Dec. 30, 1930. A. D. ANTOINE 1,787,099

CHECK CONTROLLED MECHANISM

Filed Aug. 5, 1927 3 Sheets-Sheet 1

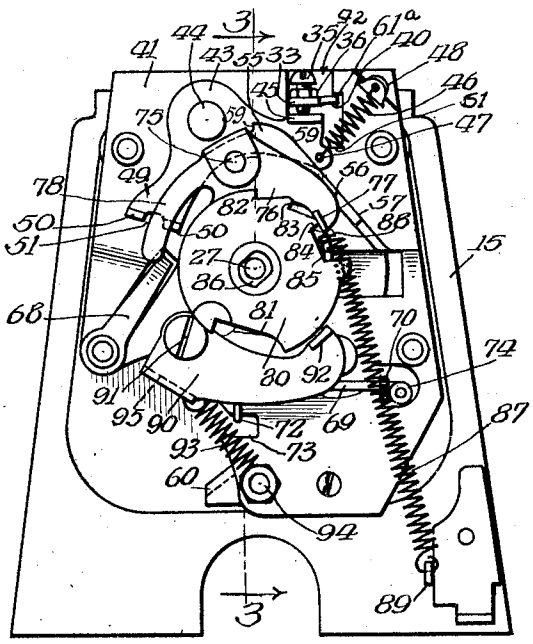


Fig. 1

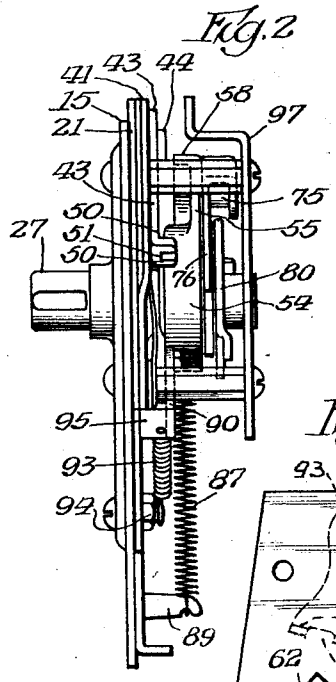


Fig. 2

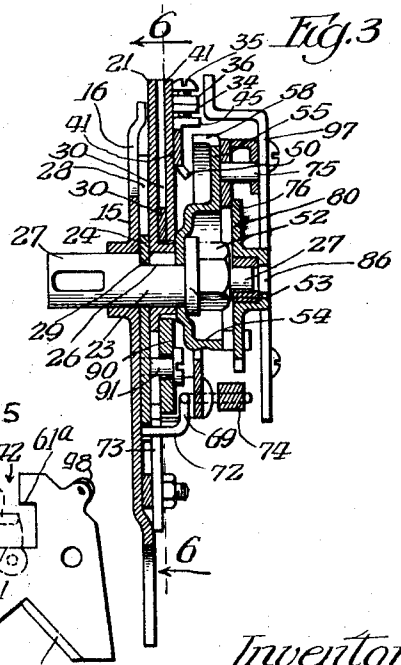


Fig. 3

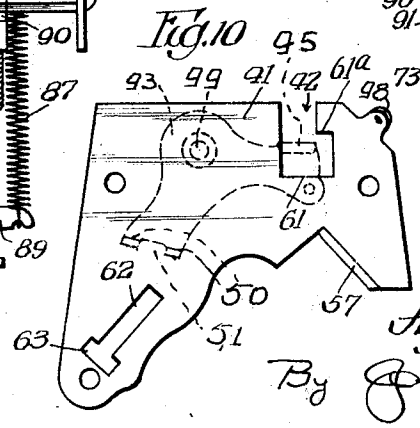


Fig. 10

Inventor
Alfred D. Antoine
By J. F. Jochum Jr.
Atty.

