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DISPENSING APPARATUS.

APPLICATION FILED JULY 23, 1910.

989,837.

Patented Apr. 18, 1911.

3 SHEETS—SHEET 1.

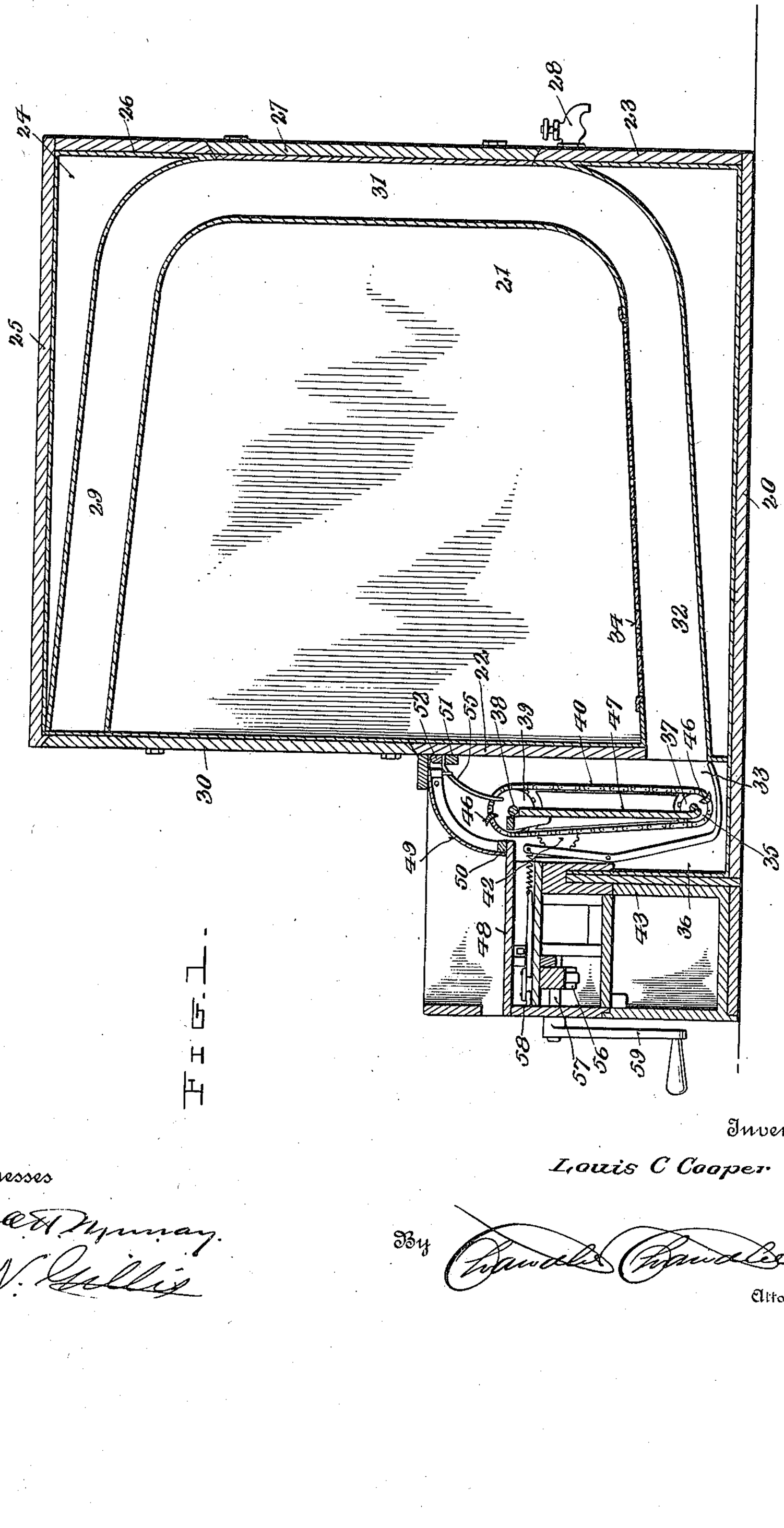

FIG. 1.

Witnesses

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3 SHEETS—SHEET 2.

