

**930,544.**

3 SHEETS—SHEET 1.

Fig. 1.

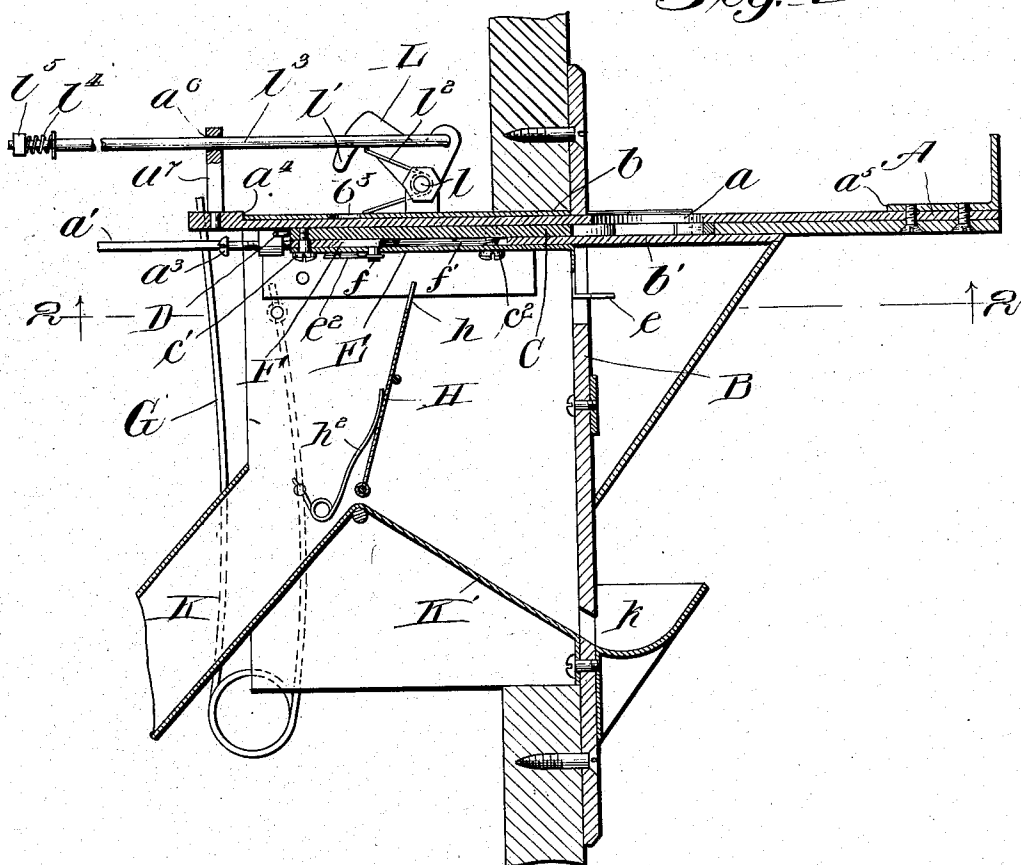
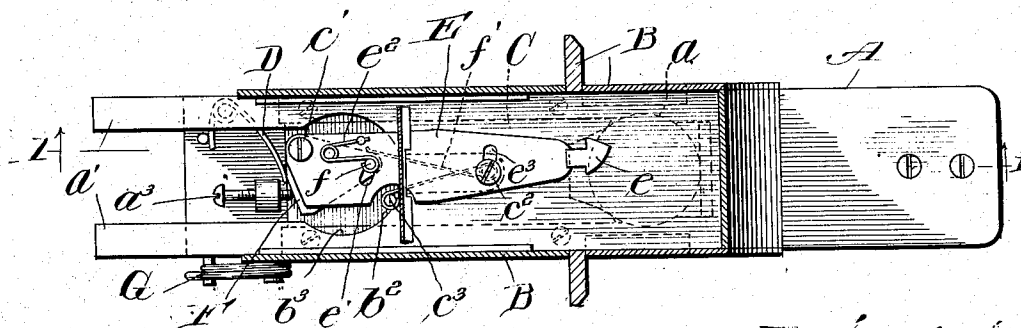


Fig. 2.



