

No. 772,977.

PATENTED OCT. 25, 1904.

F. B. TOWNSEND.
CHECK CONTROLLED APPARATUS.

APPLICATION FILED NOV. 16, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

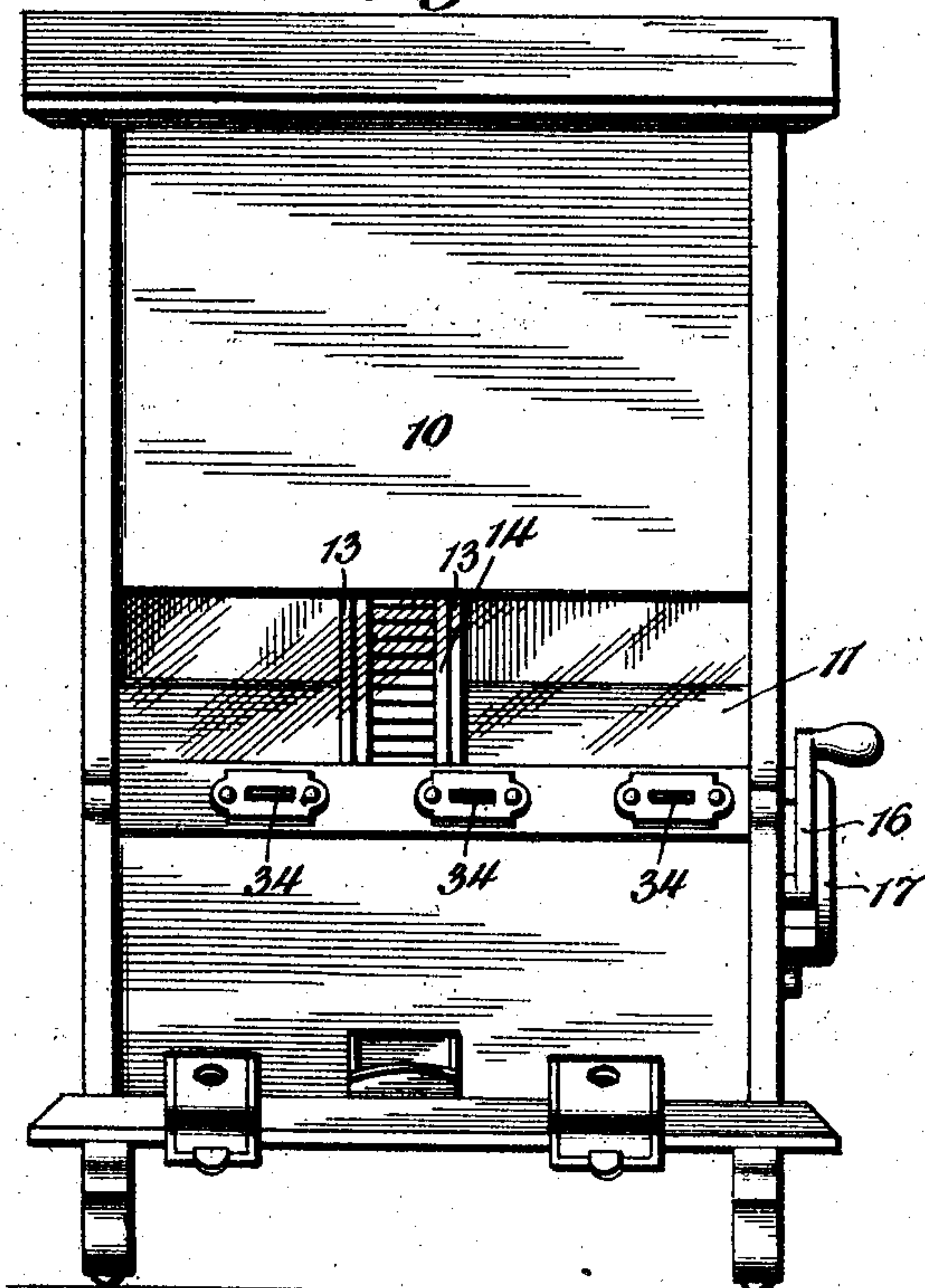


Fig. 7.