Dec. 30, 1930. A. D. ANTOINE 1,787,099

CHECK CONTROLLED MECHANISM

Filed Aug. 5, 1927 3 Sheets-Sheet 2

Fig. 4

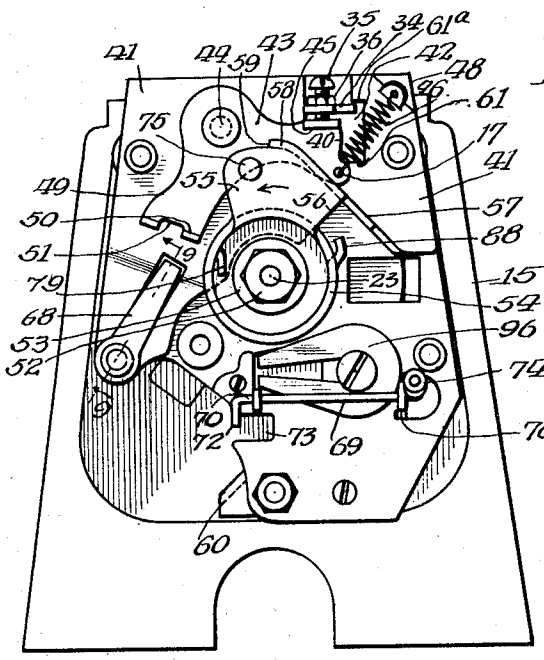


Fig. 5

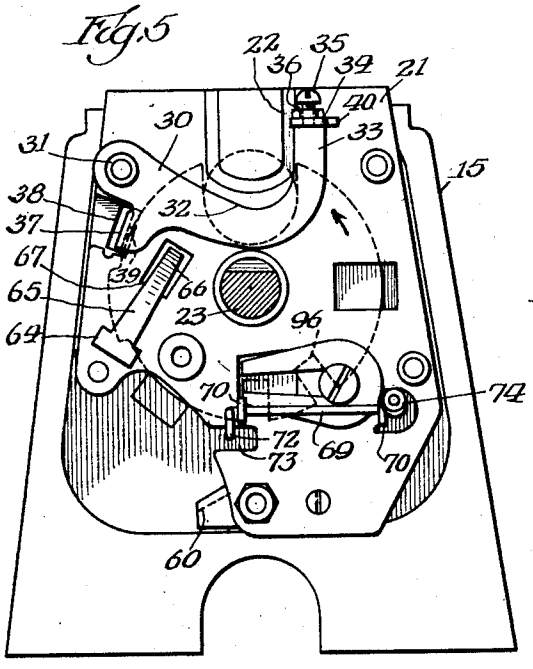
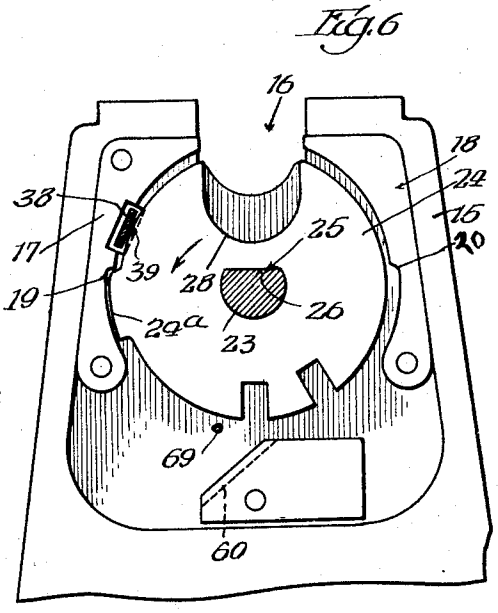


