B. LOVATT.

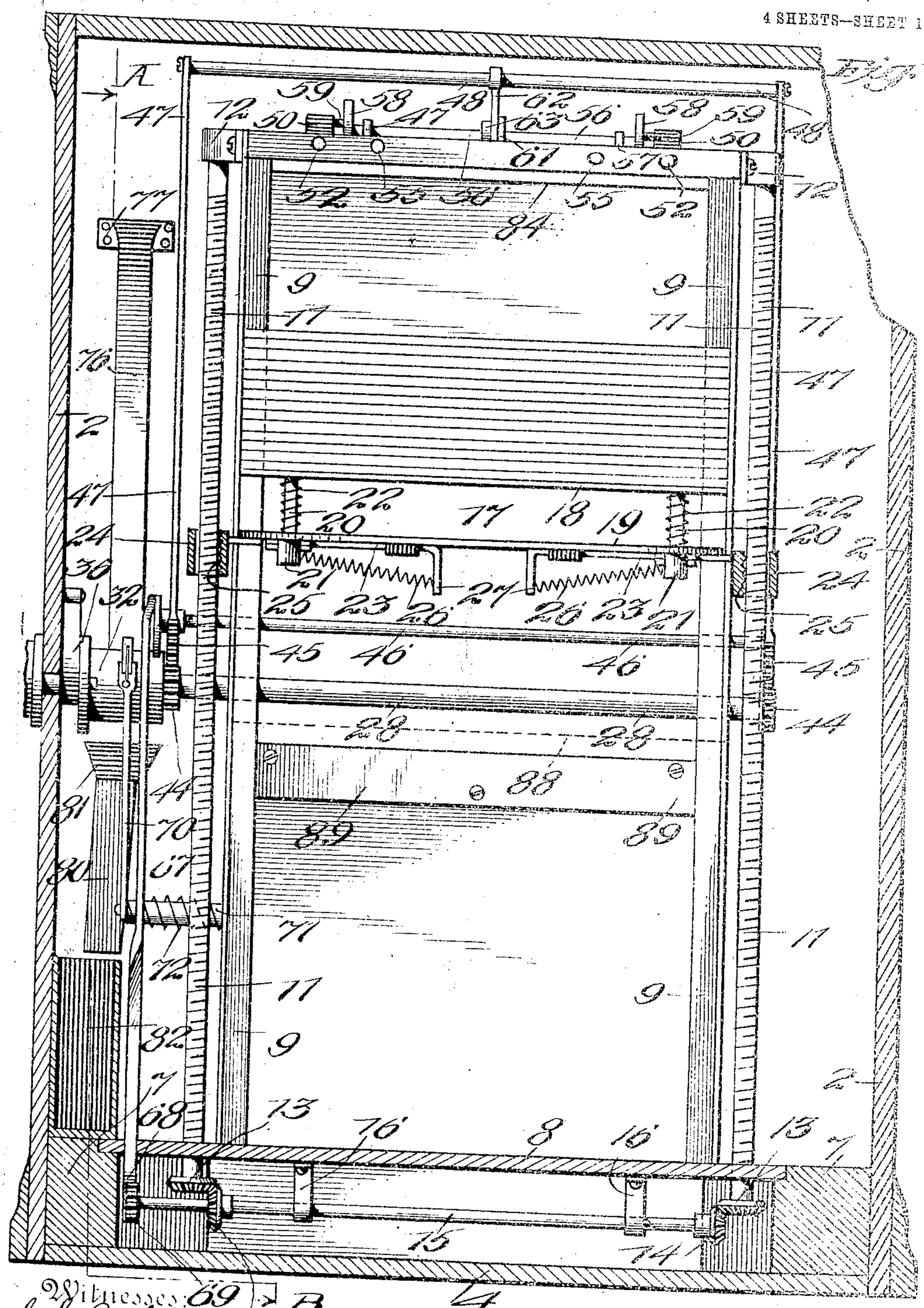
VENDING MACHINE.

APPLICATION FILED MAR. 17, 1909.

952,536.

Patented Mar. 22, 1910.