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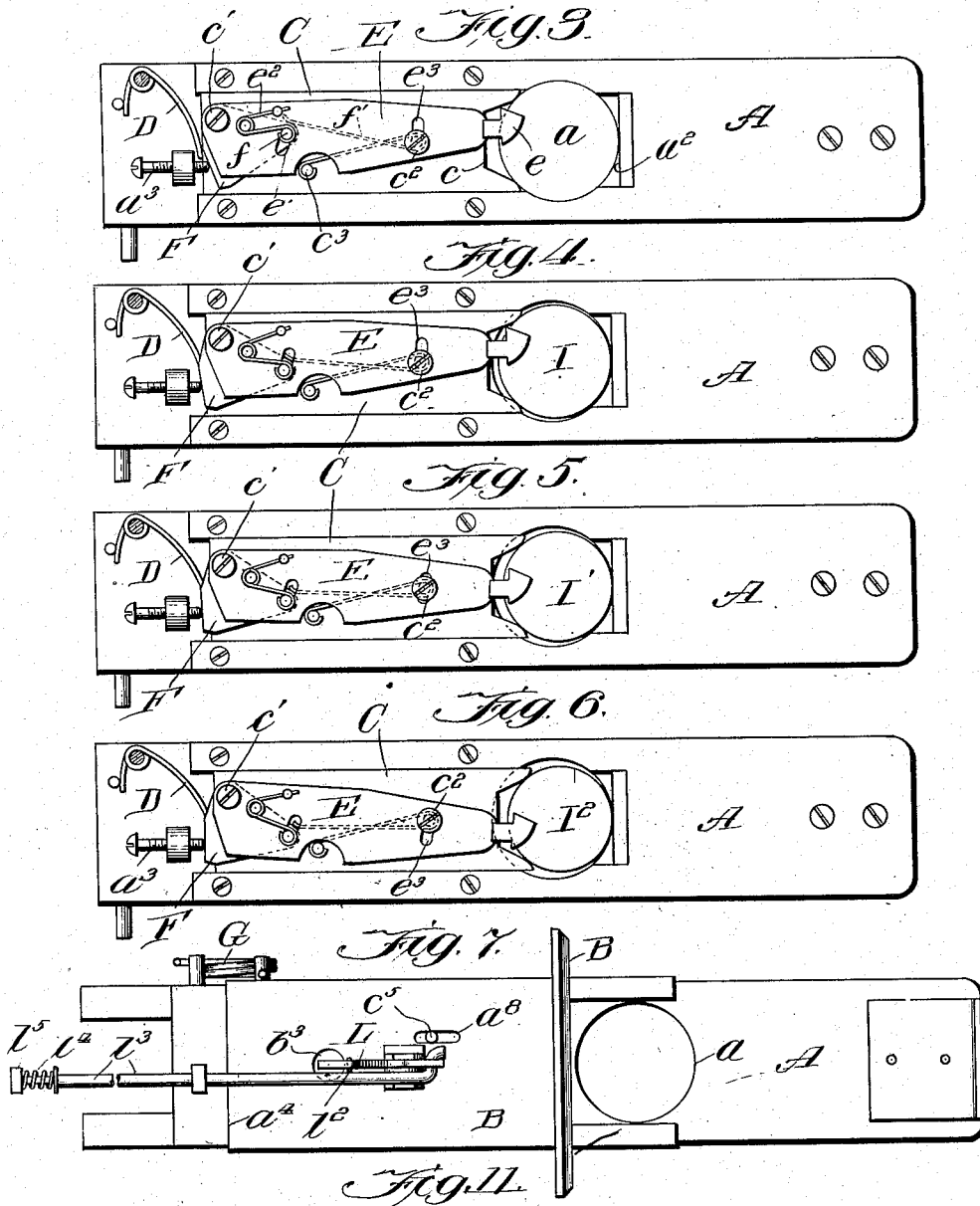
Inventor:  
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his Atty

C. H. HAMILTON.  
CHECK SELECTING MECHANISM.  
APPLICATION FILED OCT. 21, 1907.

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Patented Aug. 10, 1909.

