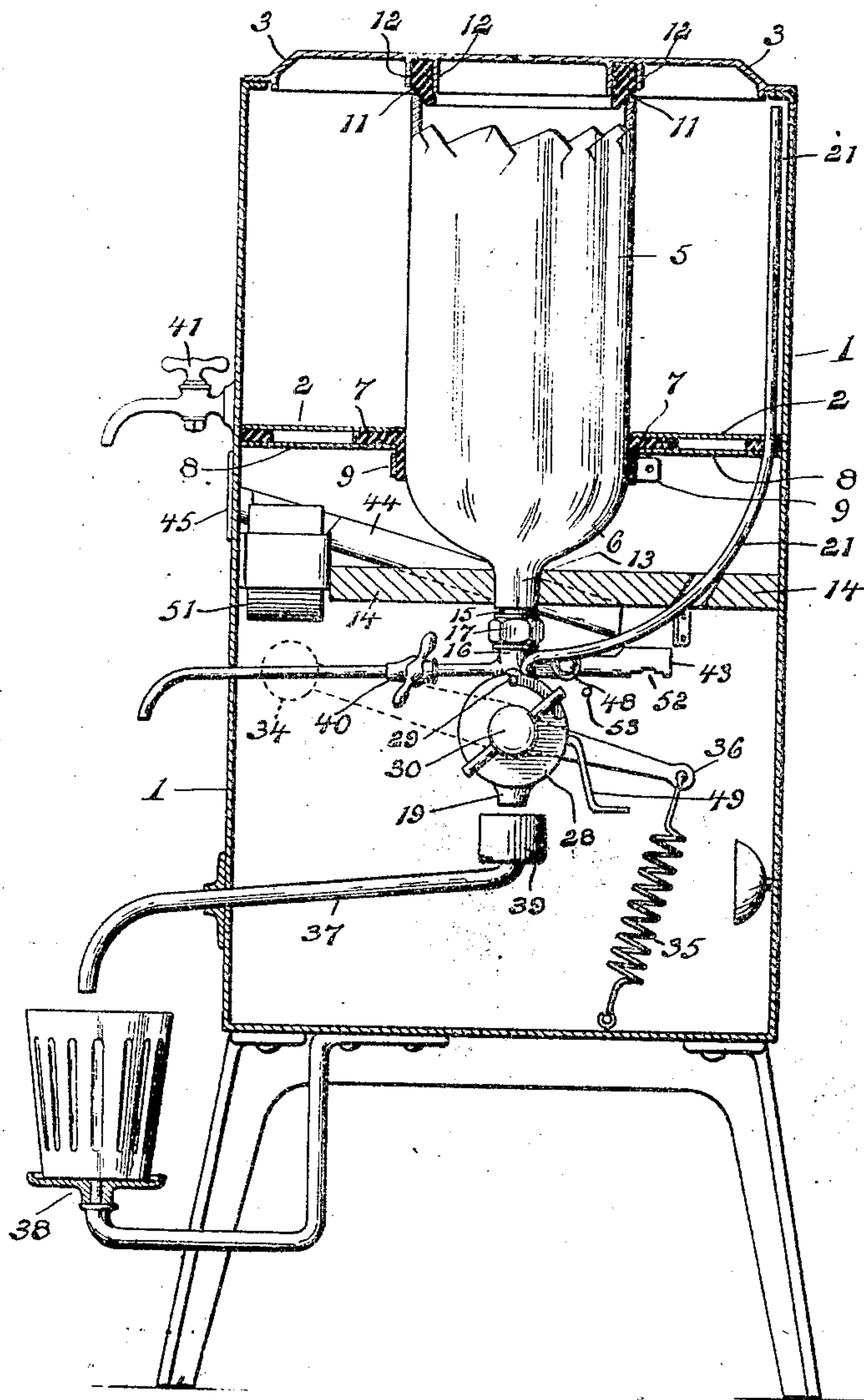


943,649.

2 SHEETS--SHEET 1.

Fig. 1.