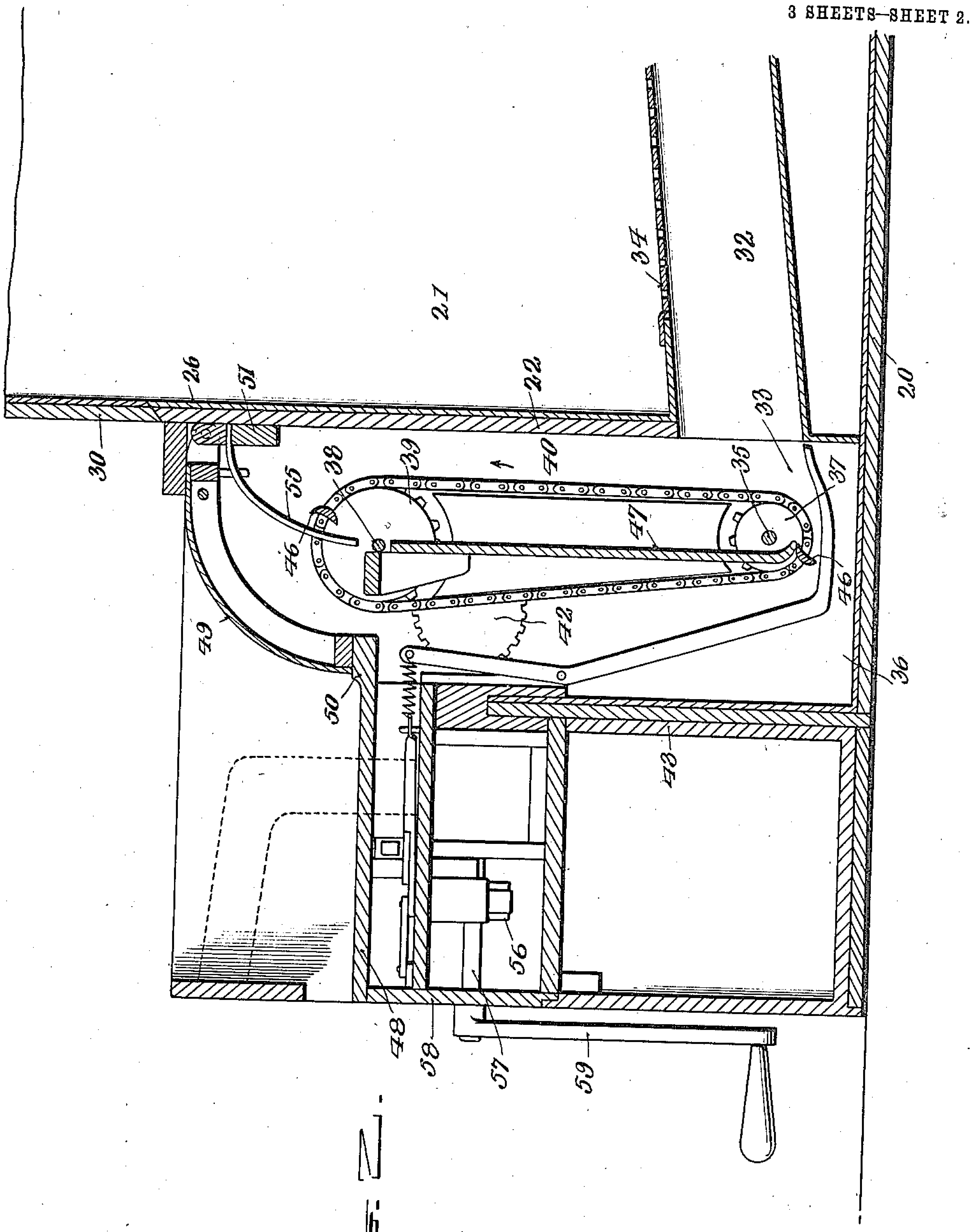

FIG. 2.

Witnesses

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3 SHEETS—SHEET 3.

FIG. 4.