3 SHEETS—SHEET 2.



Witnesses:  
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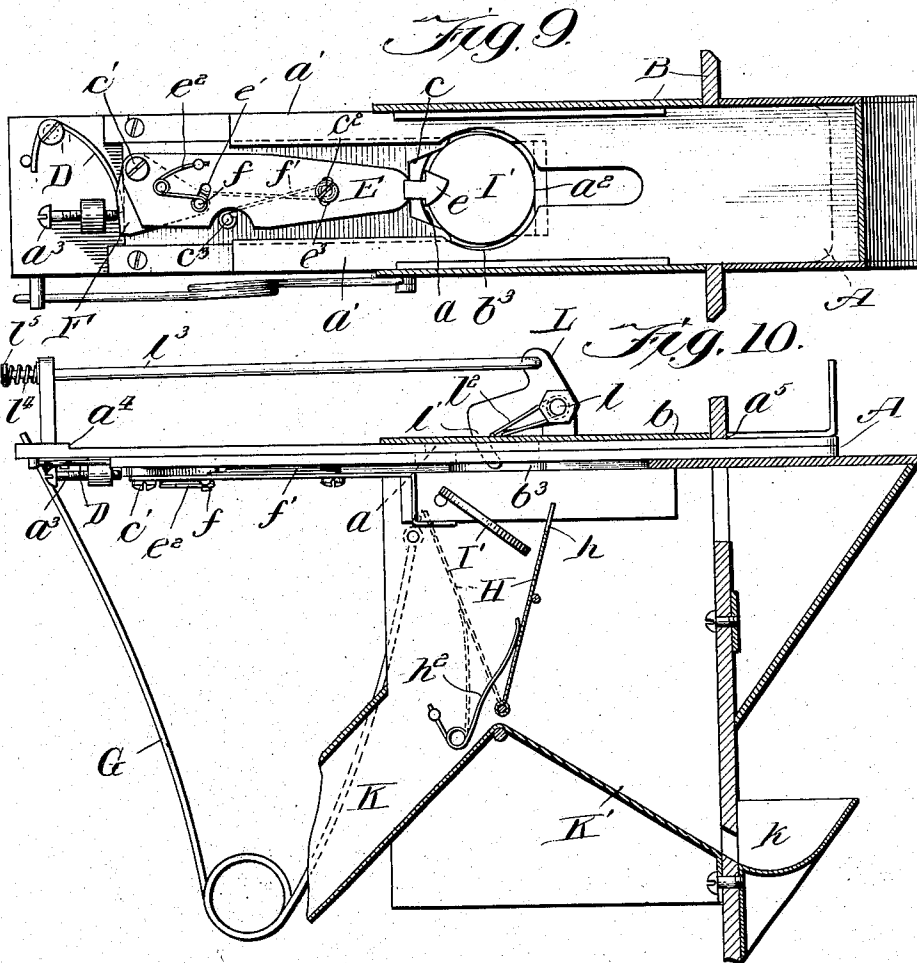
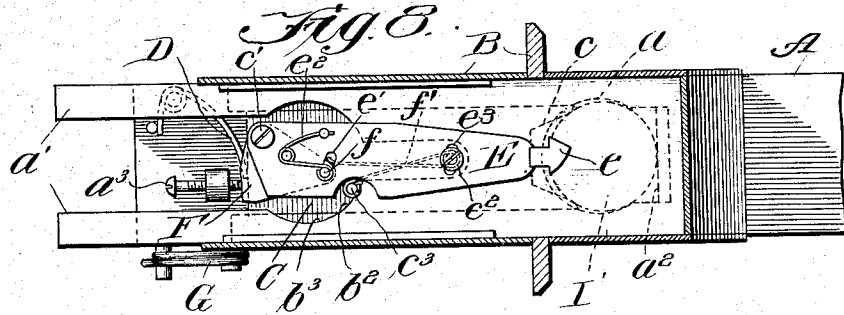
by *Wm. H. Hamilton*  
his atty.