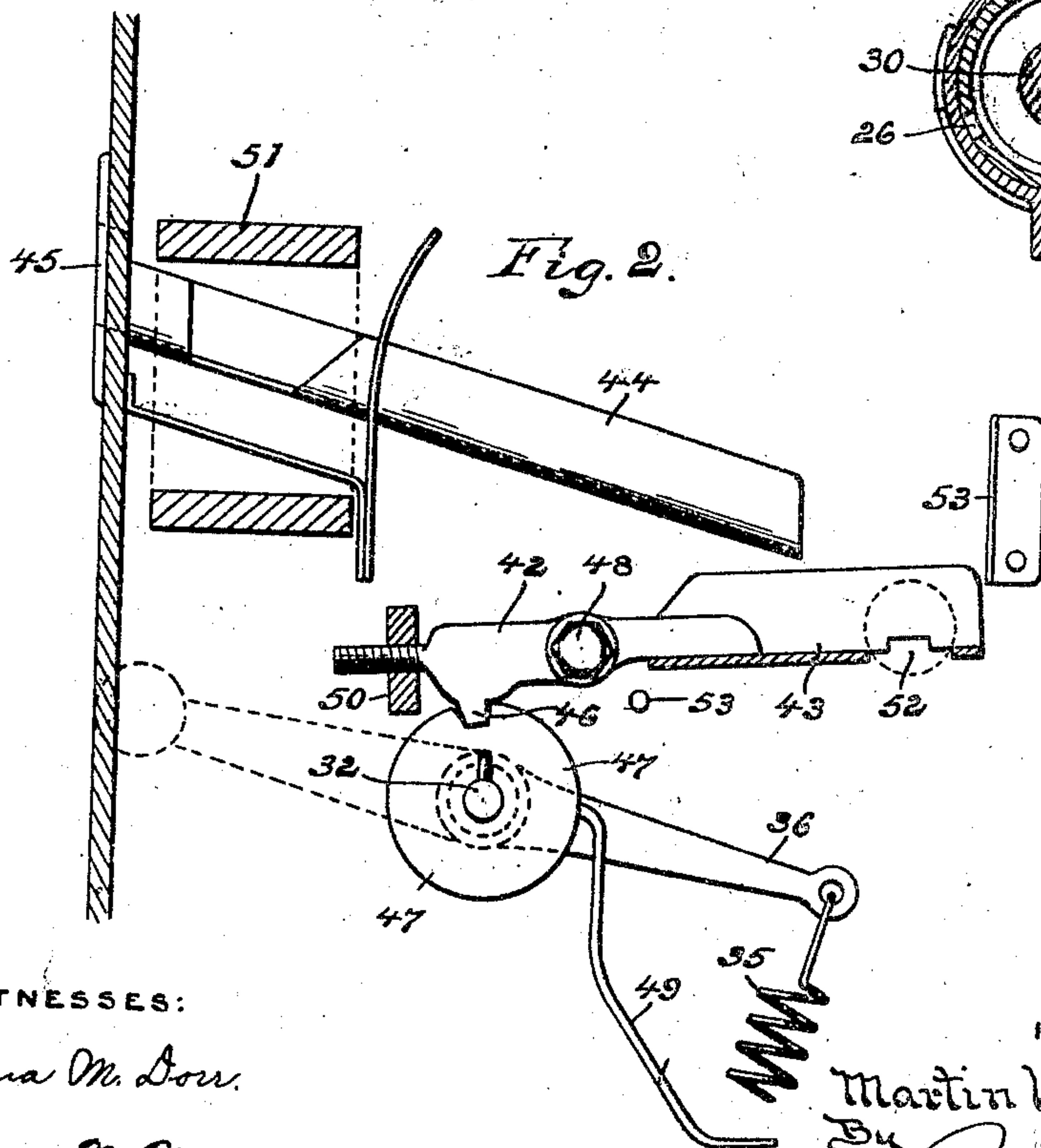