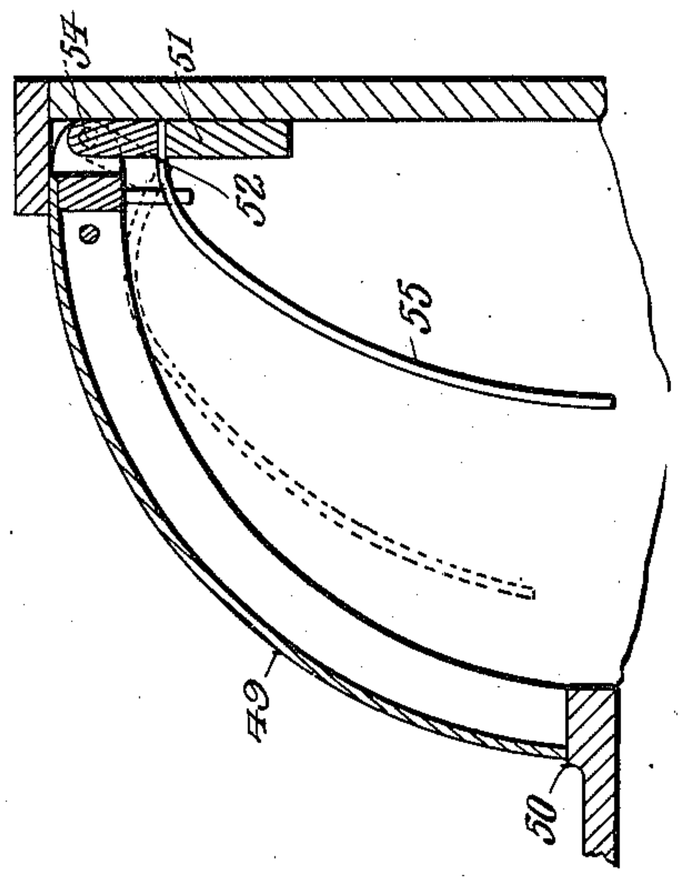


FIG. 5.

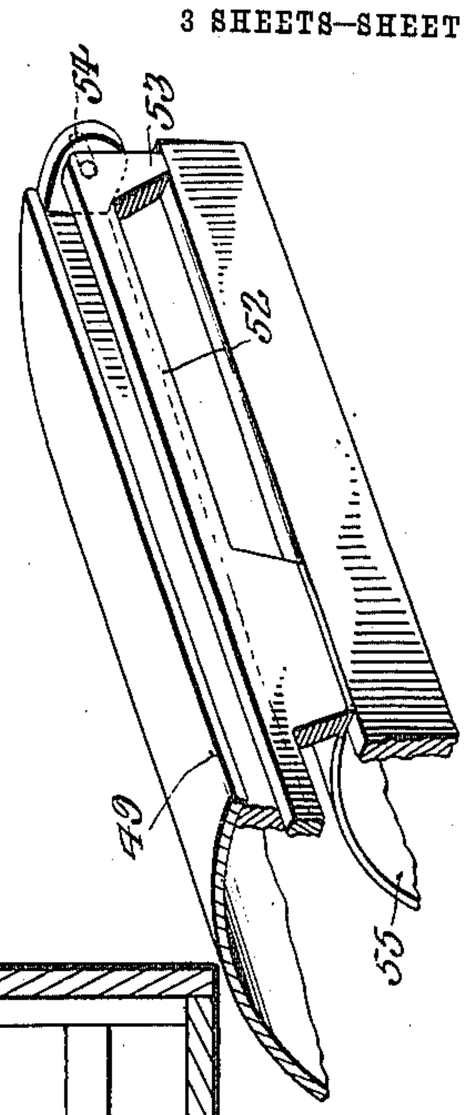
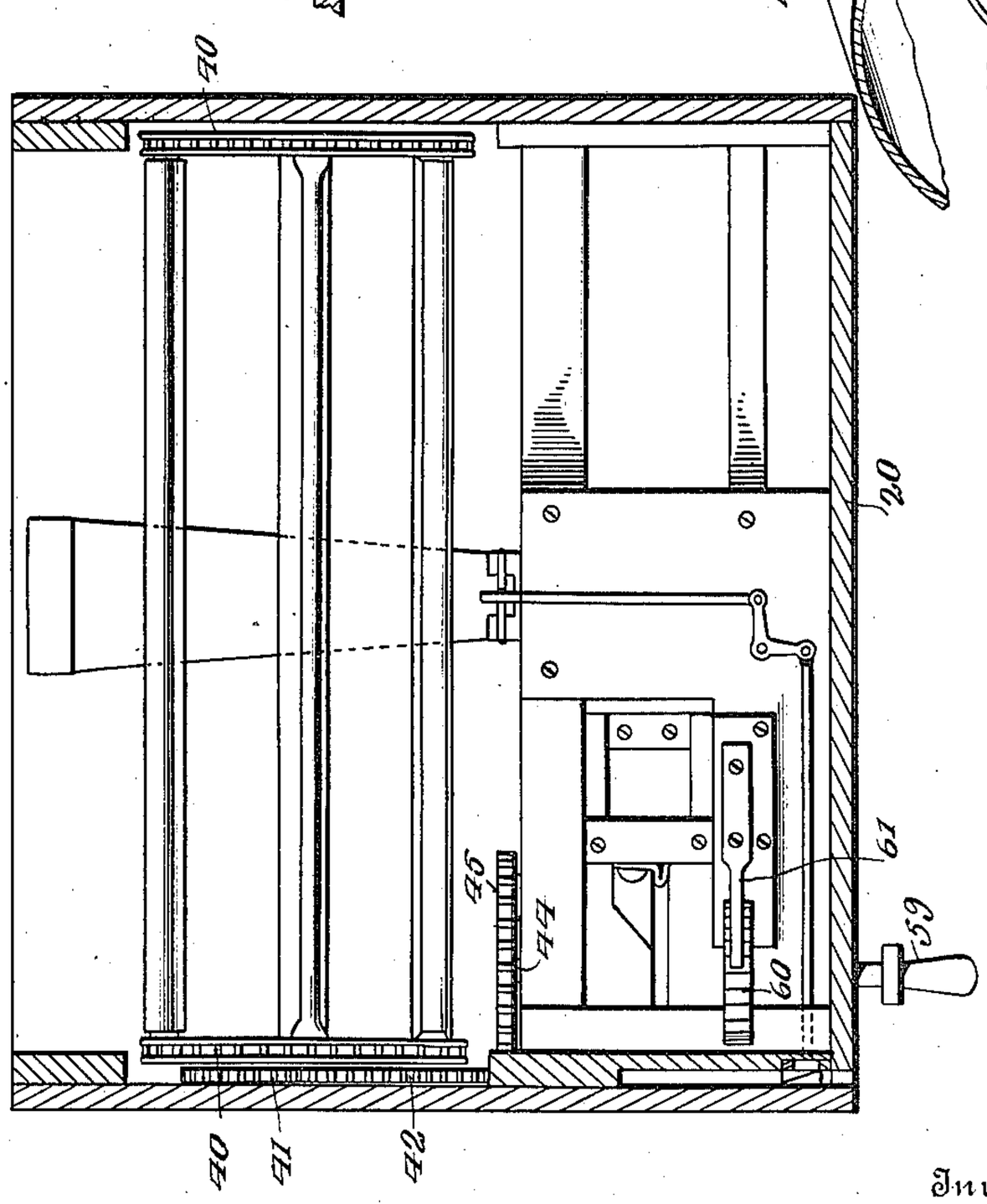


FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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DISPENSING APPARATUS.

989,837. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed July 23, 1910. Serial No. 573,433.

To all whom it may concern:

Be it known that I, LOUIS C. COOPER, a citizen of the United States, residing at Colorado Springs, in the county of El Paso, State of Colorado, have invented certain new and useful Improvements in Dispensing Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to dispensing apparatus and has special reference to a dispensing apparatus designed to dispense goods contained in bottles.

The invention further has reference to a dispensing apparatus equipped with refrigerating means whereby the bottles may be kept cold so that beer and the like may be dispensed from this machine in proper condition for immediate consumption.

One object of the invention is to provide an improved form of dispensing apparatus adapted for use in connection with refrigerating means.

Another object of the invention is to provide an improved delivery apparatus for such machines.

A third object of the invention is to provide a closure for such delivery apparatus so arranged that it will be normally held locked but will be opened by the action of an article passing from the delivery apparatus.

With the above and other objects in view, the invention consists in general of a novel refrigerating arrangement, an improved delivery mechanism, and a closure for said delivery mechanism normally locked and arranged to be unlocked by the passage of an article, said delivery mechanism being adapted to be actuated by a check controlled clutch.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—

Figure 1 is a side elevation partly in section of a dispensing apparatus constructed in accordance with this invention. Fig. 2 is an enlarged detail section through an apparatus of this character. Fig. 3 is a section through the apparatus, the section being taken in a horizontal plane. Fig. 4 is a section through a certain closure used in connection with this invention. Fig. 5 is a perspective view of the under side of the closure.