4 SHEETS—SHEET 1.



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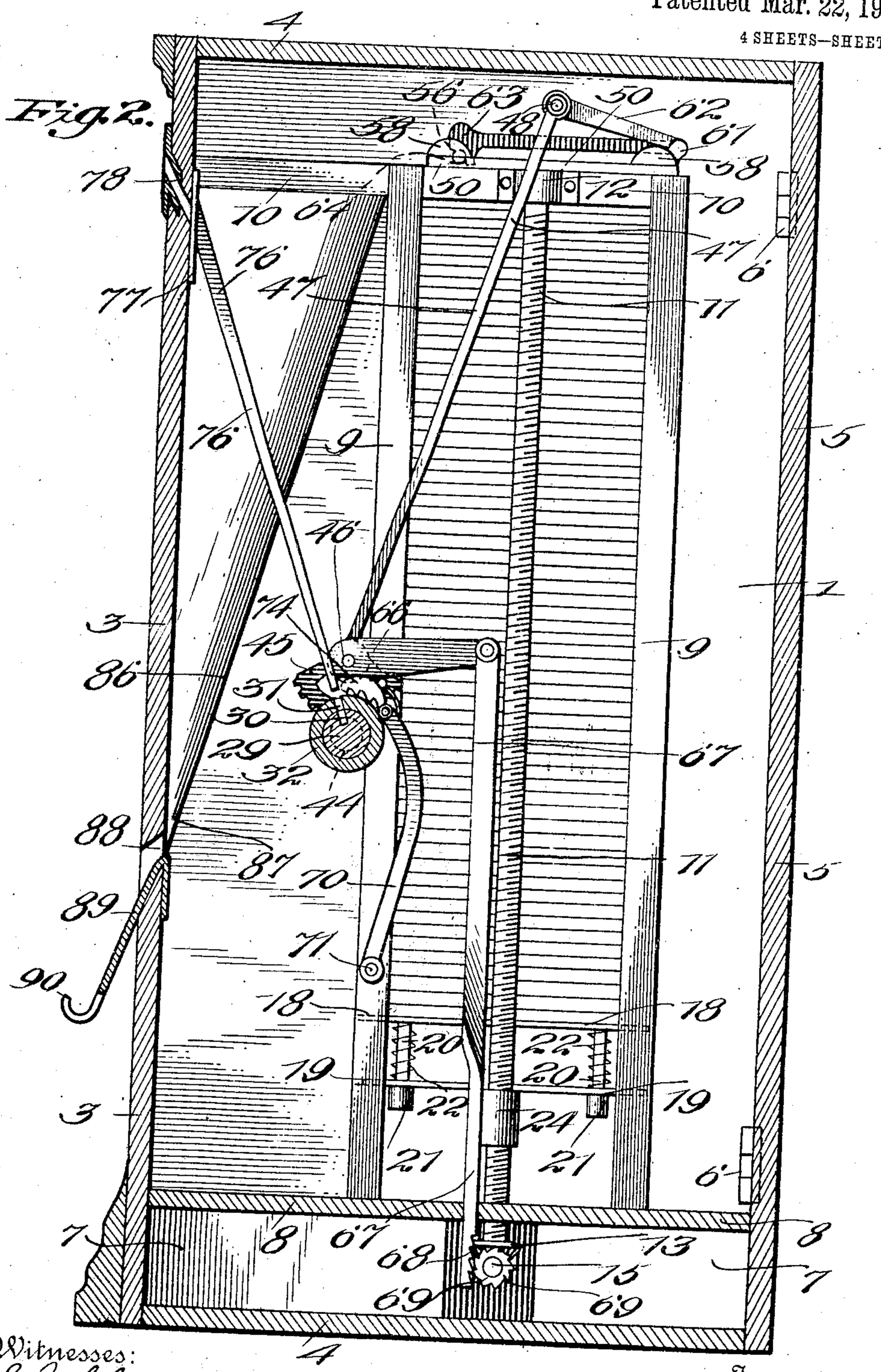
4 SHEETS—SHEET 2.

Fig 2.



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4 SHEETS—SHEET 3.

Fig. 3.