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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

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## CHECK-SELECTING MECHANISM.

No. 930,544.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed October 21, 1907. Serial No. 393,378.

*To all whom it may concern:*

Be it known that I, CHARLES H. HAMILTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Check-Selecting Mechanism, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to coin controlled apparatus, and more particularly to means for guarding against the use of improper checks or other devices.

Heretofore it has been found to be practically impossible to protect coin controlled apparatus in such a manner as to avoid operation by means of coins or checks other than the particular coin or check which it is intended should be inserted in order to effect the operation. It has also been difficult to guard against the tampering with the mechanisms in such a manner as to produce the effect exerted by a deposited check or coin without, in fact, making such a deposit. Difficulty has also been experienced in devising guarding mechanism which will be effective even though the machine or apparatus to which it is attached be tilted or be otherwise moved out of the normal position.

The object of the present invention is to provide means which shall, under all conditions, guard effectually against the use of an improper check, coin or other device, or the use of a proper check, coin or other device in an improper manner.

To the above end I have devised an arrangement wherein each check or coin which is deposited is accurately measured, and before the check or coin can exert a controlling influence it is acted upon by a selective device which is governed in its operation by the size of the coin. The means for measuring the coin is preferably such that it may be adjusted with extreme nicety, so as to cause the selective devices to reject any check or coin which shall vary in the slightest degree from that which may properly be employed.

The various features of novelty which characterize my invention will be hereinafter pointed out with particularity in the claims,

but for a full understanding of my invention in its various aspects reference is to be had to the following detailed description taken in connection with the accompanying drawings, wherein—

Figure 1 is a cross-section taken longitudinally through the check receiving elements of an apparatus embodying a preferred form of the present invention, the section being taken on line 1—1 of Fig. 2 looking in the direction of the arrows; Fig. 2 is a section taken on line 2—2 of Fig. 1, looking upward; Figs. 3 to 6, inclusive, are views similar to Fig. 2, showing various positions of the measuring and selective means, some of the stationary parts shown in Fig. 2 being omitted for the sake of clearness; Fig. 7 is a plan view of the parts shown in Fig. 1; Fig. 8 is a view similar to Fig. 2, showing a slightly different position of the parts, however; Fig. 9 is a view similar to Fig. 8, showing the positions of the parts at the instant the selective mechanism comes into play; Fig. 10 is a view similar to Fig. 1, showing the parts, however, in the positions which correspond to the positions indicated in Fig. 9; and Fig. 11 is a detail showing a modified measuring device.

In the drawings I have omitted the mechanism which is adapted to be controlled by the check or coin, since the present invention is not limited to any particular arrangement of this character, it relating simply to the means for selecting the proper checks from the improper ones, and permitting the delivery of the proper checks to any point at which it may be desired that they shall control some other mechanism.

Referring to the drawing, A indicates a movable check-receiving member which, in the illustration, takes the form of a slide. This member is mounted in any desired manner upon a suitable housing B, so as to permit the check-receiving opening a to appear on the exterior of the housing. In the form of my invention illustrated, the slide is in the form of a flat plate, sliding within a chute having top and bottom walls b and b' respectively, the slide fitting this chute snugly so as to permit substantially no lost motion. Between the under side of the slide and the wall b' is arranged a plate C, which is slidably mounted upon the member A between guides a', whereby the member C is free to move lengthwise of the member A within a limited

distance. One end of the member C normally projects partially into the recess or opening  $a$ , which is adapted to receive the check, this end being conveniently made  
5 fork-shaped as indicated at  $c$ .

D is a spring arranged between the members A and C and tending to maintain the member C thrust into the check-receiving receptacle. The fork  $c$  is adapted to engage  
10 with the edge of a check and press it against a fixed shoulder  $a^2$  on the member A.