The entire mechanism is preferably mounted on a bottom board 20 and on the rear of this bottom board is provided a storage chamber 21 used for containing the ice wherewith the articles are refrigerated. This storage chamber is provided with a front wall 22, rear wall 23, side walls one of which is indicated at 24, and a top 25. The entire chamber is lined with some suitable material impervious to moisture such as zinc or the like, the lining being indicated at 26. In the rear wall is provided a door 27 for the purpose of charging the storage chamber 21 with ice and at a suitable point above the bottom of the chamber there is provided a cock 28 for the purpose of drawing off excess water due to the melting of the ice in the chamber. It is to be noted that this cock 28 is located in spaced relation to the floor 20 for purposes hereinafter to be described.

Within the chamber 21 is held a storage tube which consists of an upper portion 29 access to the end of which is had by means of a door 30 situated at the top of the front wall 22. From the front of the chamber 21 this tube extends toward the rear, sloping gently downward and continues in a vertical portion 31 preferably located against the rear wall 27. The bottom end of the storage tube extends forward from the rear wall and slopes gently downward toward the front wall as indicated at 32. The forward end of the portion 32 opens into what is preferably termed a delivery chute 33. This storage tube is of such shape and size as to accommodate the bottles of the size to be sold. The portion 32 of the storage tube has a removable grate 34 forming a part of its top so that water may pass into the delivery end of the tube and flow through this end into the tube 33. Furthermore, this portion of the tube may be filled from below so that bottles introduced through the door 30 will not strike together, and break as the tube may be filled at the bottom, at the vertical portion 31 through the door 27 and at the top through the door 30. Now, by reason of the cock 28 being located above the floor

20 the water melted from the ice will rise to the height of this cock both in the chamber 21 and in the delivery chute 33 so that any bottles in the lower part of the delivery chute will be kept in the ice water and not allowed to become warm by reason of passing out of the refrigerating chamber 21.

Extending across the delivery chute 33 and adjacent the bottom is a shaft 35. This shaft 35 is journaled in suitable bearings supported on the side walls 36 of the delivery chute and adjacent each end the shaft is provided with a sprocket 37. Near the upper end of the delivery chute is a similar shaft 38 whereon are sprockets 39 and chains 40 pass over the sprockets 39 and sprockets 37. The shaft 38 is alsc provided with a gear 41 which meshes with a gear 42. The delivery chute 33 is provided with a front wall 43 and in the upper part of this front wall is journaled a short shaft 44. This shaft 44 projects into the delivery chute 33 and carries on its inwardly projecting end a gear 45 which meshes with the gear 42. It will now be observed that if the shaft 44 be rotated in the proper direction this will cause the elevator chains 40 to move in the direction of the arrow shown in Fig. 2. Extending across from one elevator chain to the other are carriers 46 having concave sides in which the bottles to be delivered may rest.

In the delivery chute 33 is a partition 47 which extends from one side of the chute to the other and this partition is parallel to the front wall 22 of the refrigerating chamber, said front wall constituting the rear wall of the delivery chute. The distance between the partition 47 and wall 22 is about equal to the diameter of the bottles and the sprocket chains 40 are so arranged that the upwardly moving portions thereof are midway between the wall 22 and partition 47.

The coin controlled apparatus is located in front of the delivery chute 33 and is held within a casing provided with a top 48 which constitutes a delivery table.

Hinged to the side walls 36 of the delivery chute is an arcuate closure 49 the forward and bottom edges of which rest on a suitable ledge 50 formed at the rear of the delivery table 48. Extending from one side wall 36 to the other and located at the top of the delivery chute against the wall 22 is a locking ledge 51. At 52 is a locking bar which is provided with downwardly projecting locking lugs 53 and journal ends 54. These journal ends 54 are held in suitable journals formed in the closure 49 and the lugs 53 are so arranged that when the closure is shut the lower ends of these lugs will rest on top of the bar 51, thereby preventing access to the delivery chute until these lugs have been moved from over the ledge 51. Extending outwardly and downwardly from the middle lug 53 is an arcuate trip 55 the lower end of which lies in the path of the bottles in their movement up the delivery side of the conveyer, this lower end terminating adjacent the shaft 38 for this purpose. Now, as the bottles pass up and over the top of the conveyer they will contact with the trip 55 and rotate the bar 52 so that the lugs 53 are moved outwardly from the ledge 51. As the movement of the bottles continues they will strike against the under side of the closure 49, lift said closure and roll out on the delivery table 48. When the delivered bottle has passed on to the table 48 the closure 49 will drop and the lugs 53 again engage over the ledge 51 thereby holding the delivery chute closed until the next bottle is delivered.

