

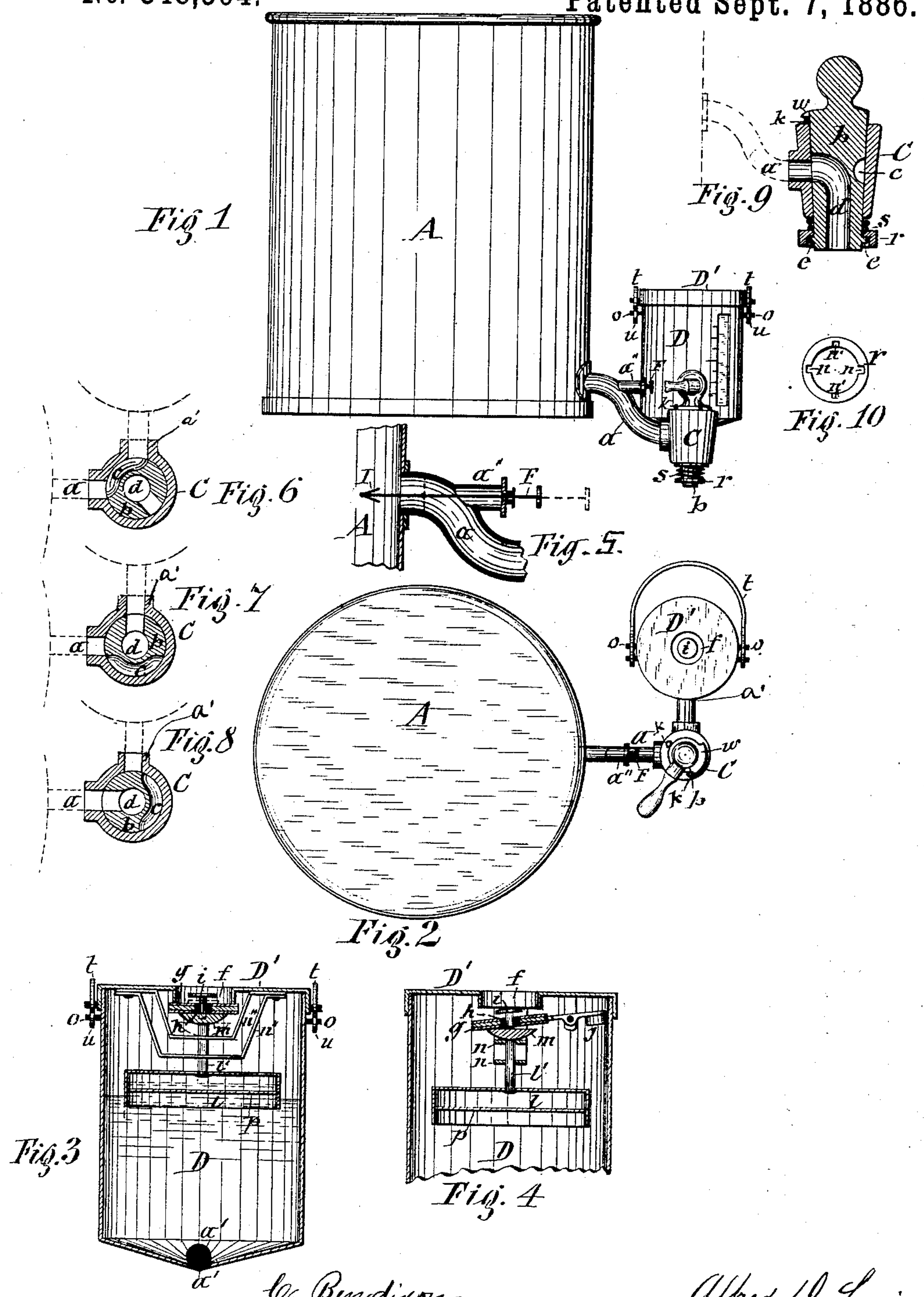
(No Model.)

A. D. LEWIS & C. S. IRISH.

MEASURING CAN.

No. 348,564.

Patented Sept. 7, 1886.



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UNITED STATES PATENT OFFICE.

ALFRED D. LEWIS AND CHARLES S. IRISH, OF JORDAN, NEW YORK.

MEASURING-CAN.

SPECIFICATION forming part of Letters Patent No. 348,564, dated September 7, 1886.

Application filed March 1, 1886. Serial No. 193,587. (No model.)

To all whom it may concern:

Be it known that we, ALFRED D. LEWIS and CHARLES S. IRISH, of Jordan, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Measuring-Cans, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

10 This invention relates to the class of measuring-cans which are connected with the liquid-containing tank or barrel or reservoir by means of pipes extended from a two-way cock to the aforesaid parts; and the invention
15 consists in an improved construction and combination of the component parts of the measuring-can and two-way cock connected therewith, all as hereinafter more fully described and specifically set forth in the claims.