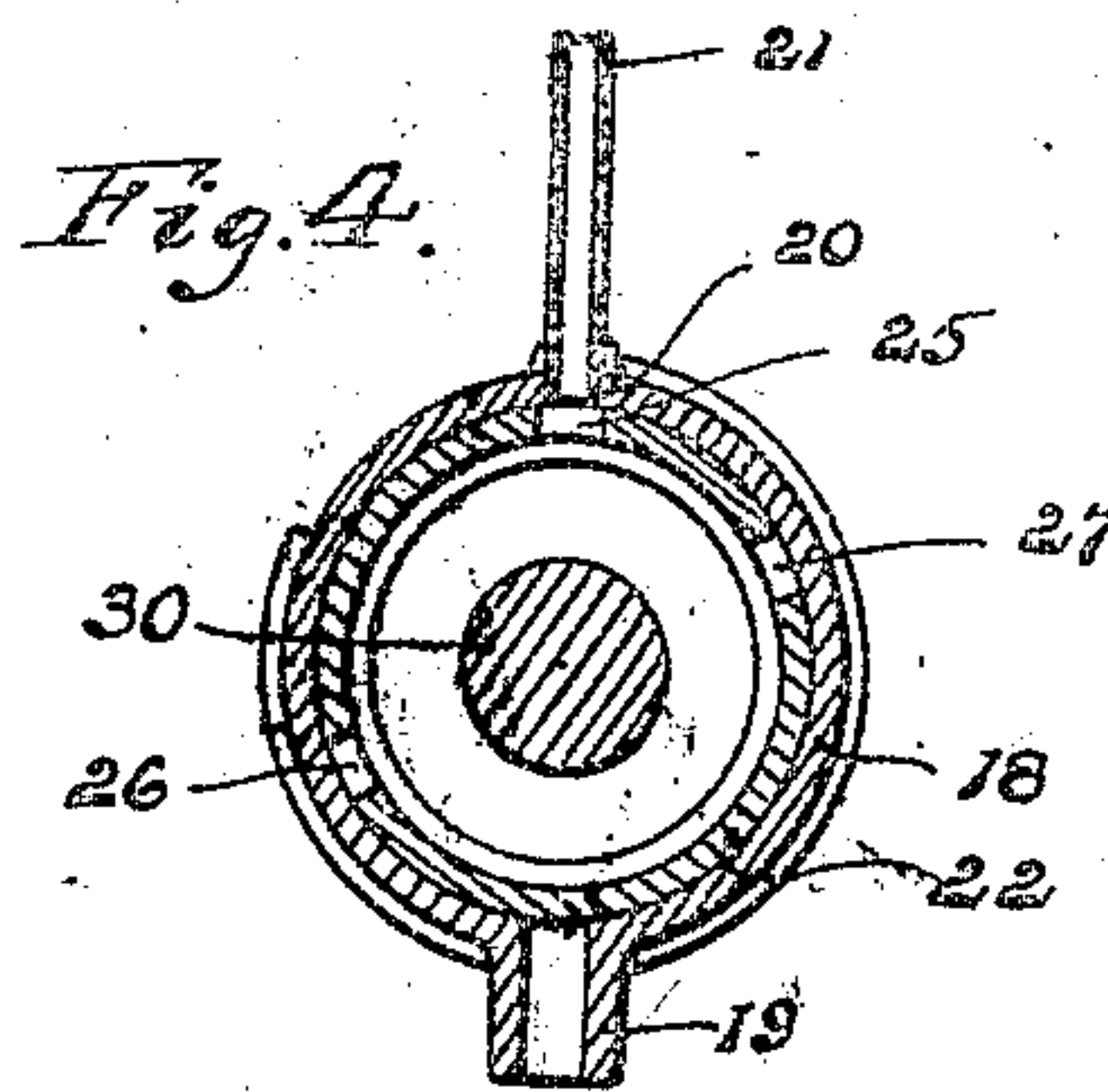