Fig. 6



Inventor
Alfred D. Antoine
By J. F. Jochum & Fatty

Dec. 30, 1930. A. D. ANTOINE 1,787,099

CHECK CONTROLLED MECHANISM

Filed Aug. 5, 1927 3 Sheets-Sheet 3

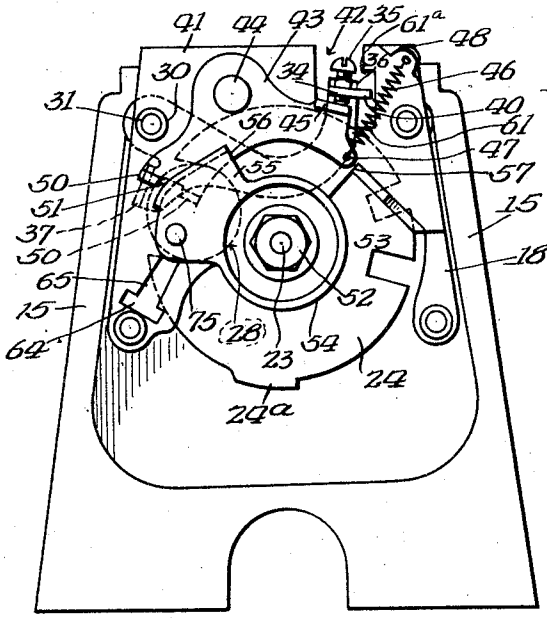
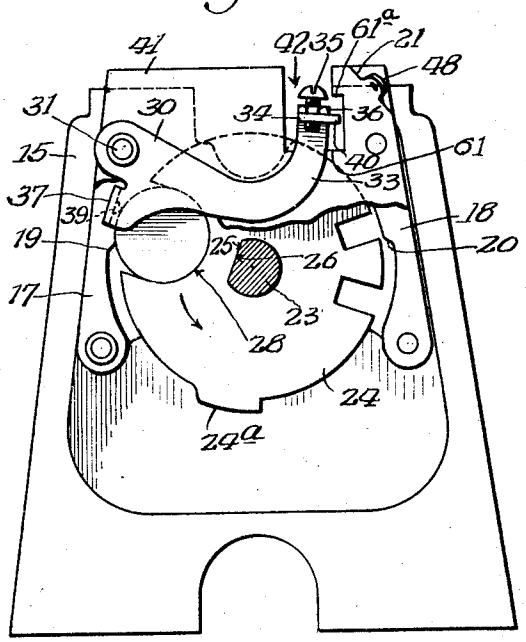


Fig. 7

Fig. 8



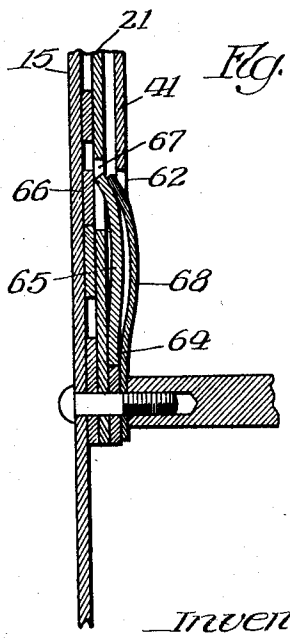


Fig. 9

Inventor:-
Alfred D. Antoine
By. [signature] Atty.

Patented Dec. 30, 1930 1,787,099

UNITED STATES PATENT OFFICE

ALFRED D. ANTOINE, OF CHICAGO, ILLINOIS, ASSIGNOR TO ADVANCE MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

CHECK-CONTROLLED MECHANISM

Application filed August 5, 1927. Serial No. 210,768.

This invention relates to improvements in check controlled machines, and one of the objects of the same is to provide an improved device of this character which will receive a coin of a predetermined denomination and permit the same to move into an operative position with respect to the coin actuated mechanism, but which will arrest improper checks and prevent the same from actuating the mechanism.

A further object is to provide improved means for preventing the entrance of counterfeit, undersized or oversized coins or any coin or token except the standard coin for which the mechanism is designed.

A further object is to provide in a device of this character an improved coin detecting mechanism in which the coin is caused to pass a member mounted in such a manner that it will exert a strain upon improper or counterfeit checks and will embed itself in such a check, thereby preventing the entrance of the check into the machine.

A further object is to provide an improved mechanism of this character embodying means for preventing the delivery into the machine of checks of the proper size to operate the mechanism but of a lighter weight and which mechanism will cause the check to be returned to the operator.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention, and in which

Figure 1 is a rear elevation of a device of this character constructed in accordance with the principles of this invention.

Figure 2 is a left hand end elevation of Figure 1.

Figure 3 is a vertical sectional view taken on line 3—3, Figure 1.

Figure 4 is a view similar to Figure 1 with parts removed.

Figure 5 is a view similar to Figure 4 with still further parts removed.

Figure 6 is a view taken on line 6—6, Figure 3, and with parts omitted.

Figure 7 is a view similar to Figure 4, with parts omitted and showing the parts in another position.

Figure 8 is a view of the check carrier and the detector mechanism with the parts in the same position as shown in Figure 7.

Figure 9 is an enlarged detail sectional view taken on line 9—9, Figure 4.

Figure 10 is a detail elevation of the locking member and the support therefor.