20 The invention is fully illustrated in the annexed drawings, wherein Figure 1 is an elevation of a liquid tank or reservoir provided with our improved measuring-can. Fig. 2 is a top plan view of the same. Figs. 3 and 4
25 are enlarged vertical transverse sections of the measuring-can, taken in planes at right angles to each other. Fig. 5 is a detail view of the device for expediting the flow of liquid through the faucet. Figs. 6, 7, and 8 are horizontal
30 transverse sections of the two-way cock, showing the spigot in the different positions required in the operation of the cock. Fig. 9 is a vertical transverse section of said cock. Fig. 10 is a detached plan view of the ring or
35 collar which retains the spigot in the cock.

Similar letters of reference indicate corresponding parts.

40 A represents the reservoir containing the liquid to be drawn off in measured quantities. Said reservoir may consist either of a barrel or a metallic tank similar to those now used by dealers in kerosene oil.

45 C denotes a two-way cock from two sides of which, and at right angles to each other, extend pipes or branches $a a'$, one of which is attached to and taps the tank A at or near the bottom, and the other pipe, a' , is connected to the bottom of the measuring-can D and communicates with the interior thereof. The
50 spigot b of said cock is provided with a horizontal groove, c , which extends part way around the side thereof, and is adapted to

communicate at opposite ends with the two branches $a a'$. Vertically in the center of the spigot is a channel, d , which is extended 55 through the lower end of the spigot and terminates with its upper end of the side of the spigot diametrically opposite the groove c , and is enlarged thereat, so as to maintain it in communication with the branch a when the
60 spigot is raised and turned in the cock into a position to draw the liquid direct from the tank A. The upper end of the spigot is provided with the usual mutilated flange, w , by which it encounters with the usual lugs or
65 stops, $k k$, to limit the rotation of the spigot from a position which brings the groove c in communication with the branches $a a'$, as shown in Fig. 6 of the drawings, to a position which
70 holds the said groove out of communication with said branches, as represented in Fig. 7 of the drawings. The spigot is provided with the usual handle by which to turn it. By turning the spigot into the position shown
75 in Fig. 6 of the drawings the liquid is allowed to flow from the tank A into the measuring-can D, and by turning the spigot into the position shown in Fig. 7 of the drawings the communication between the two branches $a a'$ is
80 closed, and the upper end of the channel d is brought in coincidence with the branch a' , and thus the liquid is discharged from the measuring-can and escapes from the lower end of the spigot where it can be collected in the desired receptacle.

85 When our invention is to be employed for measuring molasses or sirups or heavy oils, we form the branch-pipe a , by which the two-way cock is attached to the tank A, with a downward deflection from said tank, and provide
90 the elevated end of said pipe with a horizontal extension, a'' , which is formed with a suitable stuffing-box at the free end, and through this stuffing-box and longitudinally through the pipe-extension a'' and the adjacent portion of
95 the pipe a is extended a piston-rod, F, which is provided at its inner end with a valve, I, which is hinged thereon in such a manner as to cause it to turn and stand with its plane nearly parallel with the rod F when pushing the latter into
100 the can, as represented by full lines in Fig. 11 of the drawings, and to turn so as to stand at right angles to the rod F when drawing said rod outward, as shown by dotted lines in the

aforesaid figure of the drawings. This latter movement of the valve I forces the liquid into the pipe *a*, and thence through the two-way cock C.

5 The measuring-can D is provided with a vertical slot, which is closed by a strip of transparent glass through which the contents of the can can be observed. The outer edge of the slot is graduated corresponding to the differ-
10 ent heights of the columns of different quantities of liquid to be measured in the can; hence, by observing the rise of the liquid in the can as it flows into the same from the tank A, the person drawing the liquid can, so soon as
15 the desired quantity has entered the measuring-can D, stop the flow of liquid by turning the spigot into the position represented in Fig. 7 of the drawings, and in so doing the channel *d* of the spigot is brought into communication
20 with the branch *a'*, and thus the measured quantity of the liquid is drawn from the can D.

In order to permit of drawing the liquid direct from the tank and without allowing it to enter the measuring-can, when necessary to
25 quickly empty the tank, or for any other purpose, we make the channel *d* either throughout, or at least at the upper end thereof, somewhat larger than the interior of the branch *a*, so as to permit of raising the
30 spigot *b* in the cock C without stopping the communication between the aforesaid channel and branch, said raising of the spigot being necessary to bring the flange W above the stops *k k*, and thus allow the spigot to be
35 turned into the aforesaid position for drawing the liquid direct from the tank A, as represented in Figs. 8 and 9 of the drawings. The lower end of the spigot has projecting from diametrical opposite sides two lugs, *e e*, on
40 which is seated a ring or collar, *r*, between which and the bottom of the cock is interposed the spring *s*, said collar and spring serving to draw the spigot down into its seat in the cock. The ring *r* is provided at its inner side with
45 two sets of notches, *nn* and *n' n'*, the notches of each set being disposed diametrically opposite to each other, as illustrated in Fig. 10 of the drawings. One set of said notches, *nn*, extend
50 entirely vertically through the ring, so as to allow the ring to be slipped over the lugs *e e*, when necessary to remove it from the spigot for renewing the spring *s*, or for removing the spigot from the cock. The other notches, *n' n'*, extend only part way through the ring, and by
55 turning the ring so as to cause it to rest with the notches *n' n'* on the lugs *e e*, the spring *s* is sufficiently relieved from tension to allow the spigot to be raised in its seat in the cock, as hereinbefore described.