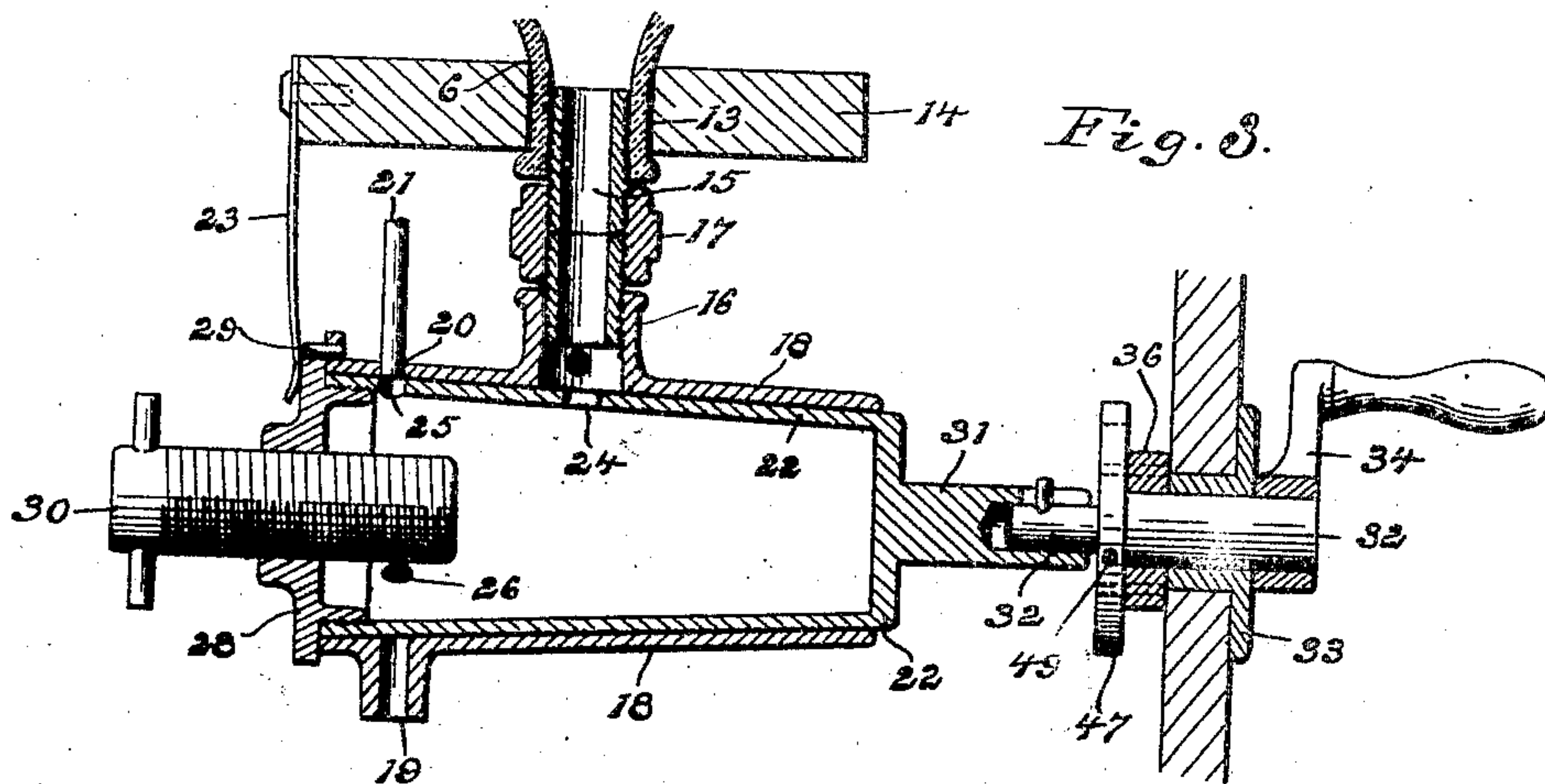
Anna M. Dole.
Anna M. Mayer.