Referring more particularly to the drawings the numeral 15 designates a face plate shaped to form a check entrance opening 16, and secured to the back of the plate 15 are spacing members 17—18, provided respectively with shoulders 19—20. Another plate 21 is secured to the back of the plate 15 and is provided with a grooved portion 22 co-operating with the opening 16 in the plate 15 to form an entrance into which the check is to be inserted.

Rotatably mounted between the plates 15 and 21 and preferably by being secured to a shaft 23 is a check carrier 24 which is preferably provided with an opening having a flattened portion 25 into which the shaft 23 projects, and the shaft in turn is provided with a flat portion 26 co-operating with the flat portion 25 so that the check carrier 24 will be rotated when the handle 27 is operated.

The check carrier is provided with a check seat 28 adapted to be brought into register with the opening 16 and groove 22 to receive the check.

The plate 21 is provided with an extended portion 29 which forms a bearing for the shaft 23.

A detector member 30 is pivotally mounted by one end as at 31 upon the plate 21 and the detector member is provided preferably with a curved portion 32 that extends under the bottom of the groove 22 and then projects upwardly as at 33 on one side of the groove and also of the opening 16 and terminates in a laterally projecting lip 34. A screw 35 passes through the lip 34 and a lock nut 36 engages the screw to hold the

same in its adjusted position. This screw 35 is provided for a purpose which will be hereinafter set forth.

The detector member 30 is also provided with a laterally projecting portion 37 which projects through an opening 38 in the plate 21 so as to stand in close proximity to the periphery of the check carrier 24. A hardened point or projection 39 is carried by the portion 37 and is arranged adjacent the path of movement of the periphery of the check within the check seat 28 and is provided for the purpose of being engaged by the periphery of the check to swing the detector member 30 about its pivot when a check of the predetermined size and hardness is placed within the check seat.

When, however, a check which is constructed of a softer material is inserted but is still of the proper diameter, the point 39 will embed itself in the periphery of the bogus check and thereby prevent the check from being advanced by the check carrier.

A shoulder 40 is also provided on the laterally deflected portion 34 for a purpose to be hereinafter set forth.

Supported adjacent but spaced from the plate 21 is another plate 41 (see particularly Figure 10) which is provided with a cut away portion 42 through which the laterally deflected portion 34 of the detector member 30 projects.

A locking member 43 is pivotally mounted intermediate its ends as at 44, upon the plate 41 and is provided with a laterally projecting portion 45 on one side of the pivot which is disposed in proximity to the deflected portion 34 of the detector member 30 to be engaged by the end of the screw 35.

A spring 46 is connected by one end as at 47 with the member 43 and is anchored by its other end as at 48 to a fixed support. This spring 46 tends normally to hold the laterally projecting portion 45 of the member 43 in engagement with the screw 35 and also tends to move the detector member 30 about its pivot 31 so that the projection 39 on the detector member will stand in close proximity to the periphery of the check carrier 24 to engage the periphery of the check in the seat 28 when the check carrier 24 is rotated.

The member 43 is also provided adjacent its other end 49 with spaced laterally projecting portions 50 to form an opening 51 therebetween.

Secured to one end of the shaft 23 (see particularly Figures 3 and 4) by means of a nut 52 and washer 53, is a member 54 which is preferably of a cup shaped formation and is provided with a projection 55 extending beyond the periphery thereof. The member 54 is connected to the shaft for rotation therewith and the projection 55 is shaped to form a shoulder 56 which is adapted to engage a stop or shoulder 57 formed on the plate or member 41 so as to limit the rotation of the shaft 23 and the member 54 in one direction.

The member 55 is provided with a laterally projecting flange 58 (see particularly Figures 2 and 3) which terminates in a shoulder 59 which is adapted to co-operate with the outermost projection 50 on the end 49 of the member 43 to limit the movement of the members 54 and 55 in the opposite direction by engaging with the outermost projection 50. This is accomplished by reason of the fact that the spring 46 moves the member 43 about its pivot 44 so that the outermost projection 50 will be normally held in the path of advancing movement of the shoulder 59 of the flange 58 to be engaged by the latter. This projection 50, as will be seen, co-operating with the shoulder 59 and the shoulder 56 with the stop 57 will permit the shaft 23 to be rotated only to a limited extent in either direction.