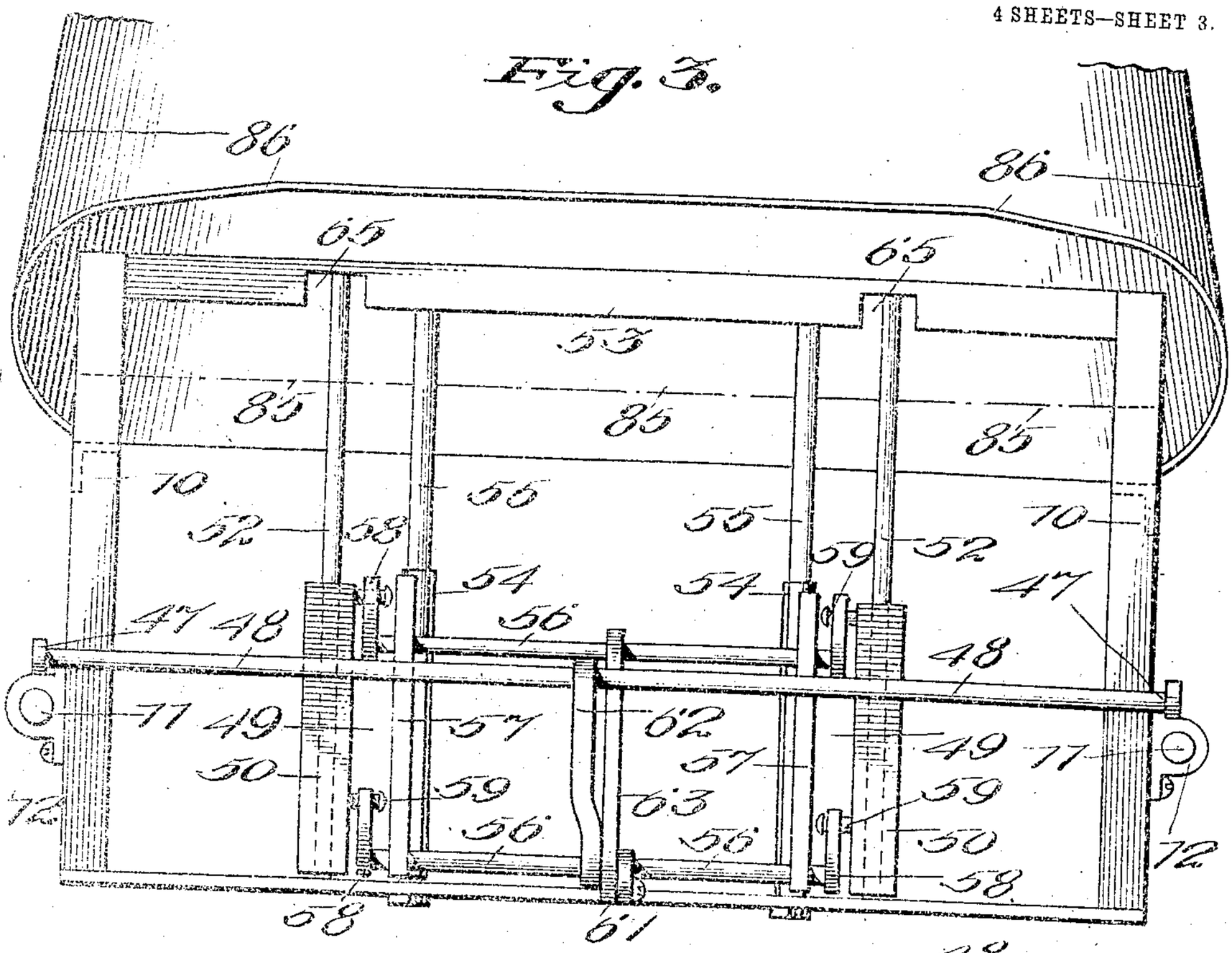
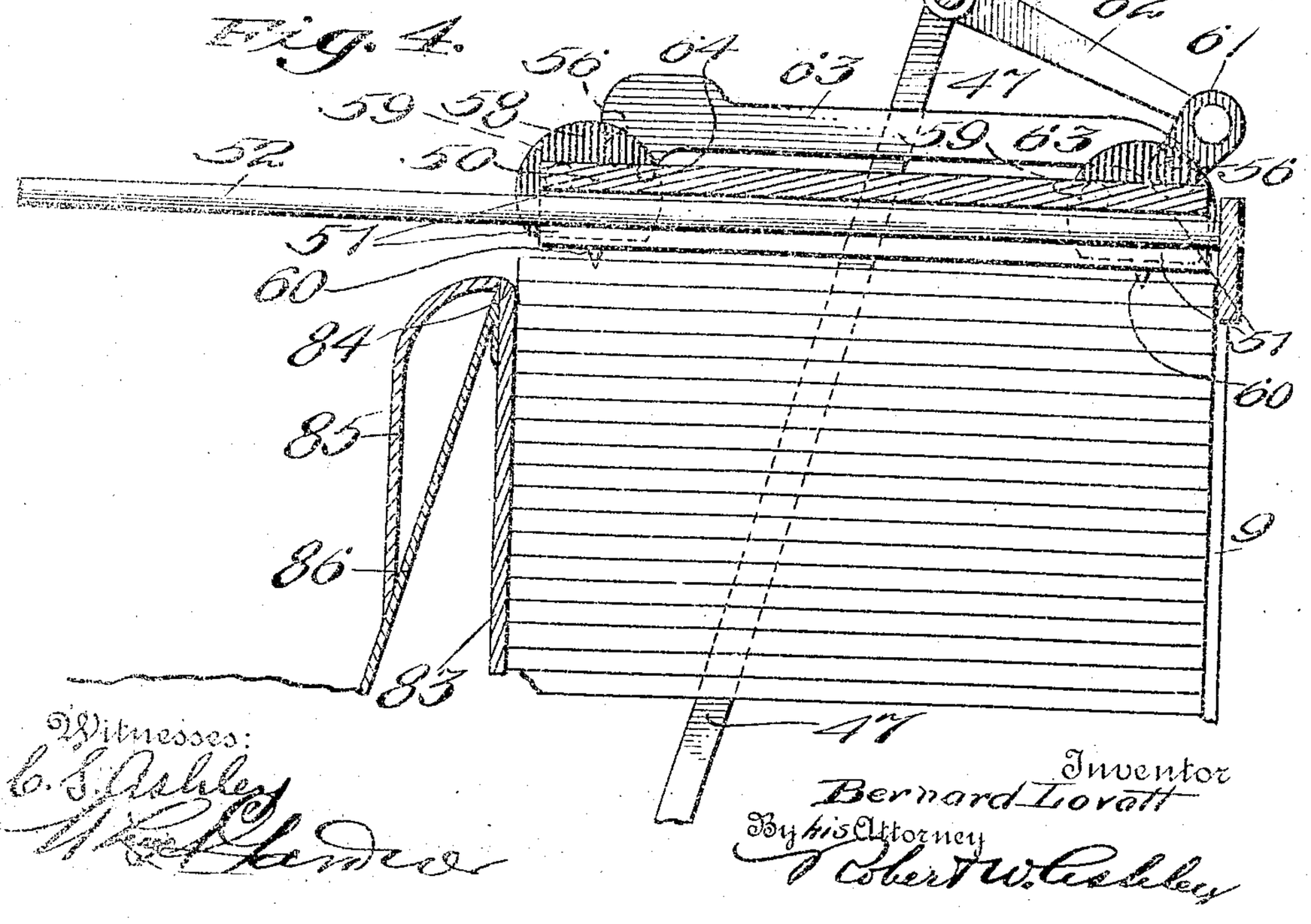