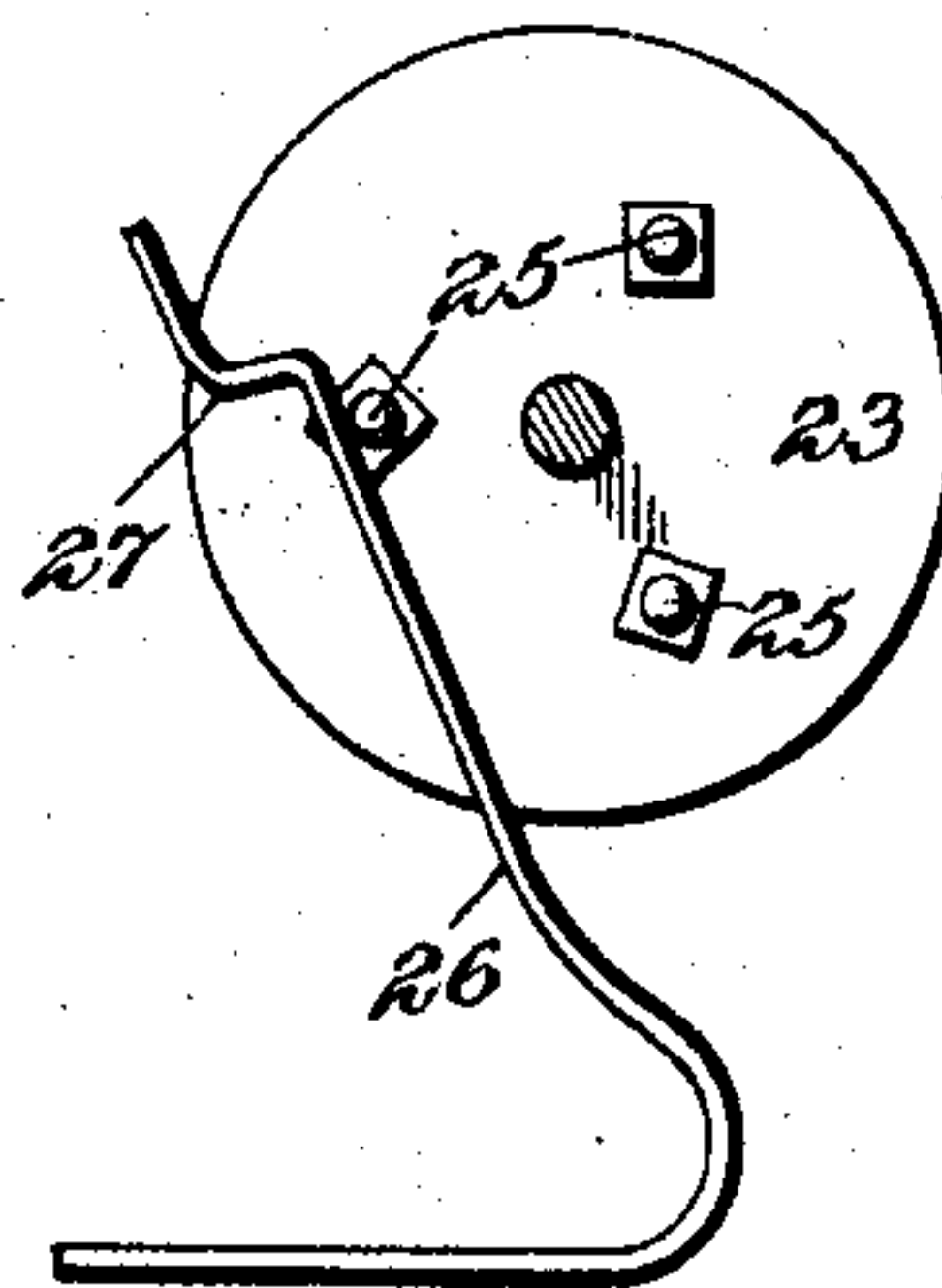


Fig. 8.

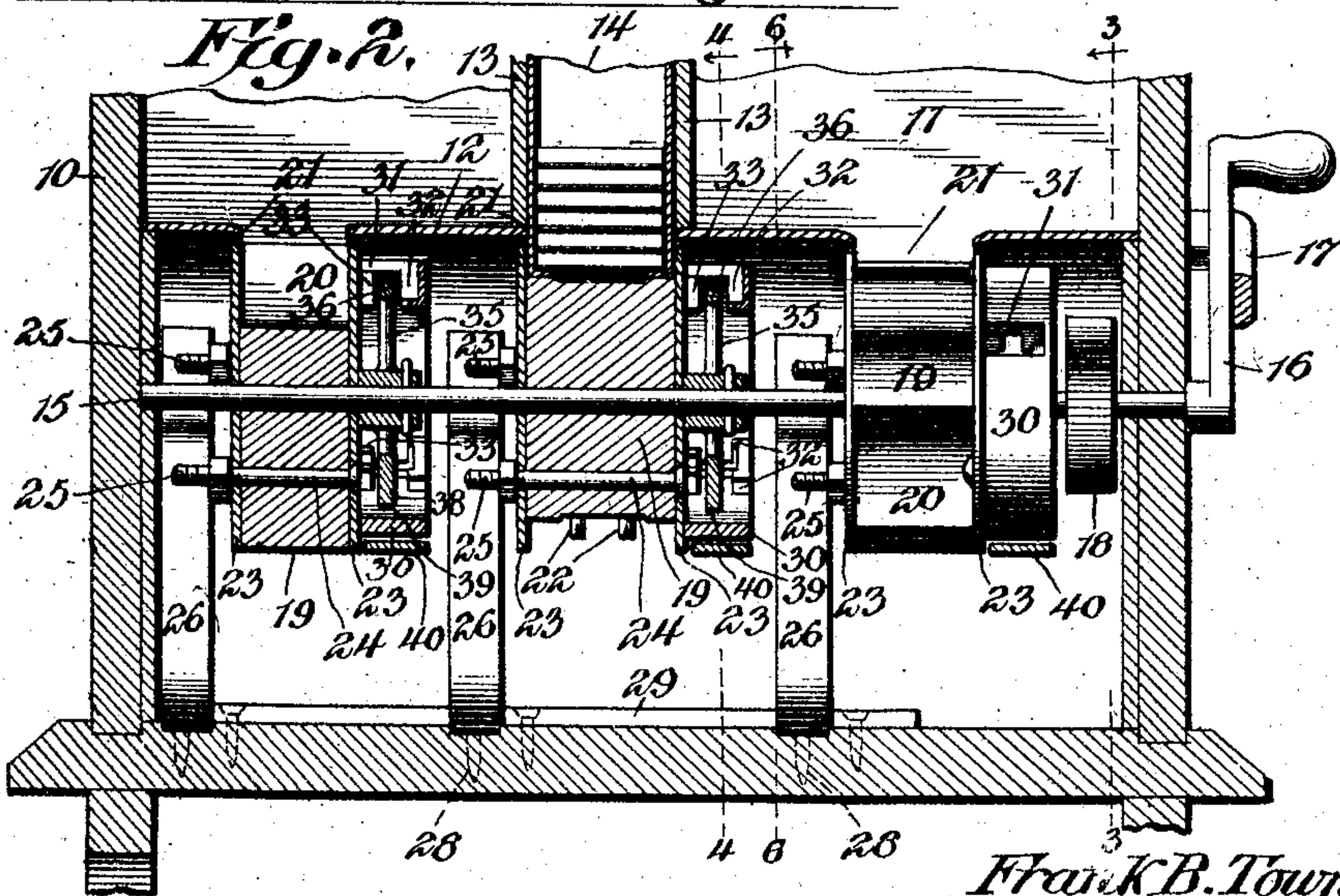