Martin L. Buck
By *Bartlett & Bartlett*
Attorneys

M. L. BUCK.
 COIN CONTROLLED APPARATUS FOR DISPENSING LIQUIDS.
 APPLICATION FILED NOV. 29, 1907.

943,649.

Patented Dec. 21, 1909.
 2 SHEETS—SHEET 2.



WITNESSES:

Anna M. Dorr.

Anna M. Mayer.

INVENTOR:

Martin L. Buck

By *[Signature]*
 Attorneys

UNITED STATES PATENT OFFICE.

MARTIN L. BUCK, OF LANSING, MICHIGAN.

COIN-CONTROLLED APPARATUS FOR DISPENSING LIQUIDS.

943,649.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed November 29, 1907. Serial No. 404,446.

To all whom it may concern:

Be it known that I, MARTIN L. BUCK, a citizen of the United States of America, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Coin-Controlled Apparatus for Dispensing Liquids, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to coin controlled apparatus for dispensing liquids and especially to means whereby waste is avoided, and whereby the parts may be readily inspected, cleaned and sterilized without throwing the machine out of adjustment.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view, partially in central, vertical section, and partially in elevation, of an apparatus embodying features of the invention. Fig. 2 is a view in detail of a preferred form of coin controlled locking means. Fig. 3 is a view in longitudinal section of an automatic measuring faucet, or volumetric valve. Fig. 4 is a view in cross-section of the valve through an outlet and vent pipe.

In its preferred form, an appropriately designed casing 1 of metal or other suitable material is divided by a horizontal partition or diaphragm 2 into an upper chamber forming an ice box, which may be closed by a lid 3, and a lower compartment housing measuring mechanism.

A liquid receptacle or supply tank 5 of glass or like suitable non-corrosive material which may be readily cleaned and sterilized, has a funnel-shaped lower end 6 which extends through a central aperture in the partition 2, leakage being prevented by a packing ring 7 of rubber or like suitable material which is held in place by a false bottom 8 properly secured to the partition. The lower protruding margin of the packing is clamped around the tank by a clip 9. The upper end of the receptacle may have a separate cover or may be closed by an elastic ring 11 secured by concentric flanges 12 on the casing lid 3. The funnel stem 13 is secured in an aperture in a cross-brace 14 in the lower compartment and a nipple 15 is cemented or otherwise secured therein.

The inlet 16 of an automatic measuring faucet or volumetric dispensing valve is at-

tached by a suitable coupling 17 to the nipple 15 of the tank. In its preferred form the valve consists of a tapered cylinder 18 having an outlet 19 and an air vent 20 from which a vent pipe 21 extends through the diaphragm 2 to a level with the upper end of the tank. A rotatable hollow closure 22 is held to seat in the cylinder by a spring clip or finger 23 snapped over the larger end. It has an intake port 24 and vent aperture 25 which may be brought simultaneously into register with the inlet 16 and air vent 20, respectively. A discharge port 26 and second vent aperture 27 may likewise be brought simultaneously into coincidence with the outlet 19 and air vent 20 respectively, by a part turn of the closure. A removably secured head 28 closes the larger end of the latter and a stop pin 29 in the cylinder engaging a marginal notch in the head or other preferred means defines the closure movement in a familiar manner. The capacity of the closure may be adjusted by a displacement plug 30 screw-threaded through an aperture in the head 28. An axial stem 31 on the smaller closed end of the rotatable hollow closure has a notched end or is otherwise fitted to non-rotatively and detachably engage an aligned spindle 32 journaled in a cap 33 in the casing wall and turned by an outer handle 34, which when depressed, swings the closure to discharge position and when returned by a properly disposed spring 35 and lever arm 36 closes the discharge and permits the valve to fill.

A pipe 37 supported in the wall of the casing, delivers the contents of the faucet at any desired point, as, for example, in a drinking glass placed on a bracket 38 on the casing. The pipe is not directly attached to the valve outlet 19 but has an expanded end or funnel 39 at an interval below the valve whereby air enters and allows the pipe to drain, so that no drops adhere to the mouth. A petcock 40 from the funnel connections for drawing off the reservoir at will and a drain cock 41 for the ice tank are also provided.