Fig. 4.



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4 SHEETS—SHEET 4.

Fig. 5.

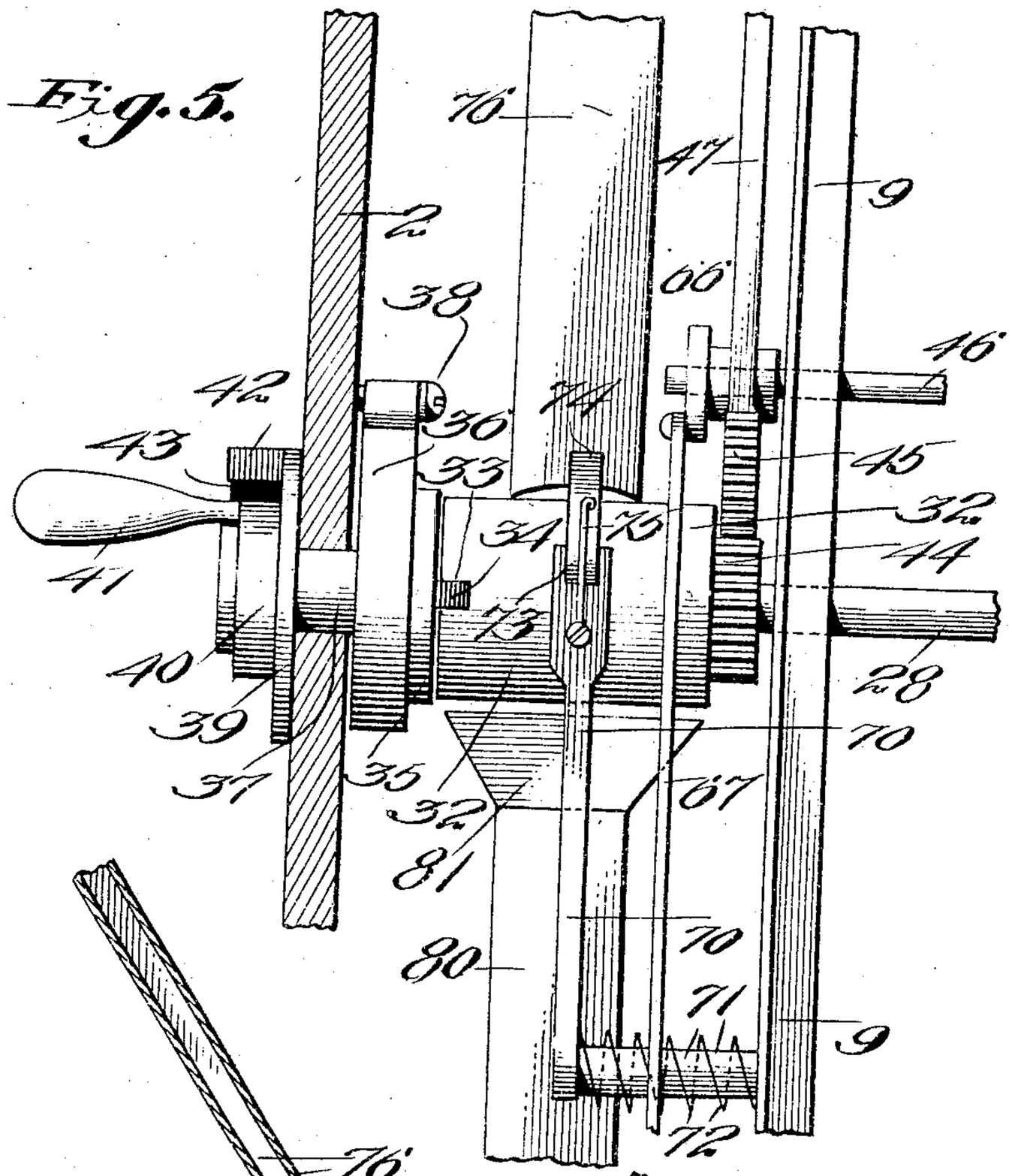
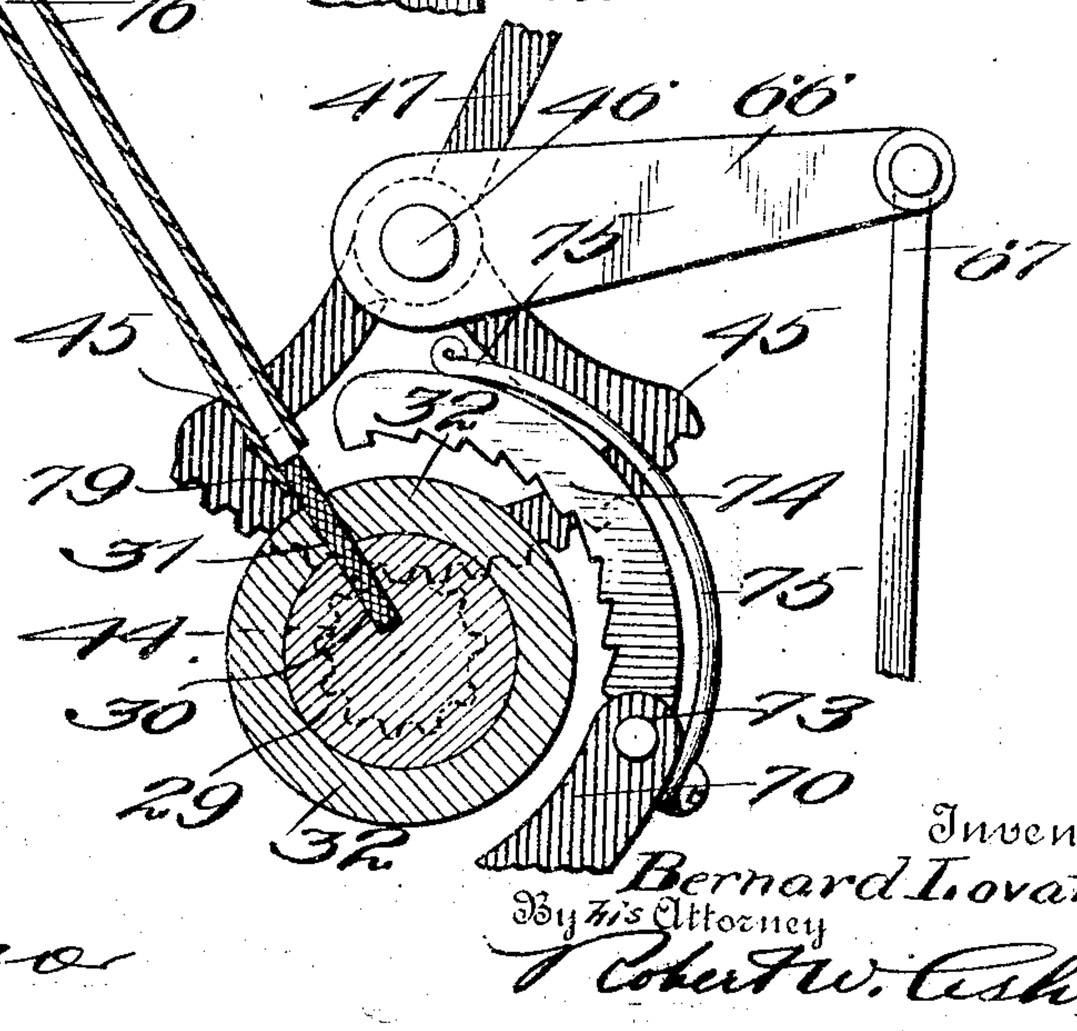


Fig. 6.



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UNITED STATES PATENT OFFICE.

BERNARD LOVATT, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN SANITARY SUPPLY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

VENDING-MACHINE.

952,536. Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed March 17, 1909. Serial No. 483,975.

To all whom it may concern:

Be it known that I, BERNARD LOVATT, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

The invention relates to improvements in vending machines, having particular reference to apparatus for disbursing cartons containing a towel and sheet or wafer of soap.

The object of the invention as herein shown and described is the providing of means associated with a coin actuating mechanism, adapted to prevent the reception of a carton, without the pre-payment of the coin of a pre-determined denominational value and means for actuating the carton feeding means simultaneous with the discharge of the coin from the coin controlled actuating means.

In the following is described in connection with the accompanying drawings, one embodiment of the invention, the features thereof being more particularly pointed out hereinafter, in the claims.