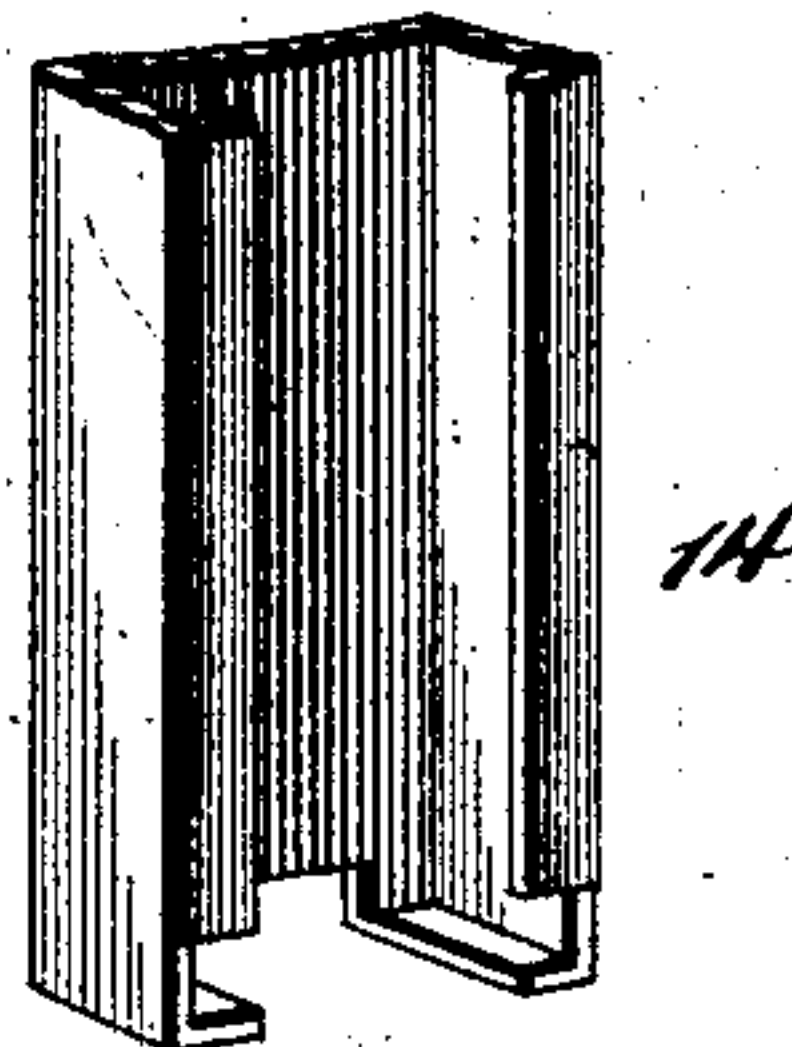
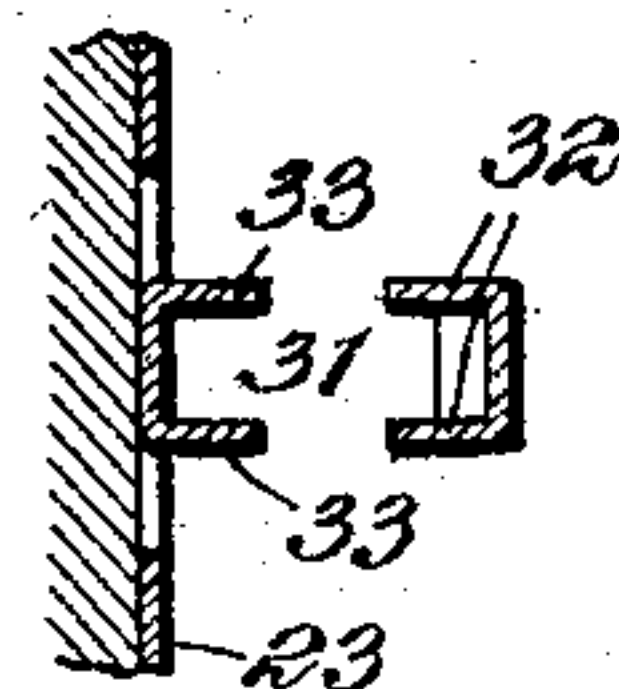