60 The top or cover D' is provided with a vent opening, *f*, and under this opening is a valve, *g*, which is pivoted on a hanger attached to the cover D', and is arranged to open inward or downward, as illustrated in Fig. 4 of the draw-
65 ings. By means of a weight, *j*, attached to a heel-extension of the pivoted arm of the valve *g*, the latter is overbalanced and held normally

in a closed position on the opening *f*, and in drawing the liquid from the can D the pressure of the external air forces open the valve *g*,
70 and thus air is admitted to the interior of the can. The center of the valve *g* is provided with a port, *h*, and upon the top of said valve is seated a supplemental valve, *i*, which has a stem projecting through the port and below
75 the valve *g*. This supplemental valve opens outward or upward, and in drawing liquid into the can D the pressure of the air inside of the can lifts the said valve *i*, and the air displaced by the liquid is thus allowed to escape
80 from the can.

To the under side of the cover D' are attached the hangers *n''*, through which slides the vertical post *l'*, attached to the float *l* below the hangers. By a valve, *m*, attached to
85 the upper end of the post *l'*, and resting on the upper hanger, the aforesaid float is suspended. The float *l* we form of a cup placed in an inverted position, and provided with an air-tight horizontal diaphragm, *p*, which di-
90 divides the cup into an upper (air-tight chamber, and a subjacent open section, as illustrated in Figs. 3 and 4 of the drawings. The air-tight chamber of the float serves to buoy the float, and by making the lower open
95 section of sufficient depth an additional buoy is obtained by the air caught in said section when the liquid rises to the float and the lower edge of the cup becomes immersed in the liquid. As the float rises, the valve *m* thereof
100 is pressed up against the under side of the valve *g*, and caused to close the port *h*. This stops the escape of the air from the can, and the entrapped air becomes compressed by the influx of the liquid, and, by the resistance of
105 said compressed air, the influx of liquid is stopped, and thus the latter is controlled automatically.

The cover D' we make removable from the can D, so as to obtain ready access to the in-
110 terior of the can when necessary for cleansing or repairing the same, and inasmuch as all the valves and the float are carried by the cover, said parts are also rendered easy of access when
115 desired for the aforesaid purposes.

We do not limit ourselves to the use of the described cover tightening and lifting devices on the particular can herein shown, as it is ob-
120 vious that the same is adapted also for various other cans and pails requiring a removable cover.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the tank A and meas-
125 uring-can D, the two-way cock C, having branches *a a'*, extending from two sides thereof and at right angles to each other, and connected, respectively, with said tank and can, and the spigot *b*, provided with the horizontal
130 groove *c*, extending part way around the side thereof, to communicate at opposite ends with the branches *a a'*, the vertical channel *d*, extending through the lower end of the spigot,

and having its upper end terminating at the side of the spigot diametrically opposite to the groove *c*, and enlarged thereat, lugs *e e* on the lower end of the spigot, the ring *r*, having in its inner side notches *n n*, extending vertically through the ring, and notches *n' n'*, extending only part way through the ring, and the spring *s*, interposed between said ring and bottom of the cock, substantially as described and shown.

2. The combination of the measuring-can *D*, provided at the top with the vent-opening *f*, the valve *g*, provided with the port *h*, the supplemental valve *i*, arranged over said port to open upward therefrom, and the float *l*, carrying the valve *m* under the port *h*, substantially as described and shown.

3. The combination of the measuring-can *D*, provided at the top with the vent-opening *f*, the valve *g*, arranged under said opening and held normally in a closed position, and provided with the port *h*, the supplemental valve *i*, seated upon the valve *g*, the hangers *n''*, extended across the can, the float *l*, having the post *l'*, extending movably through said hangers, and the valve *m*, attached to the post *l'*, above the hangers, substantially as described and shown.

4. The combination, with the can *D*, of the cover *D'*, removably connected therewith, and provided with the vent-opening *f* and the valve *g*, and hangers *n''*, connected with the said cover and detached from the body of the can, the float *l*, carrying the valve *m*, and the valve *i*, seated upon the valve *g*, substantially as described and shown.

5. The combination, with the tank *A* and cock *C*, of the pipe *a*, deflected downward from the tank and formed with the horizontal extension *a''*, the piston-rod *F*, extended longitudinally through the pipe-extension *a''* and adjacent portion of the pipe *a*, and the valve *I*, attached to the inner end of said rod, substantially as described and shown, for the purpose set forth.

In testimony whereof we have hereunto signed our names and affixed our seals, in the presence of two attesting witnesses, at Jordan, in the county of Onondaga, in the State of New York, this 24th day of February, 1886.

ALFRED D. LEWIS. [L. S.]
CHARLES S. IRISH. [L. S.]

Witnesses:

A. D. PECK,
E. J. DAUCH.