In the drawings, Figure 1 is a vertical sectional view of the apparatus, parts being shown in elevation to more clearly illustrate the essential features thereof; Fig. 2 is a vertical side sectional view on the line A—B of Fig. 1, parts being obviated to more clearly illustrate the invention thereof; Fig. 3 is an enlarged detail plan view of the carton feeding or discharging means; Fig. 4 is an enlarged detail vertical sectional view of the carton feeding or discharging means; Fig. 5 is an enlarged elevation of the coin controlled actuating means, illustrating in connection therewith, the manual actuating means of the device, and Fig. 6 is an enlarged vertical sectional view of the coin controlled actuating means.

Similar numerals of reference indicate similar parts throughout the several views.

In the drawings, 1 represents the casing or cabinet provided with side walls 2, face wall 3, top and bottom 4, and rear wall 5 fastened to said side walls 2 by means of hinges 6, acting in this capacity as a door or means of access to the operative parts of the device. Said bottom 4 has mounted thereon, a superstructure 7, comprising the ordinary form of block lifts and has rigidly fastened thereto a base plate 8, having mounted thereon angle bars or L irons 9, reinforced on their extreme upper ends by means of lateral braces 10, fastened to any portion of the casing, such as to face member 3, as illustrated in Fig. 2 of the drawings. 11 indicates threaded conveyer rods, mounted at their lower ends in said base plate 8, and at their upper ends in bearings 12, fastened to the reinforcing frame 10 of the carton containing compartment by any suitable means, such as by screws. Said conveyer rods 11 have mounted on their extreme lower ends beveled gears 13, engaging beveled gears 14 on shaft 15, which are in turn mounted in depending bearings 16, fastened to the under side of said base plate 8. The angle or L irons 9 of said carton containing compartment have mounted therein a carriage 17, comprising an upper plate 18 and a lower plate 19, held rigidly together by differentiating rods 20, extending into bearings 21 on said lower plate 19, said differentiating rods 20 having mounted thereon coiled springs 22 of a suitable tension, their respective ends bearing against each of said plates 18 and 19. Lower plate 19 has mounted on its under side, keys 23, supporting on their outer ends yokes 24 provided with internally threaded surfaces 25 engaging the threaded surfaces of threaded conveyer rods 11. Said yokes 24 are held in normal engagement with rods 11 by means of coil springs 26 having their ends engaging bearings 21 on the under side of lower plate 19 and the thumb members 27 of keys 23.

28 indicates a main shaft mounted in suitable bearings on angle or L irons 9 and has mounted on its outer end a core 29 having suitably cut therein a slot 30 in direct alinement with slot 31 in sleeve 32 mounted on and engaging said core 29. Said sleeve 32 has suitably cut therein a key way or slot 33, adapted to receive feather or key 34 mounted on or cast with slot 35, the position of said slot 35 being controlled by means of coil spring 36 having one of its ends rigidly fastened to actuating shaft 37, mounted in either one of the side walls 2, the outer end of said coil spring being fastened to a suitable bearing such as a stationary lug or screw 38, also mounted in either one of the

side casings 2. Said actuating shaft 37 has mounted thereon a base member or guide plate 39 provided with a suitable reinforcing lug 40, having cast with, or attached thereto, an operating handle 41.

42 indicates a plate fastened to either one of side walls 2 in any suitable manner, and has mounted on its under side a rubber pad 43, the object of the same being to provide means for taking up the sudden rebound or recoil of the operating parts of the device, after the apparatus has been actuated.

Shaft 28 has mounted thereon, keys 44 for engaging segments 45 mounted on auxiliary shaft 46, said segments carrying arms 47, communicating at their extreme upper ends with transverse rod 48, said transverse rod 48 extending across the upper portion of discharge carriage 49. Said discharge carriage 49 comprises laterally extending bars 50 provided with a U shaped reception surface 51, adapted to bridge over and partially rest upon rods 52 mounted in auxiliary frame 53.

54 indicates tubes, slidably mounted on auxiliary supporting rods 55, also supported at their respective ends in said auxiliary frame 53, said tubes 54 having mounted thereon, transverse rods 56, connected as a unit by means of bars 57, the object of said bars 57 and said transverse rods 56 being hereinafter described. Said transverse rods 56 have mounted on their extreme upper ends, cams 58, having mounted therein screws 59, rigidly mounted in sliding bars 50. Said bars 50 have mounted on their lower engaging surfaces, pins 60 adapted to engage the uppermost carton in the carton containing compartment, during the operation of the device. The rear rod 56 of the transverse members of the carriage has mounted thereon, lug or arm 61 communicating with the lever or crank arm 62, which in turn communicates with the said transverse or primary actuating rod 48, described above as communicating with arms 47. Said lug 61 has also associated therewith, actuating lever or arm 63, provided at its outer end with a recess or finger member 64, adapted to rest upon or bear against the outer laterally extending rod 56. Auxiliary frame 53 has cut therein, suitable recesses 65, adapted to permit of a full stroke movement of the discharge carriage.

