

(No Model.)

W. MATHEWS.
DISCHARGE ATTACHMENT FOR OIL CANS.

No. 517,618.

Patented Apr. 3, 1894.

Fig. 1.

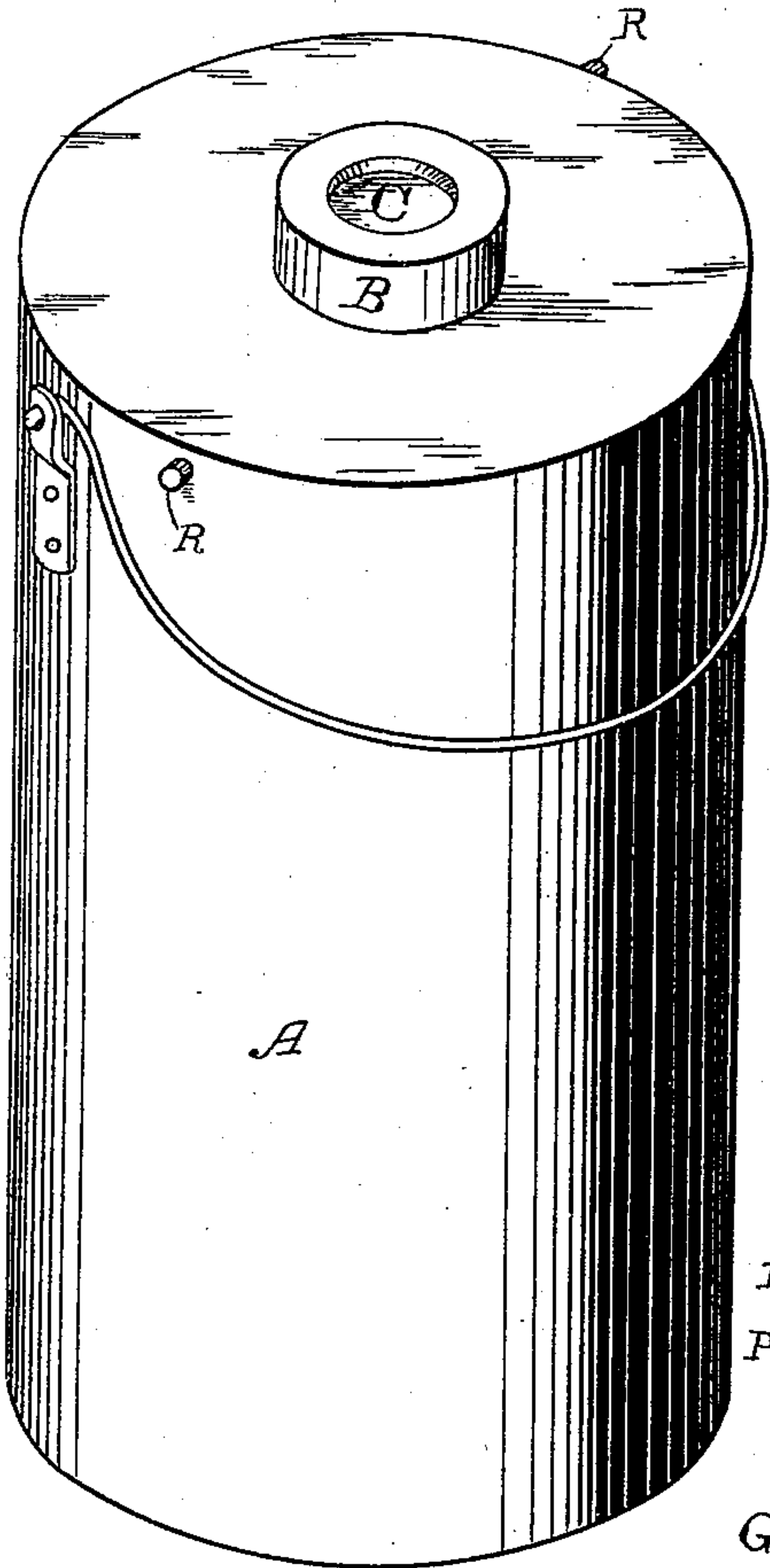


Fig. 3.