Fig. 9.



Witnesses
Howard W. Carr.
R. G. Foster.

Inventor,
Frank B. Townsend,
By
C. G. Siggers
Attorney

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2 SHEETS—SHEET 2.

Fig. 3.

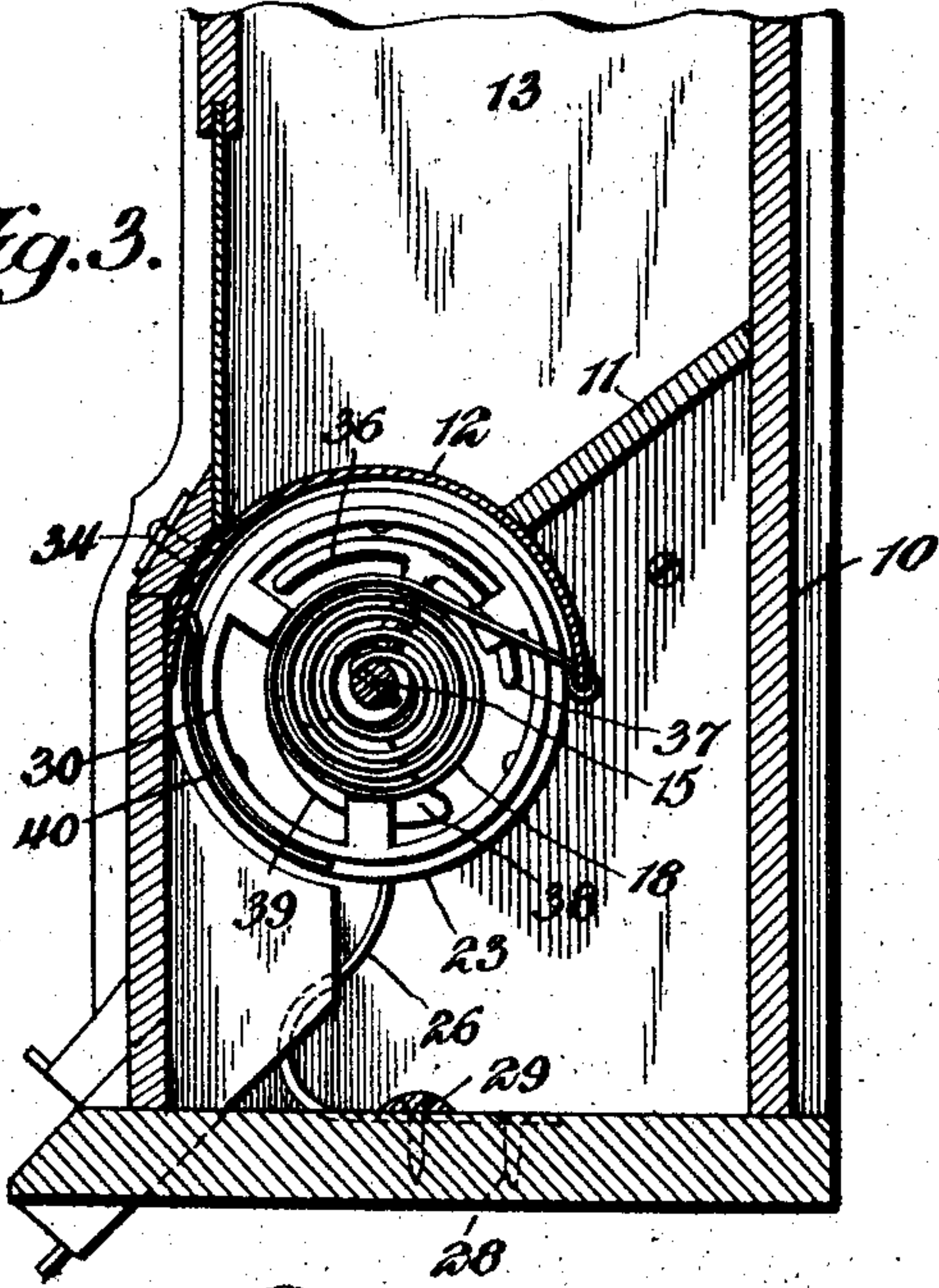


Fig. 4.

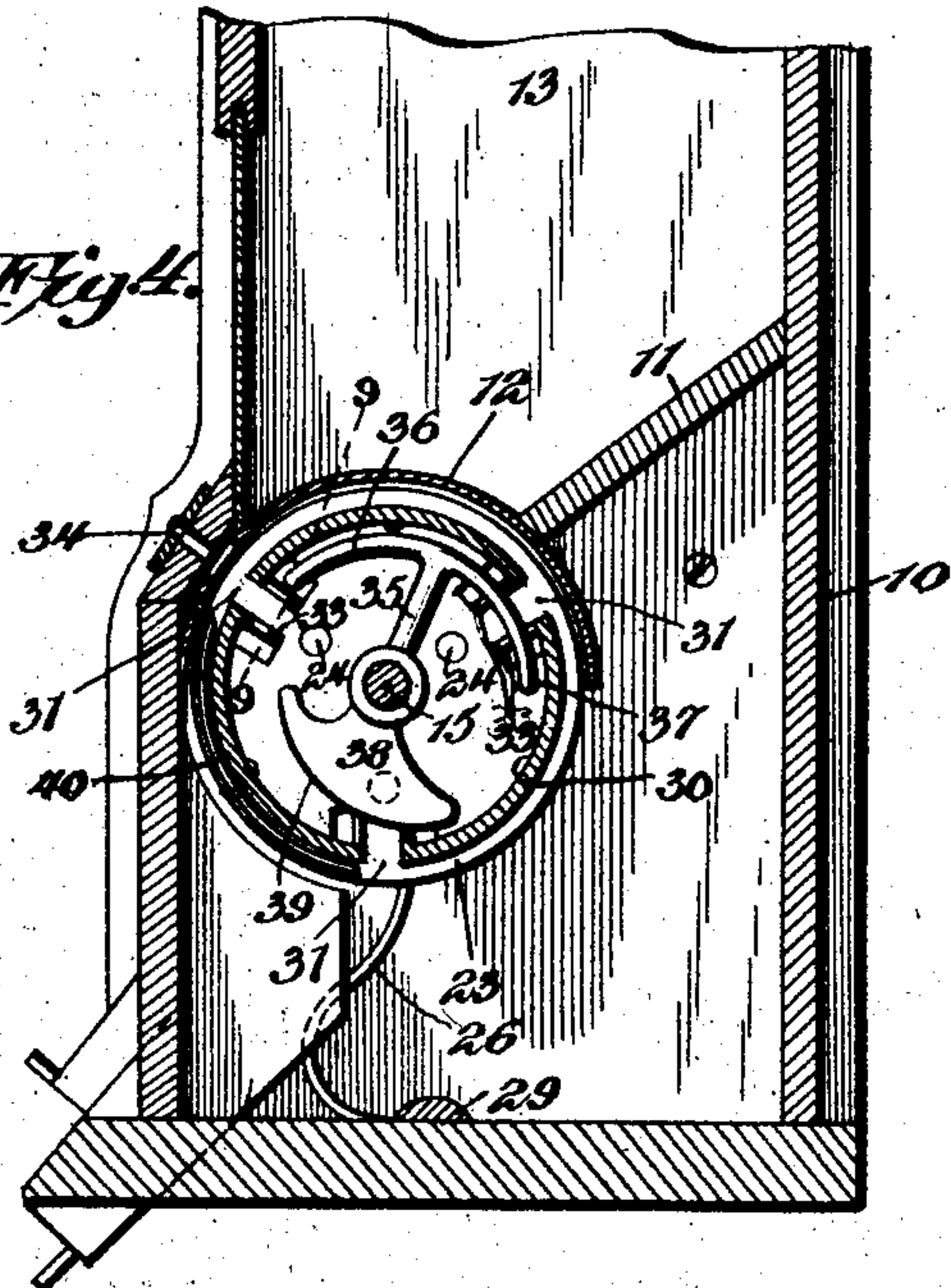


Fig. 5.