Auxiliary shaft 46 has mounted on its extreme inner end, crank arm 66, communicating at its outer end, with depending actuating lever 67, the lower end of said lever 67 finding bearing in said base plate 8, its extreme lower end being provided with teeth 68, engaging ratchet 69, mounted on the interior end of shaft 15, the object of the same being to provide means for actuating or rotating screws 11 a pre-determined movement through gears 14, mounted on shaft 15, engaging gears 13, mounted on the lower ends of said screws 11.

70 indicates an arm supported on stud 71, which is in turn mounted on one of the angle or L irons 9, said stud having in turn, mounted thereon a coil spring 72, having one of its ends rigidly mounted in said angle or L irons 9 and its other end bearing against arm 70, the object of said spring being to provide means of holding said arm 70 in its normal or set position. The upper portion of said arm 70 has suitably cut therein a bearing surface or slot 73, which has mounted therein a toothed rack 74, extending circumferentially over, and a suitable distance away from the outer surface of sleeve 32. Said toothed rack 74 is held in its normal or set position by means of spring 75, one end of which is rigidly fastened to arm 70, the other end being adapted to bear against the upper exterior surface of said lug 74. The object of said toothed rack is to provide means whereby when a coin is inserted in the coin cup, a complete or full rotation or rotative movement of said coin cup will be necessary before the operative parts of the device have been actuated sufficiently to discharge the coin from said coin cup, the discharge of the carton from the carton containing compartment being simultaneous with the discharge of said coin from the coin controlled actuating means.

76 indicates a coin chute of a suitable width and breadth, mounted on its upper end on face or front casement 3 as at 77, the opening or interior recess thereof communicating with coin slot 78 also mounted on said front casement 3, the lower end of said chute 76 communicating direct in a diagonal plane with diametrically opposite slots 30 and 31 in core 29 of sleeve 32. The lower wall of said chute 76 may extend beyond the discharge end of said chute in the form of an overhang or lip 79 in order to provide a suitable discharging surface or means of feeding the coin into the above described diametrically opposite slots, said coin acting in the capacity of a key to the operative parts of the device, the insertion of said coin being necessary before the operative parts of said apparatus may be actuated.

80 indicates a reception chute, provided with a funnel mouth 81, adapted to receive coins as discharged from the coin cup or barrel, which in turn carries said discharged coins to a suitable coin receptacle 82, placed in any suitable manner, adjacent to the discharge end of said chute 80.

The upper ends of the inner angle or L irons 9 are connected together by means of plate 83, said plate 83 being provided with a rounded surface 84, adapted to permit a carton to be moved or passed over said plate,

obviating any possible chance of its catching in the course of its movement, actuated by said discharging carriage 49.

85 indicates an apron mounted in a suitable vertical plane in carton discharging chute 86, mounted on its upper end on said plate, its lower end 87 tapering in a suitable diagonal plane, engaging direct with slot 88 in the front casement or face member 3 of the device. Said slot 88 has mounted therein, a reception pocket 89, provided with retaining members 90 at its lower receiving end. The upper end of said pocket 89 is bent downwardly and fastened to the interior side of face member 3.

The operation of the device is as follows: A coin of a pre-determined denominational value is placed in slot 78, whence it passes into a diametrically opposite slot or slots 30 and 31, in core 29 and sleeve 32. When in this position, the device is ready to be actuated through the medium of the operating lever 41 which is rotated against the action of spring 36 mounted on shaft 37, which in turn carries head 35 provided with key 34, engaging slot 33, in sleeve 32. In the movement of rotation the coin acts as a lock between said core 29 and 32 and causes gear 44 to rotate and actuate shaft 28 and auxiliary shaft 46, which has associated therewith, segments 45 and mounted on upwardly extending arms 47, which in turn communicate with the discharge carriage 49. The forward movement caused by the rotation of the coin cup or barrel of arms 47, causes transverse rod 48 to lift slightly and compel arm 63 to bear against the transverse rods 56 which have mounted thereon cams 58, the initial forward movement of said carriage causing said cams 58 to slightly rotate in a reverse direction and cause bars 50 carrying pins 60 to fall and grip the uppermost carton which is carried by the forward movement thereof, to a point beyond the center of gravity in chute 86, apron 85, together with the weight of said carton compelling the same to travel downwardly or to be discharged from said discharge carriage, simultaneously with the discharge of the coin from the coin cup or barrel into the discharge chute 80, whence it is carried to coin receptacle 82. Diametrically opposite slots 30 and 31 are of the width of a coin of a pre-determined denominational value and the depth of slot 30 in core 29 is of such a depth as to permit said coin to project beyond the outer surface or periphery of sleeve 32 a pre-determined distance so that the surface of said coin may engage or act upon the teeth in circular rack 74. In rotating said coin cup it is impossible to actuate the machine partly as the coin will engage one of the teeth on said circular rack 74 and prevent its return movement until said coin cup or barrel has traveled its full stroke or a complete semi-revolution which as above described, causes the simultaneous discharge of a carton from the carton containing compartment, into the carton discharge chute which in turn conveys said carton to the reception pocket 89, said carton being retained in said pocket 89 by means of fingers 90. At each operation of the device or by the insertion of a coin into the same to actuate the operative parts thereof, the rotation of shaft 28 necessarily causes the semi-revolution of auxiliary shaft 46, which causes arm 66 to move downwardly a pre-determined distance carrying with it rod 62 described as being provided with teeth 68, engaging ratchet 69, the operation thereof causing shaft 15 to rotate and transmit motion from beveled gears 14 to gears 13 on screws 11, the result being that screws 11 have rotated a slight distance or fractional movement of rotation (approximately from 1/16th to 1/8th of an inch), which is the thickness of a single carton, said fractional rotation of said screws causing conveyer carriage 17 to move upwardly a pre-determined distance. In case the thickness of the carton should vary, said thickness is taken care of by means of the differentiating plates 18 and 19. When the carton containing compartment is empty or when the device has been actuated to its capacity, thumb members 27 are actuated, which release yokes 25 from screws 11 and permit said conveyer carriage 17 to be lowered to the bottom of the carton containing compartment where the device is again charged with a plurality of cartons.