It will be seen that when otherwise free the position of the member C on the slide is determined by the size of the check in the  
15 check-receiving opening, the size of the check in the present instance being with reference to three points distributed circumferentially of the check. It will, of course, be understood, however, that the size of the check  
20 may be determined with reference to any desired number of points on its circumference; it being unnecessary that three points of contact be obtained when the invention is considered in certain of its aspects, while in  
25 other aspects of the invention it is desirable that three or more points of contact be provided.

It will be seen that the measuring device may be made to respond to very minute  
30 changes in the size of the check, so that its position relative to the member A will change with every slight change in the check which is inserted.

I make use of the measuring device to control selective means in such a manner that  
35 the proper checks are permitted to go into the machine and exercise the desired control while all checks which differ in the slightest degree are returned to the person who has  
40 deposited them.

It will, of course, be understood that various forms of selective devices may be employed, but the form illustrated in the drawings has been found to be very satisfactory  
45 and efficient.

Pivotally supported upon the under side of the member C at the inner end thereof is an elongated arm E having an arrow-shaped  
50 detent  $e$  at one end. Between the members C and E there is also preferably mounted a plate F, which is pivoted upon the same pivot  $c'$  which forms a support for the member E. The members E and F are united  
55 through a pin and slot connection consisting of a pin  $f$  in the member F and a slot  $e'$  in the member E. A spring  $e^2$  normally holds the pin within one end of the slot, as indicated in Fig. 2.

$f'$  is a spring arranged between the member C and the member F and tending normally to hold the member F against an adjustable screw  $a^3$  carried upon the member A. The pivotal movement of the member E is preferably limited by means of a pin and slot  
65 connection consisting of a pin  $c^2$  projecting

from the member C through a slot  $e^3$  in the member E.

In Fig. 2 the parts are shown in the positions which they occupy when the member A is in its normal position, viz: there is a spring  
70 G which acts upon the member A so as to force it outwardly until a shoulder  $a^4$  engages with a fixed stop, such as the end of the wall  $b$ . Before the shoulder  $a^4$  strikes the stop, however, a screw or other projection  $c^3$  on  
75 the member C abuts against another fixed stop, as, for example, against the wall  $b^2$  surrounding an opening  $b^3$  in the wall  $b'$ , (the opening  $b^3$  being that through which the check is ejected after the slide has been  
80 pushed inwardly.) The effect of this is that as soon as the member  $c^3$  abuts against its cooperating stop the member C is brought to rest, while the main portion of the slide  
85 continues its outward movement to a slight extent. This causes the member C to be retracted slightly from the check-receiving opening, at the same time compressing the spring D. The parts are so proportioned  
90 that when the members A and C come to rest the plate F has been forced against the adjustable screw  $a^3$  sufficiently far to cause the relations between the pin  $f$  and slot  $e'$ ,  
95 and the pin  $c^2$  and slot  $e^3$ , to be those indicated in Fig. 2, viz: the pin  $f$  is at one end of its slot while the pin  $c^2$  is at the opposite end of the slot with which it cooperates. In  
other words, both the springs  $e^2$  and the spring  $f'$  are under compression. There may  
100 now be placed within the check-receiving opening  $a$  a check of any desired size, provided that it is no larger than the opening itself. Then, upon pressing the slide inwardly, the first action which takes place is  
105 that the shoulder  $a^4$  recedes from the fixed stop, while the spring D, which has been placed under compression, maintains the screw  $c^3$  against its cooperating stop. In other words, the main portion of the slide  
110 begins to move while the member C remains stationary. This causes the screw  $a^3$  to be retracted; the spring  $f'$  being under tension, however, forces the plate F about its pivot and causes it to follow up the screw. This  
115 continues until the pin  $f$  reaches the lower end of the slot  $e'$  and then the member E, which has heretofore remained stationary, begins to travel with the plate F, so that the  
120 detent  $e$  swings laterally. The relative movement between the slide and the member C can continue only so long as the jaw or fork  $c$  remains out of engagement with the edge of the check, for as soon as the check  
125 is clamped between the shoulder  $a^2$  and the jaw  $c$  the members A and C are locked together and then continue to travel together. Of course, as soon as the members A and C are locked together, the oscillation of the  
plate F and member E ceases and the detent  
130  $e$  remains in a fixed position upon the slide.