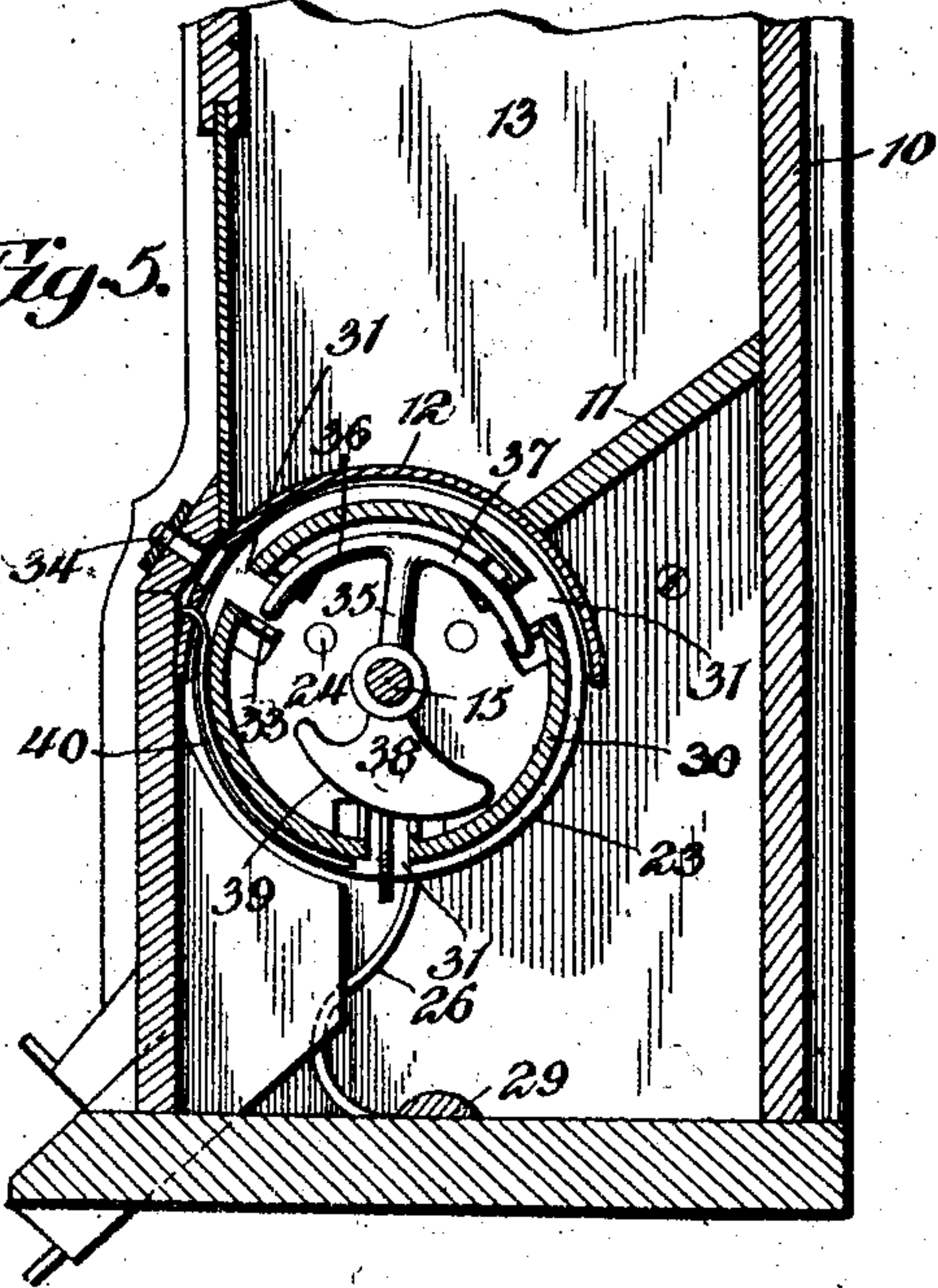
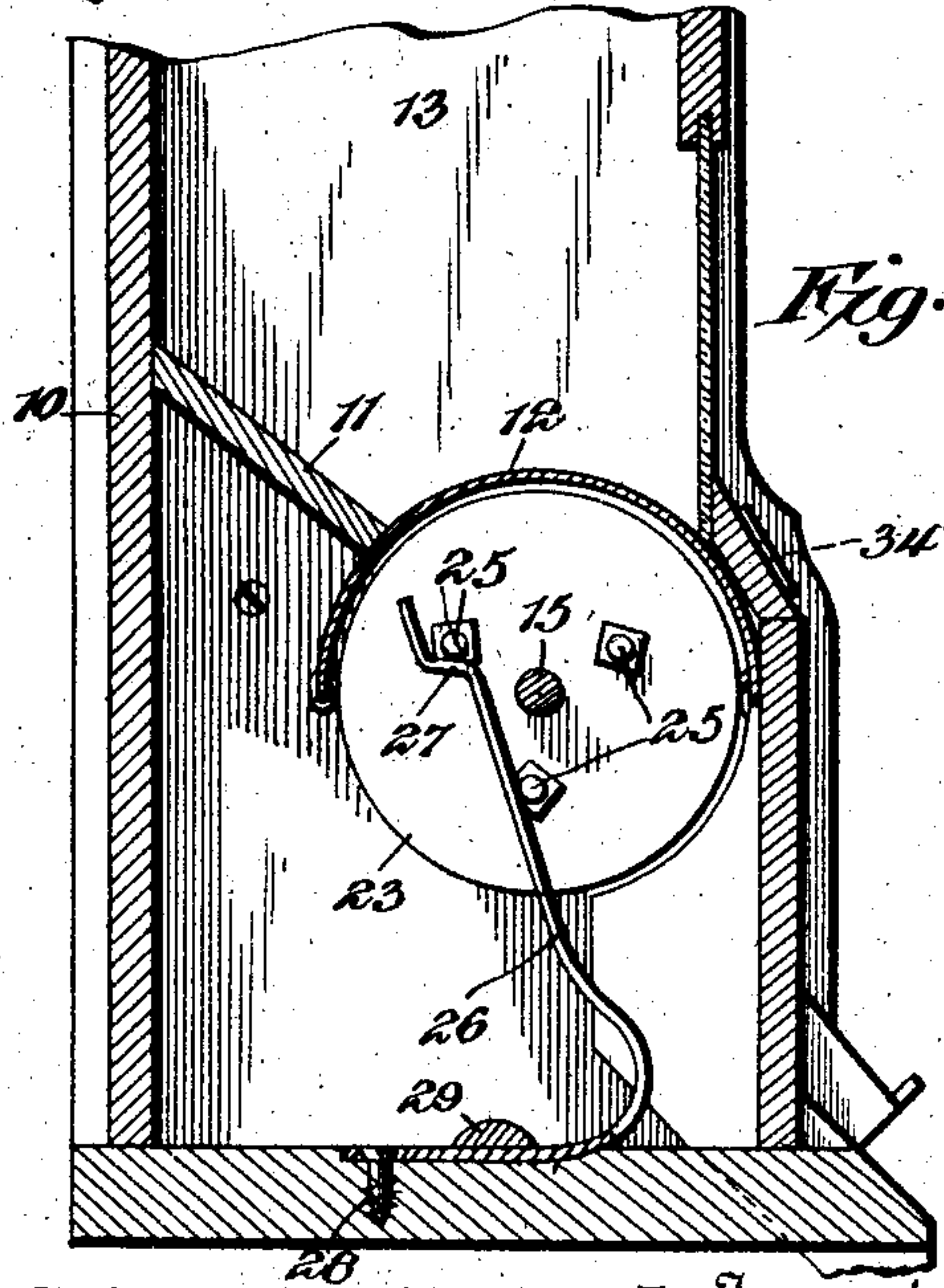