Coin controlled mechanism of any suitable design locks the handle in its raised normal position. In its preferred form, a lever 42, whose outer deeply grooved end 43 is depressed when a coin is dropped therein from an inclined coin-track 44 leading from a slot-plate 45, has a detent pawl 46

which interlocks with the notch of a flange 47 on the spindle 32 over which the lever is pivoted on a stud 48 when the outer end is elevated by the combined action of an ejector arm 49 on the flange and a counter-balance 50 adjustably secured on the inner end of the lever. A magnetic trap formed by cutting away one side of the track or chute near the slot plate and securing a magnet 51 with its poles adjacent the track, whereby a slug of iron or the like is pulled from the track, a slot 52 in the coin receiving end of the lever which allows undersized coin to drop through unimpeded, and proper disposition of the chute frictionally arrest rough or soft metal non-magnetic slugs as they pass the magnetic gap, complete the essential features, stops 53 being used to limit the movement of the lever and coin.

One feature of the apparatus is the accessibility of the parts, whereby they may be readily cleaned. The hollow valve closure may be quickly withdrawn from its cylinder and its head removed for washing out the interior without disturbing the displacement plug, the latter forming an additional feature by which the quantity of liquid to be discharged may be regulated to a nicety.

Another important feature is the venting of the valve, whereby the latter acts quickly and freely at all times and is always completely filled and emptied, thus preventing any irregularity in the discharge and any clogging of the valve itself.

A further advantage is gained by the introduction of an air gap in the delivery pipe close to the valve outlet, and comparatively remote from the pipe mouth, so that the column of liquid, after the valve is emptied, rushes out with sufficient velocity to sweep along any particles or drops which would otherwise adhere to the tube, thus leaving the tube clear at once instead of trickling out with diminishing force, and dropping slowly at the last.

Obviously changes may be made in the details of construction without departing from the spirit of the invention and I do not care to limit myself to any particular form or arrangement of parts.

What I claim as my invention is:—

1. In an apparatus for vending liquid, a supply tank and an automatic measuring valve therefor consisting of a tapered cylinder having a radial inlet, radial outlet and

air vent, a hollow conical closure rotatable in the cylinder provided with an intake port and air outlet vent adapted to register simultaneously with the cylinder inlet and air vent respectively, and with a discharge port and air inlet vent adapted to register simultaneously with the cylinder outlet and air vent respectively, a head removably secured in the larger end of the closure, a displacement plug longitudinally adjustable in an aperture in the head, an axial stem extending from the closed smaller end of the closure, a flanged spindle journaled independently of the closure in axial alinement and detachable engagement with the stem, a handle operating the spindle and a coin controlled lock for the handle.

2. An apparatus for vending liquid consisting of an outer casing divided by a horizontal partition, a supply tank in the upper compartment having a funnel outlet extending through the partition, an automatic measuring valve connected to the funnel mouth, a vent pipe from the valve to the tank level open to the valve interior when the latter is filling and discharging, a delivery pipe from the valve discharging outside the casing having an air vent close to the valve, and a handle operatively secured on the casing for manipulating the valve.

3. In an apparatus for dispensing liquid, a casing, a supply tank, an automatic measuring valve therefor consisting of a cylinder having a radial inlet, a radial outlet and an air vent, a hollow closure rotatable in the cylinder provided with an intake port and air outlet vent adapted to register simultaneously with the cylinder inlet and air vent respectively, and with a discharge port and air inlet vent adapted to register simultaneously with the cylinder inlet and air vent respectively, a head closing an end of the cylinder, a displacement plug longitudinally adjustable in an aperture in the head, an axial stem extending from the other end of the closure, a spindle journaled in the casing wall in axial alinement with the closure and adapted to detachably engage the stem, and a handle outside the casing on the spindle.

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

MARTIN L. BUCK.

Witnesses:

C. R. STICKNEY,
OTTO F. BARTHEL.