and means for transmitting movement of the key to the blade to actuate the pusher to eject a coin from the receptacle.

11. The combination in a coin changer of a frame, a coin receptacle mounted in the frame and having at its lower end an opening through which a coin can be ejected, a blade arranged in rear of the receptacle and having its upper end connected with the frame to permit it to swing bodily to and from the receptacle, a pusher connected with the lower end of said blade, and adapted to be moved thereby to and fro across the lower

end of the receptacle, the blade being normally held in its retracted position, a key extending beneath the receptacle and having a projection adapted to enter the lower end of the receptacle and prevent the escape of coin therefrom when the pusher is retracted, and means for transmitting movement of the key to the blade to actuate the pusher to eject the lowest coin in the receptacle.

12. The combination with the side plates, intermediate receptacles and upper and bottom plates of a coin changer, of ribs 30 upon the side plates forward of the receptacles and forming therewith channels and the detachable front plate adapted to be inserted in said channels.

13. The combination of the side plates having ribs 30, 31, 32, intermediate receptacles, and detachable back and front plates adapted to be supported between the said ribs 31—32 as set forth.

14. The combination in a coin changer of a series of receptacles with channels at the lower end for the delivery of coin, a detachable front plate or cover adapted to be fitted between guides and extend across said receptacles to prevent access thereto, and means for locking said cover in place.

15. The combination with a coin changer having a series of coin receptacles and channels for the delivery of coins, of a removable slide for closing said channels, and means for locking said slide in place.

16. In a coin changer, a coin receptacle provided with projections for engaging the coins stacked therein to reduce the pressure of the upper coins upon those below for the purpose set forth.

17. A coin changer provided with inclined receptacles and devices for discharging the lowest coin in each receptacle, said receptacle having projections for engaging the coins for the purpose set forth.

18. In a coin changer, a coin receptacle provided throughout a considerable portion of its length with a series of projections each adapted to engage the edge of one of a series of coins stacked in the receptacle, whereby the pressure of the upper coins of the series will not be transmitted completely to those below them.

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

WILLIAM H. STAATS.

Witnesses:

HENRY A. STRONG,
GEO. W. ANDREW.