This is the normal position of the parts and in order to permit the shaft 23, member 54 and projection 55 to be rotated to the full extent in the direction indicated by the arrow in Figure 4, it is necessary to swing the member 43 about its pivot 44 so that the outermost projection 50 will be moved out of the path of movement of the shoulder 59 of the flange 58 and thereby permit the flange 58 to pass through the opening 51 between the projections 50 on the member 43.

The member 43 must be moved about its pivot 44 against the stress of the spring 46, and this is accomplished by the check in the seat 28 of the check carrier 24.

With the parts in the position shown in Figures 4 and 5 when the check is inserted in the seat 28 and the check carrier 24 rotated in the direction indicated by the arrow in Figure 5, if a proper check is in the seat the periphery of the check will engage the projection 39 on the laterally deflected portion 37 of the detector member 30. A further movement of the check carrier in the same direction will swing the detector member 30 about its pivot 31 to lower the deflected end 34 on the portion 33 of the detector and as the portion 45 of the member 43 is always held under the stress of the spring 46 against the screw 35, it will be seen that when this end of the detector member 30 is lowered, the locking member 43 will be caused to swing about its pivot 44 until the opening 51 between the projections 50 on the member 43 assumes a position to permit the flange 58 of the member 55 to pass therethrough.

These parts will remain in this position until the check is delivered from the seat 28 on to a support 60, and the flange 58 will pass through the opening 51 on the return movement of the check carrier.

Should a check be inserted in the check

seat which is larger than a predetermined diameter, the detector member 30 will be swung about its pivot to such an extent that the member 43 will be rocked about its pivot 44 until the innermost projection 50 stands within the path of movement of the shoulder 59 of the flange 58 to be engaged by the shoulder to arrest the forward movement of the check carrier.

A shoulder 61 is provided on the plate 41 adjacent the opening 42 to be engaged by the shoulder 40 on the detector member 30 to limit the movement of the detector member by the check in the check seat, thereby insuring the proper positioning of the innermost projection 50 in the path of movement of the shoulder 59 on the flange 58 of the member 55, and also serving as a means for causing the projection 39 to be embedded in the check to crush the latter. A shoulder 61^a limits the movement of the detector member in the other direction under the influence of the spring 46.

The plate 41 is provided with an opening 62 preferably having a laterally widened portion 63 to form a recess in which the head 64 of a second detector member 65 is seated.

The extremity 66 of the detector member 65 projects through an opening 67 in the plate or member 21 (see particularly Figures 5 and 9) and is adapted to enter the check seat from the side thereof when the check carrier 24 is rotated. A spring 68 is provided which engages the detector member 65 and tends normally to project the extremity 66 thereof through the opening 67.

Thus it will be seen that when a check is placed in the check seat 28 and the latter advanced, should the check be of a proper size to shift the detector member 30 and the locking member 49 and yet be provided with an opening therethrough, such as a washer, the advancing movement of the check and check carrier will then be arrested by the extremity 66 of the detector 65 entering the aperture in the washer.

As heretofore stated, the check is delivered from the check seat 28 on to the support 60 when the check seat is inverted, and in order to prevent the delivery of the check from the check seat when the latter is inverted, in the event that the check is of a size and construction to pass both of the detectors 30 and 65, but is of a weight less than the weight of the standard or required check, there is provided a shaft 69 which is journaled in suitable bearings 70 on the plate or member 41. One end of the shaft is deflected forwardly as at 72 (see particularly Figure 3) and passes through an opening 73 in the plate 41 to stand adjacent the path of movement of the check in the check seat in proximity to the support 60. A weight 74 is connected with the shaft and tends normally to hold the end 72 of the shaft in a position to prevent the check from being delivered from the check seat when the latter is inverted.

The weight 74 is such that when any check other than a standard check is carried by the check seat and is advanced to the point adjacent the end 72 of the shaft 69, the weight will hold the end 72 in a position to prevent the check from passing out of the check seat. Should the check be of the proper weight, however, it will, when the check seat is inverted, drop upon the end 72 of the shaft 69 and will rock the shaft to raise the weight 74 and thereby permit the check to be delivered on to the support 60.

Carried by the portion 55 of the member 54 and projecting laterally therefrom is a lug 75 and pivotally mounted upon this lug is a dog 76 provided with an arm having a lateral projection 77 at one extremity thereof and a cam shaped portion 78 at the other end thereof.