Fig. 6.



Frank B. Townsend, Inventor,

By

E. G. Singer.

Attorney

Witnesses

Howard D. Orr.

B. G. Foster.

UNITED STATES PATENT OFFICE.

FRANK BOGART TOWNSEND, OF PENN YAN, NEW YORK.

CHECK-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 772,977, dated October 25, 1904.

Application filed November 16, 1903. Serial No. 181,350. (No model.)

To all whom it may concern:

Be it known that I, FRANK BOGART TOWNSEND, a citizen of the United States, residing at Penn Yan, in the county of Yates and State of New York, have invented a new and useful Check-Controlled Apparatus, of which the following is a specification.

This invention relates to improvements in that class of apparatus set forth in the co-pending application filed by me October 14, 1902, Serial No. 127,221.

The principal object of the invention is to improve certain details of construction in order to more thoroughly insure the proper operation of the mechanism and prevent its fraudulent operation.

One of the features of the invention resides in a novel construction of coin-engaging mechanism which will be more rigid and stronger than the structure set forth in the previous application and at the same time will prevent the introduction of a coin into the succeeding pocket before the first has been properly discharged.

Another feature relates to novel and simple means for effectively discharging a check or coin from the coin-holder should the same become fixed or wedged therein.

Another novel feature is the employment of means for maintaining a coin in the holder until a predetermined position of the latter is reached, said retaining means allowing the passage of checks and coins of varying sizes.

Still another feature relates to improved means which will prevent the retrograde movement of the mechanism.

The preferred form of construction is illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of a vending-machine constructed in accordance with the present invention. Fig. 2 is a vertical sectional view through the lower portion of the same. Fig. 3 is a vertical section taken at right angles to Fig. 2 and on the line 3 3 of the same. Fig. 4 is a similar sectional view taken on the line 4 4 of Fig. 2. Fig. 5 is a view similar to Fig. 4, but showing the mechanism in position to expel a coin or check from one of the receiving-pockets. Fig. 6

is a sectional view on the line 6 6 of Fig. 2. Fig. 7 is a detail view similar to Fig. 6, showing the operation of the spring during the movement of the delivering device. Fig. 8 is a detail perspective view of the lower end of the gum-holder. Fig. 9 is a detail sectional view taken on the line 9 9 of Fig. 4.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

The general structure is very similar to that illustrated in the prior application, a casing 10 being employed, which is divided by a transverse partition 11, including an upwardly-convexed sheet 12, preferably constructed of aluminium. The portion above this apparatus is subdivided by vertical transverse walls 13 into separate compartments designed to receive the articles to be vended. In the present structure one of these compartments may be employed for holding candy, another for peanuts, while the smallest central space contains a tube 14 for holding packages of gum. Below the plate 12 is located the delivering means and the coin-controlled mechanism coacting therewith.

A supporting and actuating shaft 15 is journaled in the casing beneath and concentric to the plate 12. This shaft has one end extended through the casing and provided with a handle-crank 16, the movement of which is limited by a stop-guard 17, suitably attached to the exterior of the casing.

The shaft is normally held with the handle-crank elevated by means of a spring 18 coiled thereabout, one end of the spring being attached to the shaft, the other end being secured to the rear portion of the plate 12, as illustrated in Fig. 3. Loosely journaled upon and supported by the shaft 15 are delivering devices 19, preferably in the form of cylinders, certain of which have pockets 20 movable successively into alinement with openings 21, formed in the bottoms of the various compartments. The central cylinder is provided with projections 22, that pass through the lower end of the holder-tube 14, and thus successively carry the packages of gum therefrom. The lower end of said tube 14 rests loosely upon the drum, which constitutes a

support therefor. The cylinders or delivering devices 19 are provided with sheet-metal heads 23, constituting end walls for the pockets 20. These heads are fastened in place by bolts 24, that project beyond one end of each device, constituting abutments 25 for a combined holding and actuating spring 26, coacting with each delivering device.

The springs 26 are each preferably formed of a flat piece of metal bent to substantially V shape, one end resting upon the bottom of the casing, the other end arranged to bear successively against the projections 25. This end is provided at its free terminal with an offset portion 27, constituting a shoulder that engages successively beneath the projections, and thus holds the delivering device against retrograde movement. The lower end of the spring has its free end fastened to the bottom by a screw 28 or other suitable fastening device passing therethrough. The springs are also secured contiguous to their intermediate bent portion by a cross-bar 29, extending across their upper faces and fastened to the bottom of the casing. By employing the cross-bar it is unnecessary to make openings in the springs contiguous to the bends therein, and thus said springs are not weakened at those points. This is quite an important feature, as it obviates the danger of breakage at the point where most of the strain is brought to bear.