In front of the wall 43 the shaft 44 is provided with a clutch member 56 fixed upon the shaft so that as this clutch member is rotated the shaft will likewise be rotated. This clutch member is preferably a coin controlled clutch and from the clutch extends a shaft 57 which passes through a front wall 58 and has mounted on its exterior end a crank handle 59 by means of which the clutch can be rotated. In order to prevent the rotation of the machine in the wrong direction a ratchet 60 is provided on one of the sections of the shaft and a spring pressed pawl 61 is arranged to engage successively in the notches of this ratchet.

In the operation of the device the article holding tube is filled and the refrigerating chamber packed with ice. The machine is then ready for the delivery of the bottles. The purchaser drops his coin in a suitable slot as indicated at 62, grasps the crank handle and rotates the same. This causes, through the gearing, the rotation of the conveyer shafts and consequent operation of the conveyer. The bottle at the end of the delivery tube which is resting at the lower end of the conveyer will be picked up by the conveyer and carried up and over the top thereof. As the bottle passes over the top it contacts with the trip 55 and releases the closure 49 as previously described. The bottle then falls on the delivery table. Meanwhile further rotation of the crank handle has been stopped by means of suitable coin controlled mechanism not deemed necessary here to be described, the same forming no part of the invention. The operation may be repeated by the insertion of a second coin.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact

form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claims.

Having thus described the invention, what is claimed as new, is:—

1. In a vending machine, an ice storage chamber, an article holding tube held in said chamber, an upstanding delivery chute in front of said chamber into which said tube opens, said chamber and the delivery chute being in communication with each other to permit access of the water of liquefaction to said delivery chute, and a conveyer arranged to lift articles out of the water in the lower end of said chute.

2. In a vending machine, an ice storage chamber, an article holding tube held in said chamber, an upstanding delivery chute in front of said chamber into which said tube opens, said chamber and tube being in communication with each other to permit access of the water of liquefaction to the delivery chute through the tube, and a conveyer arranged to lift articles out of the water in the lower end of said chute.

3. In a vending machine, an ice storage chamber, an article holding tube held in said chamber, an upstanding delivery chute in front of said chamber into which said tube opens, said chamber and the delivery chute being in communication with each other to permit access of the water of liquefaction to said delivery chute, a conveyer arranged to lift articles out of the water in the lower end of said chute, a normally locked closure for the upper end of the chute, and an article actuated unlocking device for said closure.

4. In a vending machine, an ice storage chamber, an article holding tube held in said chamber, an upstanding delivery chute in front of said chamber into which said tube opens, said chamber and tube being in communication with each other to permit access of the water of liquefaction to the delivery chute through the tube, a conveyer arranged to lift articles out of the water in the lower end of said chute, a normally locked closure for the upper end of the chute, and an article actuated unlocking device for said closure.

5. In a vending machine, an upstanding conveyer chute arranged to hold water in its lower end, a storage tube opening into said chute, said water normally covering the mouth of said tube, a conveyer in said chute having its lower end extending below the mouth of the storage tube and its upper end above the normal water level, a delivery table adjacent the upper end of said conveyer, and means to actuate said conveyer.

6. In a vending machine, an upstanding conveyer chute arranged to hold water in its lower end, a storage tube opening into said chute, said water normally covering the mouth of said tube, a conveyer in said chute having its lower end extending below the mouth of the storage tube and its upper end above the normal water level, a delivery table adjacent the upper end of said conveyer, means to actuate said conveyer, a normally locked closure for the upper end of the chute and an article actuated unlocking device for said closure.

7. In a vending machine, a delivery chute, a closure hinged to said chute, a locking ledge fixed in said chute, a bar extending across and journaled to said closure, locking lugs projecting down from said bar and adapted to engage said locking ledge, and a trip attached to one of said lugs and projecting inwardly of the chute whereby an article passing through the chute will strike the trip and move the lugs out of engagement with the ledge.

8. In a vending machine, a delivery chute, a closure hinged to said chute, a locking ledge fixed in said chute, a bar extending across and journaled to said closure, locking lugs projecting down from said bar and adapted to engage said locking ledge, a trip attached to one of said lugs and projecting inwardly of the chute whereby an article passing through the chute will strike the trip and move the lugs out of engagement with the ledge, and a conveyer held in said chute to carry articles therealong.

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

LOUIS C. COOPER.

Witnesses:
FRED N. BENTALL,
CHESTER BETHE.