This dog is adapted to swing freely upon the lug 75 and a spring (not shown) is secured by one extremity to an anchor 79 within the member 54 and by its other extremity to the dog 76 so that when the member 54 is rotated by the handle 27 to move the dog bodily, the spring will move therewith and at all times the normal tendency of the spring is to move the projection 77 inwardly towards the pivot and the cam shaped portion 78 of the dog outwardly from the pivot.

Loosely mounted upon the extremity of the handle 27 is a disc 80 provided with a notch or cut away portion 81 in its periphery and a series of teeth forming shoulders 82, 83, 84. The disc is also provided with a recessed portion 85 adjacent the shoulder 84. This disc is provided with a boss or projection with a recess 86, preferably angular in cross section to be connected with the mechanism to be actuated.

The disc is free to rotate upon the end of the shaft 27 and is adapted to be rotated by the handle by means of the dog 76. That is, when the lateral projection 77 of the dog 76 enters the recess 81 the projection 77 will engage one of the shoulders or recesses so that when the handle is turned the disc 80 will be rotated, and when the handle is released, while the projection 77 is in the recess 81, a spring 87 will cause the dog 76 to operate upon the disc 80 and rotate it in the opposite direction. The spring 87 is secured by one extremity to an anchor 88 on the member 54 and by its other extremity to an anchor 89 secured to a fixed support.

Co-operating with the disc 80 is a dog 90 pivotally mounted as at 91 preferably upon the member 21. This dog is provided with a projection 92 that is adapted to engage and move about the periphery of the disc 80, and also to co-operate with the shoulders 82—83—84 in a manner to be set forth.

A spring 93 is connected by one end with the dog 90 and is anchored at 94 to a suitable fixed support.

The spring is so arranged that it normally exerts its stress upon the dog 90 in such a manner as to tend to move the projection 92 thereof against the periphery of the disc 80, and to hold the same thereagainst so that, as the disc 80 is rotated, and under certain conditions, the projection 92 will successively engage the shoulders 82—83—84 and maintain the disc against retrograde movement when the projection 92 is engaged with one of the shoulders.

This dog is provided with a laterally projecting portion 95 which stands adjacent but is spaced from the inclined or beveled support 60.

The projection 95 is so disposed with respect to the support 60 that the spring 93 will tend normally to move the projection in a direction towards the support 60, the movement of the projection towards the support being arrested by the projection 92 on the dog 90 engaging the periphery of the disc 80. The space between the projection 95 and the support 60 (see Figure 6) is such that it is somewhat less than the diameter of the proper check or token so that when the check or token is delivered from the check seat 28 upon the support 60, it will engage the support and also the adjacent face of the portion 95 of the dog 90.

When the check is thus delivered from the check seat and when the check carrier 24 is released or turned in a backward direction, one of the walls of the check seat 28 engages the periphery of the token and forces it between the support 60 and the edge of the portion 95 of the dog 90, with the result that the dog 90 will be rocked about its pivot 91 against the stress of the spring 93 and will move the projection 92 on the dog away from the periphery of the disc 80, and thereby allow the disc 80 to be rotated when the check carrying disc 24 is returned. The token will then be held frictionally in position between the support 60 and the projection 95 on the dog 90 after passing out of the check seat 28 until the token is engaged by a cam or projection 24^a on the check carrier 24. The engagement of this cam or projection with the token will force the latter between the support 60 and the portion 95 of the dog 90, and the token will then be delivered into a suitable receptacle. After the token disengages the projection 95 on the dog 90, the spring 93 will cause the projection 92 on the dog 90 to move towards the periphery of the disc 80.

If desired a magnet 96 may be arranged adjacent the path of movement of the token by the check carrier. When provided this magnet operates upon metallic objects or tokens to maintain them within the check seat 28 so that if an improper token is deposited in the check seat, it will not be delivered from the check seat to operate the dog 90, and the check or token will remain in the check seat and will be returned to the operator.

A back plate 97 supported in any suitable manner is provided to hold the parts together.

It is thought that the operation of this device will be clearly understood from the foregoing description, but briefly stated it is as follows.

The mechanism is designed to arrest or detect all improper checks, both as to size, weight, hardness and apertured checks.