The head of the delivering device opposite the projections carries an annular outstanding flange 30, disposed concentrically to the shaft 15, and having a plurality of coin-receiving openings 31 therethrough. These flanges are provided at their outer edges and at the ends of the openings 31 with inwardly-extending spaced flanges 32, defining the outer end of a coin-receiving pocket. The inner end of each pocket is formed by outturned spaced lips 33, cut from the sheet-metal end wall and bent outwardly in line with the opposite side walls of the opening. This structure is illustrated particularly in Fig. 9. The result of the arrangement is a plurality of open-sided and open-bottomed coin-receiving pockets that are preferably of sufficient width to receive a plurality of checks or coins. These pockets are arranged to successively aline with a plurality of coin-introduction slots 34, formed in the front of the casing above the drums or outstanding flanges 30.

Secured to the actuating-shaft 15 are crank-arms 35, having at their free ends oppositely-extending fingers 36 and 37, that are curved concentrically to the axis of the shaft. The forwardly-extending fingers 36 are normally disposed in rear of the pockets that are alined with the coin-introduction slots, and their free ends are adapted to engage coins placed in said pockets. They are movable through the open sides of the pockets in spaced relation to the walls thereof, and thus will pass

through the central openings of washers or other analogous fraudulent checks without actuating the drums. The rearwardly-extending fingers 37 normally pass through the succeeding pockets and normally close the same against the introduction of coins. Attached to the opposite side of the shaft from the crank-arms 35 are expelling-cams 38, the outer edges 39 of which are movable through the bottoms of the check-receiving pockets to force therefrom any coin or check that may bind or become stuck in said pockets. These cams operate in opposition to the fingers, as is hereinafter more fully described.

For the purpose of maintaining the checks in the coin-receiving pockets until the delivering devices have accomplished their full movements retaining-springs 40 are employed, preferably secured at their upper ends and extending concentrically beneath the forward and lower portions of the drums. These springs yield sufficiently to permit the passage of a comparatively large check or misshapen coin.

The operation of the device may be briefly described, as follows: The purchaser introduces a coin of the necessary value through the desired slot 34, and said coin will enter the coin-receiving pocket alined therewith. The shaft is then turned by means of the handle 16, thereby bringing the forwardly-projecting finger 36 against the coin and through the medium of the same rotating the drum and the attached delivering device. During this movement the coin will be retained in the pocket by the spring 40 until the mouth of said pocket is passed beyond the free end of the same, whereupon said coin will ordinarily gravitate from the pocket. During this turning movement of the delivering device the spring 26 will be forced backwardly by one of the abutments 25 until said abutment has passed the dead-center with respect to the shaft 15. Thereupon the spring will act upon the abutment, as illustrated in Fig. 7, and automatically and quickly rotate the delivering device until the next abutment contacts therewith. When this position has been reached, the shoulder 27 is passed beneath the forward or upper abutment and will positively hold the delivering device against retrograde movement. The quick automatic movement of the delivering device caused by the spring 26 will carry the coin in the pocket away from the front end of the finger 36, leaving the same free to gravitate, if not misshapen or so large as to bind in the pocket. By this time the succeeding coin-receiving pocket will be alined with the coin-introduction slot; but a coin cannot be introduced therein, for the reason that the finger extends across the same. The delivering device having been rotated to the full extent of its movement, the handle is released and the spring 18 will carry the same and shaft back to its

original position, thus positioning the fingers in proper relation to operate upon another coin introduced into the mechanism. During this retrograde movement should the coin or check fail to drop from the lowermost pocket the cam 38 will pass through the lower portion of the same, and thus positively expel said coin from the pocket.

It is desired to call attention to the following advantages which this structure has over that presented in the prior application and over the art of record, so far as applicant is aware. In the first place the mechanism as a whole is extremely simple in character. The actuating-fingers are comparatively short, so that they are necessarily more rigid and stronger, while at the same time the rearwardly-extending fingers serve to prevent the introduction of the coins into the pockets until the actuating means is in proper position with relation thereto. The coin-expelling means is also an important feature, as it often occurs that a large fraudulent check is forced into the coin-receiving pocket and will not drop therefrom of its own weight. The retaining-springs 40 serve to prevent the removal of the coin until the delivering device has been given its full predetermined movement to discharge its contents. At the same time said spring will yield to permit the passage of a large check or misshapen coin. The springs 26 are also improvements, as they not only perform their former functions, but also serve as locking means to positively prevent the retrograde movement of the delivering device.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a delivering device, of check-controlled apparatus including a plurality of movable check-receiving pockets, and an operating device including an arm having oppositely-extending fingers, one of said fingers coacting with the check placed in one of said pockets, the other finger extending through the succeeding pocket.

2. The combination with a casing having a check-introduction slot, of check-controlled apparatus including a plurality of revoluble open-sided check-receiving pockets movable successively into coaction with the slot, and an operating device including an arm having oppositely-extending fingers, one of which co-

acts with the check placed in the pocket coacting with the slot, the other finger extending through the succeeding pocket.

3. The combination with a rotatable delivering device having a plurality of open-sided check-receiving pockets, of operating mechanism including a shaft having a crank-arm, and oppositely-extending fingers carried by the arm, one of said fingers extending to a point contiguous to one pocket, the other extending into the succeeding pocket.

4. The combination with a casing having a downwardly-inclined check-introduction slot, of a shaft journaled in the casing, a drum loosely mounted on the shaft and having a plurality of radially-disposed check-receiving pockets movable successively into coaction with the slot, a crank-arm attached to the shaft, and oppositely-extending fingers located at the free end of the crank-arm, one of said fingers being normally disposed with its free end in rear of the pocket in coacting relation with the slot, the other finger extending rearwardly through the succeeding pocket.

5. In check-controlled apparatus, the combination with a movable check-holder, of reversely-movable actuating means arranged to engage a check placed in the holder for moving said holder when said means is moved in one direction, and a device carried by the actuating means and engaging said check when the means is moved in an opposite direction to expel the check from the holder.

6. In check-controlled apparatus, the combination with a movable check-holder, of a rock-shaft, and relatively immovable devices carried by the shaft and arranged to respectively engage different portions of a check placed in the holder when the shaft is moved in opposite directions, one of said devices thereby effecting the movement of the holder, the other effecting the ejection of the check therefrom.