I make use of the detent, whose position is controlled by the size of the check, to actuate a selective device upon the continuance of the inward movement of the slide. This selective device may take various forms, but I have found that one of the most convenient and simple forms consists in a deflector, which may be in the shape of a hinged door H so arranged that when the detent occupies a predetermined position upon the slide the door is unaffected by the inward movement of the slide; but if the detent has been shifted slightly to one side or the other of this predetermined position, the door is engaged by the detent upon the inward movement of the slide and is carried out of its normal position. In the one case the check, after being delivered from the slide, is guided by the deflector into the mechanism which the check is to control, while in the other case the check is guided to a discharge outlet which returns the check to the person who has deposited it. In order that the deflector may not be engaged by the detent after a proper check has been placed within the check-receiving slide, I provide it with a notch *h* in its upper edge, which is of such a width as to permit the detent to pass through it when the detent is in the predetermined position. All other times, however, the top of the door is engaged by the detent at one side or the other of the notch, and the door is caused to be swung inwardly as the slide approaches its innermost position.

In Figs. 3 to 6 I have shown the various positions which the detent and the member C occupy with respect to the slide. Thus, in Fig. 3 the parts are shown in their normal positions, assuming the slide to be in its outermost position. In Fig. 4 the slide has been pushed inwardly sufficiently to permit the jaw of the member C to engage the edge of the check I, this check being indicated as one which is slightly larger than a proper check. In Fig. 5 the conditions are the same as in Fig. 4, but the check I' is such a check as it is desired shall be selected and deposited within the check-controlled mechanism. In Fig. 6 the check I<sup>2</sup> is smaller than the check I', the check I<sup>2</sup> being such a one as should be discarded.

It will be seen that in Fig. 5 the detent is exactly in the middle of the slide, while in each of the other three figures it is displaced toward one side or the other; therefore the deflector will be actuated when the checks I and I<sup>2</sup> are in place, and these checks will be discarded and thrown out of the apparatus, while the check I' will be deflected in the opposite direction, viz: into the machine, due to the fact that the detent occupies such a position that it will fail to engage with the deflector when the slide is pushed inwardly.

While the checks I and I<sup>2</sup> have been exaggerated in size so as to more clearly distin-

guish the positions of the detent, it will, of course, be understood that the parts may be so nicely adjusted that the most minute variation in the size of a check will cause the detent to be displaced sufficiently from its inoperative position to cause it to operate the deflector and thus discard the check.

The wall *b'*, upon which the slide rests, has in it the opening *b<sup>2</sup>* to which reference has been previously made, this opening being so located with respect to the deflector that when the deflector is in one position a check deposited through the opening engages one side thereof, while when the deflector is in the other position the check engages the opposite side. Thus every check is delivered either into a chute K, which leads into the machine which is to be controlled, or into a chute K', which leads to a receptacle *k* exterior to the housing, and from which a discarded check may be taken by the person who has deposited it.