When a proper check is inserted in the check seat through the opening 16, and when the check carrier 24 is rotated the periphery of the check will engage the projection 39 on the detector 30 and rock the detector 30 about its pivot 31 to lower the projection 34 and screw 35. This will rock the locking member 43 about its pivot so as to move the outermost projection 50 out of the path of movement of the shoulder 59 of the flange 58 of the member 55 thereby permitting the flange to pass through the opening 51 in the end 49 of the member 43. If the check is of a proper weight it will fall from the check seat 28 and when the latter is inverted on to the end 72 of the shaft 69 to rock the latter against the weight 74 and thereby permit the check to be delivered on to the support 60. As the check carrier 24 is rotated in the opposite direction the cam 24^a will engage the periphery of the check on the support 60 and force it between the surface of the support 60 and the laterally projecting portion 95 of the dog 90, thereby rocking the dog about its pivot so as to move the same out of the notch 81.

As the member 54 is thus rotated the dog 76 will engage one of the shoulders 82—83—84 on the disc and rotate it. This portion of the operation of the mechanism, however, constitutes no part of the present invention but is shown and described in United States Letters Patent No. 1,452,721, issued April 24, 1923.

As soon as the check is forced from the support 60 and the check carrier is returned by the spring 87 the parts will assume their normal positions.

Should a check which is of the proper size but is of a softer material than the standard check, be inserted in the check carrier the hardened point or projection 39 will embed itself in the periphery of the check when engaged thereby and the forward movement of the check will be arrested.

Should a washer be inserted in the check seat and if the same is advanced past the point 39 of the detector 30 the detector 65

will enter the aperture in the washer and thus arrest its forward movement.

Should a check which is lighter than the standard check be inserted in the check seat and advanced to a position over the support 60, the end 72 of the weighted shaft 69 will hold the check against delivery from the seat but will retain the same therein so that it will be returned to the operator.

It will therefore be manifest that with this improved construction means are provided for detecting various kinds of checks and by adjusting the screw 35 with respect to the laterally deflected portion 33 on the detector 30, the mechanism may be adjusted for checks of varying diameters.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:—

1. Check controlled mechanism embodying a check carrier having a check seat, a pivotally mounted detector member, a portion of said member being disposed adjacent the path of movement of the check in the check seat to be engaged and shifted by the check, a pivotally mounted locking member for controlling the actuation of the check carrier, said members being separate from each other and both fixed against bodily movement, and an adjustable element carried by one of said members and engaging the other member for varying the fixed relative position of the members, said locking member being responsive in its operation to the operation of the said detector member.

2. Check controlled mechanism embodying a check carrier having a check seat, a pivotally mounted detector member, a portion of said detector being disposed adjacent the path of movement of the check in the seat to be engaged and correspondingly shifted in accordance with the specific check employed, a formation movable with the check carrier, a pivotally mounted locking member independent of said detector member, spaced portions on said locking member each movable into and out of the path of movement of said formation and respectively in accordance with the check employed to control the operation of the check carrier, and means whereby the operation of the said locking member will be controlled by the actuation of the said detector member.

3. Check controlled mechanism embodying a check carrier having a check seat, a pivotally mounted detector member having a portion disposed adjacent the path of movement of the check in the check seat and adapted to be engaged and shifted thereby, a shoulder connected with the check carrier, a pivotally mounted locking member, a shoulder on the locking member, means tending normally to move the last said shoulder into the path of movement of the shoulder connected with the said check carrier to arrest the movement of the latter, both the said members being fixed against bodily movement, adjustable means whereby a variable fixed relative position of the detector and locking member may be obtained, and means connected with the said detector member adapted to engage and shift the said locking member to move the shoulder on the locking member out of the path of movement of the shoulder connected with the check carrier when the detector member is shifted by the check in said check seat.

4. Check controlled mechanism embodying a check carrier having a check seat, and rotatable to carry a check from a receiving to a delivering position, a shoulder connected with said carrier, a shiftable locking member, spaced shoulders on the locking member, means tending normally to move one of said shoulders on the locking member into the path of movement of the shoulder connected with the check carrier, a detector member adapted to be engaged and shifted by the check in the check seat, and means whereby the detector member when engaged and shifted by a check of a predetermined size will shift the locking member against the stress of the first said means to move the shoulder on the locking member out of the path of movement of the shoulder that is connected with the check carrier, the last said means also operating to move the other of the said shoulders on the locking member into the path of movement of the shoulder connected with the check carrier when a check larger than a predetermined size is held in the check seat.