It is obvious that the device as herein shown and described may be varied in many ways without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent of the United States is:

1. A device of the character described comprising a casing, a carton containing compartment, a discharge carriage, a feeding carriage, means for manually actuating said discharge and feeding carriages from one or a common point, means for returning said discharge carriage to its normal position in a lifted disengaging position, and means for imparting to said feeding carriage an upwardly vertical movement on the return movement of said discharge carriage and manually actuating means.

2. A device of the character described comprising a casing, a carton containing compartment, a discharge carriage, means for manually operating said discharge carriage, a feeding carriage, a discharge chute, means associated with said manual operating means adapted to actuate said discharge and feeding carriages to convey the uppermost carton from the top of said compartment into said discharge chute, means

for returning said discharge carriage and manual operating means to their normal positions, and means for controlling the movement of said feeding carriage intermittently vertically upwardly within said compartment.

3. A device of the character described comprising a casing, a carton reception compartment, a carton discharge chute, a discharge carriage adjacent to said chute, a feeding carriage, means for intermittently moving said carriage vertically upwardly within said compartment, manual operating means for actuating said discharge and feeding carriages simultaneously with the discharge of a carton in said discharge chute and the feeding upwardly of the cartons in said carton compartment, and spring controlled means for returning said discharge carriage and manual operating means in their disengaged positions to their normal positions.

4. A device of the character described comprising a casing, a carton containing compartment, manually controlled actuating means associated with said compartment, a discharge carriage at the top of said compartment and movably mounted thereon, means mounted on said carriage for gripping the uppermost carton in said compartment, means for actuating said carriage and gripping means from said manually controlled operating means, a feeding carriage mounted within said compartment, means for intermittently actuating said feeding carriage from said manual operating means, a carton discharge chute communicating with said compartment at its upper end thereof, means for returning said discharge carriage in its lifted disengaging position and said manual operating means to their normal positions, and a reception pocket associated with said chute adapted to catch a carton discharged therefrom.

5. A device of the character described including a casing, an auxiliary carton containing compartment mounted in said casing, a manually controlled operating means mounted in said casing adjacent to said carton containing compartment, means for feeding cartons vertically upwardly within said carton compartment, means associated with said manual operating means for actuating said feeding means, a discharge carriage mounted at the top of said carton compartment, means associated with said manual operating means for actuating said discharge carriage, guides for said discharge carriage, means mounted on said carriage for gripping the uppermost carton in said carton compartment, a carton discharge chute, means for returning said manually controlled operating means and discharge carriage to their normal positions, and a reception means associated with said discharge chute adapted to receive a carton discharged therefrom.

6. A device of the character described including a carton feeding means, comprising a carton reception frame, conveyer means adjacent thereto, a conveyer carriage mounted on said conveyer means, an auxiliary plate associated with said carriage, compensating means mounted on said plate, yokes mounted on said plate adapted to engage said conveyer means, manual actuating means for releasing said yokes from said conveyer means, manually controlled operating means, and means associated with said manually controlled operating means adapted to rotate said conveyer means to impart to said conveyer carriage an intermittent upward vertical movement.

7. A device of the character described including a carton discharge carriage comprising a carton containing compartment, a discharge chute, a main frame, an auxiliary frame associated with said main frame, bearing rods mounted in said auxiliary frame, a carriage slidably mounted on said rods, gripping members associated with said carriage, pins mounted on said gripping members, manually controlled operating means, means associated with said manually controlled operating means adapted to lift and lower said gripping means, means for imparting to said carriage a forward movement in its lowered position transversely on said auxiliary frame for conveying the uppermost carton in said carton containing compartment to said discharge chute, and means for returning said discharge carriage in its lifted position to its normal position.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

BERNARD LOVATT.

Witnesses:
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WM. H. GARDNER.