Various expedients may be adopted for ejecting a check from the slide after it has reached the proper point. I preferably, however, provide the slide with a shoulder *a<sup>5</sup>* which engages with the exterior of the housing just as the slide reaches the position wherein the check carried thereby registers with the opening *b<sup>3</sup>* in the supporting wall *b'*. Any suitable device may then be brought into play to engage the check and force it downwardly through the opening and toward the deflector. In order that the check may be ejected positively and thereby be prevented from sticking in the slide, I provide a dog L pivotally supported upon the frame-work at *l* directly above the opening *b<sup>3</sup>*. The nose *l'* of the dog is adapted to play up and down within an opening *b<sup>5</sup>* within the top wall *b*. Normally the nose of the dog is held out of the opening *b<sup>3</sup>* by means of a spring *l<sup>2</sup>*. In order that the dog may be operated against the tension of the spring and its nose be forced downwardly through the opening *b<sup>5</sup>* and against the top of a check, I provide a rod *l<sup>3</sup>*, which is connected at one end to the dog and passes through an opening *a<sup>6</sup>* in a stem *a<sup>7</sup>* projecting upwardly from the slide A. Surrounding the free end of the rod *l<sup>3</sup>* is a spring *l<sup>4</sup>* which bears at one end against a nut or other adjustable member *l<sup>5</sup>* carried by the stem. The rod *l<sup>3</sup>* is of such length that, as the slide approaches the limit of its inward movement, the member *a<sup>6</sup>* engages with the end of the spring *l<sup>4</sup>* and causes the rod to be carried backward with the slide. The spring *l<sup>4</sup>* is made stronger than the spring *l<sup>2</sup>*, so that the dog is rotated against the tension of the spring *l<sup>2</sup>* without completely compressing the spring *l<sup>4</sup>*. It will be seen that by this arrangement the check is first accurately positioned over the discharge opening and the dog L is forced positively against its upper side, so that it

will be ejected with certainty. By providing a spring between the fixed stop or nut on the end of the rod and the member  $a^7$ , a yielding pressure is secured, and if by any chance a very thin check or other device should be inserted in the slide in such a manner as to jam it, there will be no danger of injuring the apparatus due to an unyielding pressure upon the ejecting dog.

Figs. 8 to 10, inclusive, are a series of views showing the operation of the device when a check of the proper size is introduced. Thus Fig. 8, which corresponds to Figs. 2 and 5, shows the detent in its predetermined operative position just after the slide has started its inward movement. Fig. 9 shows the positions of the parts after the slide has completed its inward movement. It will be seen that the check  $I'$  is exactly over the opening  $b^3$  in the wall  $b'$ . In Fig. 10, which is a section taken at right angles to Fig. 9, the operation of the ejector is illustrated. It will be seen that the detent has passed the deflector without affecting it, and therefore the ejected check will be deposited within the chute or handle  $K$  which carries it to the apparatus which is to be controlled. Fig. 10 also indicates, in dotted lines, the position which the deflector assumes upon pressing in the slide without having placed therein a check of the proper character; the deflector being held toward the left against the tension of the spring  $h^2$ .

It will be seen that a mechanism constructed in accordance with the present invention will operate with absolute reliability to select the good checks from the bad, regardless of the position in which the mechanism may be placed. The mechanism can be given any degree of sensitiveness desired. Thus a device adapted to discard everything except nickels can be made so sensitive as to discard nickels of certain series which differ almost imperceptibly in size from the usual size; and, since the checks of brass or other material which are largely employed as controlling devices, vary much more in size, relatively to each other and to nickels, there is little danger that there will be a failure to discard such a check. Furthermore, since the check or coin is discharged at a point within the housing, and which can only be reached through the slide-receiving chute, there is no possibility of interference with selective-devices, either accidentally or mischievously. There is also no danger of injury to the more delicate parts due to rough manipulation of the slide, since the shoulders  $a^4$  and  $a^5$  on the slide bear all the shocks due to inward or outward pressure or blows on the slide. By providing means such as a pin  $c^5$  and slot  $a^8$  for limiting the movement of the member  $C$  upon the slide, further protection against tampering is afforded.

In Fig. 11 is shown a modified measuring device. The bar  $C'$ , instead of having a jaw at one end, has secured thereto one end of a tape or band  $M$ , the opposite end of which is secured to the slide. The ultimate position which the member  $C'$  can assume is determined by the size of a check which is inserted within the band. A large check will hold the band expanded, while a small one will allow it to contract. The band, in fact, accurately measures the circumference of a check, or at least the major portion thereof.

While I have described my invention in detail only as embodied in the preferred form, I do not desire to be limited to the specific form so described, since the scope of my invention is commensurate with the definitions thereof constituting the appended claims, and I aim to cover all modifications falling within the scope of such claims. What I claim as new and desire to secure by Letters Patent is:

1. A check-selecting mechanism including means for measuring different sized checks by engaging therewith at three or more points distributed circumferentially.