7. In check-controlled apparatus, the combination with a movable check-holder, of actuating means engaging a check placed in the holder, and a check-engaging cam carried by the actuating mechanism and operating in a reverse direction to the same to move a check out of the holder.

8. In check-controlled apparatus, the combination with a rotary check-receiving pocket, of oscillating actuating means engaging a check placed in the pocket, and an oscillating check-engaging cam carried by and operated in opposition to the actuating means to force a check out of the pocket.

9. In check-controlled apparatus, the combination with an actuating-shaft, of a loosely-revoluble drum having an open-sided and open-bottomed coin-receiving pocket, a finger connected with the shaft and arranged to engage a check placed in the pocket, said finger being movable through the open sides thereof,

and a cam attached to the shaft and movable through the open bottom of the pocket to positively move a check out of the same.

10. In check-controlled apparatus, the combination with a revoluble drum having a plurality of check-receiving pockets, of an oscillating finger movable concentrically within the drum and engaging successively the checks placed in the pockets, and a curved retaining-spring extending exteriorly of and beneath a portion of the drum, and beneath the path of movement of the mouths of the pockets.

11. In check-controlled apparatus, the combination with a revoluble delivering device having a sheet-metal head attached to one end thereof, an annular outwardly - extending flange attached to the head and having a coin-receiving opening, and lips cut from the sheet-metal head and turned outwardly in line with the opposite walls of the opening, said lips defining one end of a coin-receiving pocket.

12. In coin-controlled apparatus, the combination with a casing having a compartment provided with a discharge-casing, of a shaft journaled in the casing and located beneath the discharge-opening, an exposed handle connected to the shaft, a delivering device loosely journaled on the shaft beneath the discharge-opening and coacting with said opening, a hollow drum attached to one end of the delivering device and having an opening in its peripheral face, spaced sets of flanges located inside the drum and extending inwardly from the opening forming an open-sided coin-receiving pocket, and a crank attached to the shaft in the drum and having an offset curved finger, the free end of which is normally out of but is movable through the open-sided pocket.

13. In coin-controlled apparatus, the combination with a casing having a compartment provided with a discharge-opening, of a shaft journaled in the casing and located beneath the discharge-opening, an exposed handle connected to the shaft, a delivering device loosely journaled on the shaft beneath the discharge-opening and having a plurality of pockets extending from end to end thereof and arranged to aline with said opening, disks attached to the ends of the delivering device and closing the ends of the pockets, an annular outstanding flange carried by one disk and constituting a hollow drum, said flange being provided with a plurality of coin-receiving openings, spaced sets of flanges located inside the drum and extending inwardly from the openings, forming open-sided coin-receiving pockets, a crank attached to the shaft and having an offset finger, the free end of which is successively movable through the open-sided pockets, abutments projecting from the end of the delivering device opposite the drum, and a spring arranged to successively bear against the abutments.

14. In a coin-controlled apparatus, the combination with a casing having a compartment provided with a lower discharge-opening, of a shaft journaled in the lower portion of the casing beneath the discharge-opening and having an exposed actuating-handle attached thereto, a delivering device loosely journaled on the shaft and arranged beneath the discharge-opening, said device having a plurality of pockets arranged to aline with the discharge-opening and extending from end to end of said device, cap-disks arranged at the ends of the device and closing the ends of the pockets, one of said disks being provided with an outstanding annular flange forming a hollow drum, said flange being provided with a plurality of openings, flanges extending within the drum from the openings and forming open-sided coin-receiving pockets, a crank rigidly attached to the shaft and having an offset coin-engaging finger movable through the pocket, bolts securing the cap-disks to the device and projecting beyond the end of said device opposite the drum forming angularly-disposed abutments, and a spring secured within the casing and arranged to bear against the abutments.

15. In coin-controlled apparatus, the combination with a casing, of a shaft journaled in the casing and having an exposed handle, a delivering device loosely journaled on the shaft, a head arranged on the end of the delivering device, an outstanding flange projecting from the outer face of the head and having an opening therethrough, an open-sided coin-receiving pocket located within the flange and in line with the opening thereof, a finger attached to the shaft and movable through the pocket, a fastening device passing through the head and delivering device and projecting from the end of said device opposite the head, and a spring located within the casing and bearing against the projecting end of the fastening device.

16. The combination with a revoluble delivering device, of coin-controlled apparatus including a plurality of revoluble open-sided coin-receiving pockets, and a finger movable through the pockets and arranged to engage a coin placed therein, said finger being of sufficient length to extend from one pocket through the adjacent succeeding pocket.

17. The combination with a revoluble delivering device having a plurality of open-sided coin-receiving pockets, of a finger movable through the open sides of the pockets and arranged to engage a coin placed therein, said finger being of sufficient length to extend from one pocket through the adjacent succeeding pocket.

18. In coin-controlled apparatus, the combination with a casing having a coin-introduction slot, of a shaft journaled in the casing, a delivering device loosely journaled on the shaft and having a plurality of coin-receiving

pockets arranged to aline successively with the coin-introduction slot, and a finger secured to the shaft and movable through the pockets, said finger being arranged to engage
5 a coin placed in the pocket alined with the introduction-slot and being of sufficient length to extend from said pocket through the adjacent succeeding pocket.

10 19. In coin-controlled apparatus, the combination with a movable open-sided coin-receiving pocket of sufficient width to receive a plurality of checks side by side, of a finger movable transversely through the open sides of the pocket in spaced relation to the walls
15 thereof, whereby said finger will engage a coin placed in the pocket and pass through the opening of a washer placed therein.

20. In a coin-controlled apparatus, the combination with a rock-shaft, of a rotatable delivering device loosely journaled on the shaft 20 and having a plurality of open-sided and open-bottomed coin-receiving pockets, said pockets having end walls, and a finger attached to the shaft and having a forwardly-projecting curved portion at its outer free end that is 25 movable through the pockets in spaced relation to the walls thereof.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK BOGART TOWNSEND.

Witnesses:

F. S. PLAISTED,

EDWIN F. REYNOLDS.