5. Check controlled mechanism embodying a check carrier having a check seat and rotatable to carry a check from a receiving to a delivering position, a shoulder connected with said carrier, a shiftable locking member, spaced shoulders on the locking member, means tending normally to move one of said shoulders on the locking member into the path of movement of the shoulder connected with the check carrier, a detector member adapted to be engaged and shifted by the check in the check seat, means whereby the detector member when engaged and shifted by a check of a predetermined size will shift the locking member against the stress of the first said means to move the shoulder on the locking member out of the path of movement of the shoulder that is connected with the check carrier, and spaced stops between which a portion of the detector member moves for limiting the movement of the said detector member in both directions.

6. Check controlled mechanism embodying a check carrier having a check seat, a pivot-

ally mounted detector member arranged adjacent the path of movement of the check in the check seat and adapted to be engaged and shifted by said check, a pivotally mounted locking member, both the said members fixed against bodily movement, interengaging portions on the locking member and detector whereby one may be moved by the other, said interengaging portions embodying an adjustable element whereby a variable fixed relative position may be given to the locking member and detector, a shoulder on the locking member, a formation connected with the check carrier and adapted to engage the shoulder on the locking member to arrest the movement of the check carrier, and means tending normally to move the said shoulder into the path of movement of the said formation and the said detector into a position to be engaged and shifted by the check, the said locking member being moved into an inactive position by the movement of the detector member by the check in the check seat.

7. Check controlled mechanism embodying a check carrier having a check seat, a detector member adapted to be engaged and shifted by the check in the check seat, a shoulder connected with the check carrier, a locking member, spaced shoulders on the locking member adapted to be engaged by the shoulder on the carrier to arrest the carrier, means tending normally to move one of the shoulders on the locking member into the path of movement of the shoulder on the carrier, the said locking member being responsive in its movement to the movement of the said detector member, and a cam surface connected with the check carrier and operable upon the said locking member to shift it into an inoperative position upon the return movement of the check carrier.

8. Check controlled mechanism embodying a check carrier having a check seat, a detector member adapted to be engaged and shifted by the check in the check seat, a shoulder connected with the check carrier, a locking member, spaced shoulders on the locking member adapted to be engaged by the shoulder on the carrier to arrest the carrier, means tending normally to move one of the shoulders on the locking member into the path of movement of the shoulder on the carrier, the said locking member being responsive in its movement to the movement of the said detector member, means for limiting the shifting movement of the detector member by the check whereby the detector will operate to crush the check, and a cam surface connected with the check carrier and operable upon the said locking member to shift it into an inoperative position upon the return movement of the check carrier.

9. Check controlled mechanism embodying a check carrier having a check seat and from which seat the check is discharged by inverting the seat, a rock shaft, a portion of the shaft being shaped to form a projection disposed adjacent the path of movement of the check in the seat to retain the check therein, and a weight connected with the shaft for yieldingly holding the said portion of the shaft in position.

10. A check controlled mechanism embodying a check carrier having a check seat and rotatable to carry a check from a receiving to a delivering position, a pivotally mounted detector member having a portion adjacent the path of movement of a check in said seat to be engaged and shifted by the check, a separate pivotally mounted locking member, an adjustable element carried by one of said members and engaging the other member whereby a fixed variable relative position may be given to the members, and means carried with said check carrier and with which means said locking member co-operates for controlling the movement of said check carrier.

11. Check controlled mechanism embodying a check carrier having a check seat rotatable to carry a check from a receiving to a delivering position, a pivotally mounted detector member adapted to be engaged and shifted by the check in said seat, a pivotally mounted locking member, a shoulder on one of said members, a portion of the other member being disposed adjacent but spaced from said shoulder, an adjustable element carried by one of said members and engaging said shoulder whereby a fixed but variably relative position may be given to said members with respect to each other, spaced stops on said locking member, and a shoulder carried by said carrier and adapted to engage one or the other of said stops according to the position to which said locking member is moved by the specific check in the said check seat, said locking member being shiftable to position either of said stops in the path of movement of the last said shoulder by the operation of the said detector member.

In testimony whereof I have signed my name to this specification, on this 27th day of July, A. D. 1927.

ALFRED D. ANTOINE.