2. A selective-device for checks and governing mechanism for said device including means for measuring a check with reference to three or more points distributed circumferentially of the check.

3. A selective-device for checks and governing means for said device controlled by the size of a check as determined by the relation of three or more points distributed circumferentially of the check.

4. In an apparatus having a plurality of check-receiving channels, a device for controlling the entry of a check into one or the other of said channels, and governing means for said device, said means including a device for measuring the check with reference to three or more points distributed circumferentially of the check.

5. In a check-selecting apparatus, a deflector for a check, and a controlling device for said deflector arranged to engage with a check at three or more points distributed circumferentially of the check irrespective of the size of the check.

6. In a check-selecting apparatus, a deflector for a check, an actuator for said deflector, and means for controlling said actuator, said means being arranged to engage with a check at three or more points distributed circumferentially thereof irrespective of the size of the check.

7. In a check-selecting apparatus, a movable check-receiving member, a selective device arranged adjacent said member, and a controlling mechanism for said device arranged on said member and including means for measuring a check.

8. In a check-selecting apparatus, a movable check-receiving member, a selective de-

vice adjacent said member, and a controlling mechanism for said device arranged on said member and including means for measuring the size of a check with reference to three or more points distributed circumferentially of the check.

9. In a check-selecting apparatus, a movable member for receiving a check, a selective device, a controller for said device arranged on said member, and a measuring device for governing said controller.

10. In a check-selecting apparatus, a movable check-receiving member, a selective device arranged adjacent said member, an actuator for said device mounted on said member, and a check-measuring device for controlling said actuator.

11. In a check-selecting apparatus, a movable check-receiving member, a deflector arranged adjacent said member, a check-measurer on said member, and means controlled by said measurer for actuating the deflector upon movement of said member.

12. In an apparatus having a pair of check-receiving channels, a movable check-receiving member, a device for determining the channel into which a check shall enter, and means including a check-measurer on said member for controlling said device.

13. In an apparatus having a pair of check-receiving channels, a movable check-receiving member, a deflector for determining the channel into which a check shall enter, a check-measurer on said member, and means controlled by said measurer for actuating said deflector.

14. In a check-selecting apparatus, a movable check-receiving member, a selective device arranged adjacent said member, means including a check measurer on said member for controlling said device, and means for causing the check to be brought into operative relation to said device when said member is moved into a predetermined position.

15. In a check-selecting apparatus, a movable member, a selective device adjacent said member, a measuring device on said member for receiving and measuring a check, means controlled by said measuring device for governing said selective device, and means for forcing the check from said measuring device

when said member reaches a predetermined position.

16. In a check-selecting apparatus, a movable member, a check-deflector adjacent said member, a device on said member for receiving and measuring a check, means controlled by said device for governing said deflector, and means for causing a check contained in said device to move from said device toward the deflector when said member is moved to a predetermined position.

17. In a check-selecting apparatus, a movable member, a detent movably mounted on said member, a selective device arranged adjacent said member in position to be engaged and actuated by said detent upon moving said member with the detent in a certain position with respect thereto, and a check-measuring device on said member arranged to determine the position of said detent with respect to said member.

18. In a check-selecting apparatus, a movable member, a selective device arranged adjacent said member, a detent movably mounted on said member and adapted to actuate said selective device upon movement of said member while the detent is occupying certain positions thereon, and means on said member controlled by the size of a check for actuating said detent relative to said member.

19. In a check-selecting apparatus, a movable member, a selective device arranged adjacent said member, a detent movably mounted upon said member and adapted to actuate said selective device upon movement of the said member while the detent occupies a certain position thereon, a check-measurer on said member adapted to receive a check and to control the position of the detent on said member, and means for causing the check to leave said measurer and said member when said member is brought into a predetermined relation with respect to said selective device.

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

CHARLES H. HAMILTON.

Witnesses:

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HARRY S. GAITHER.