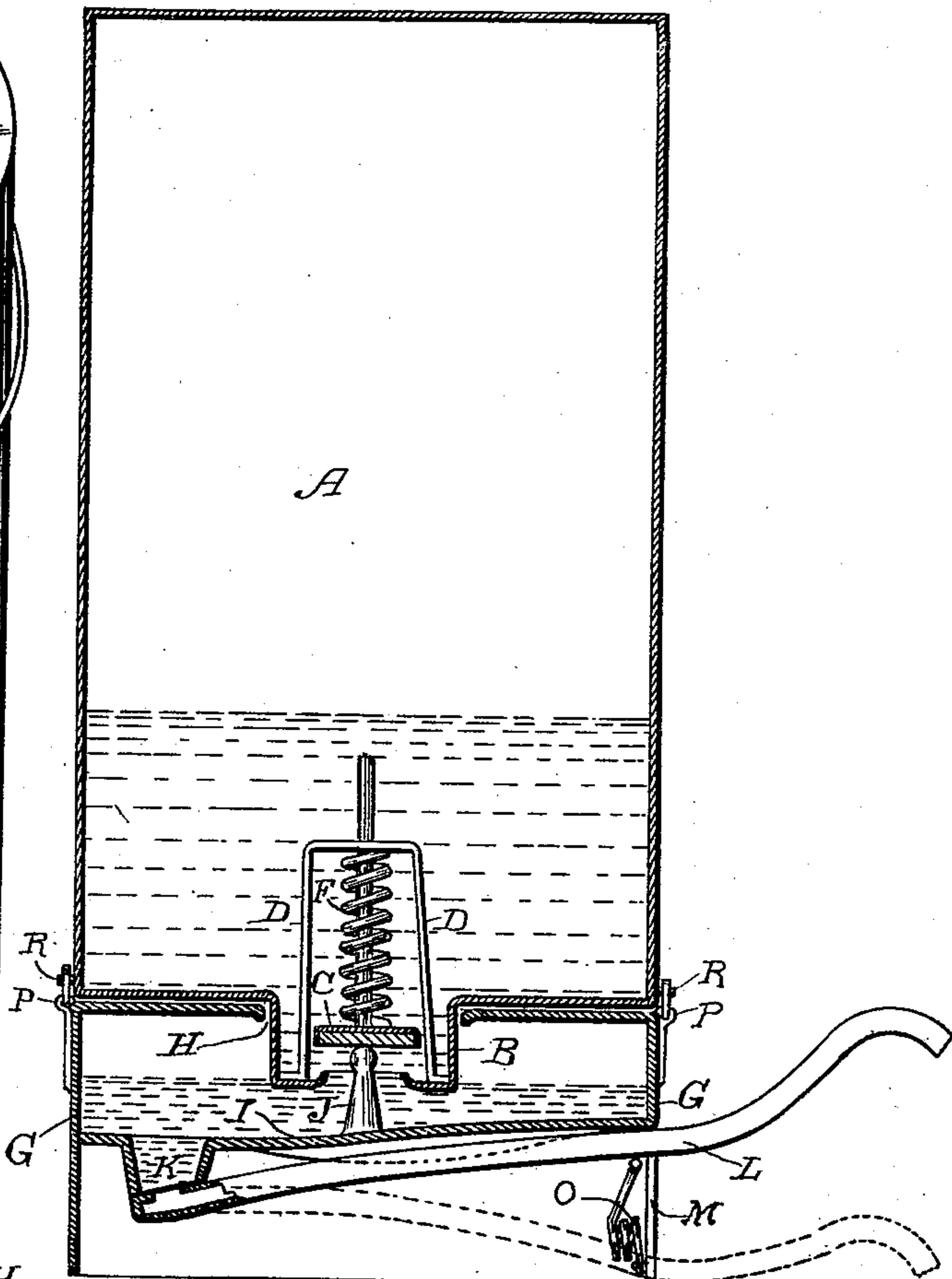


Fig. 2.

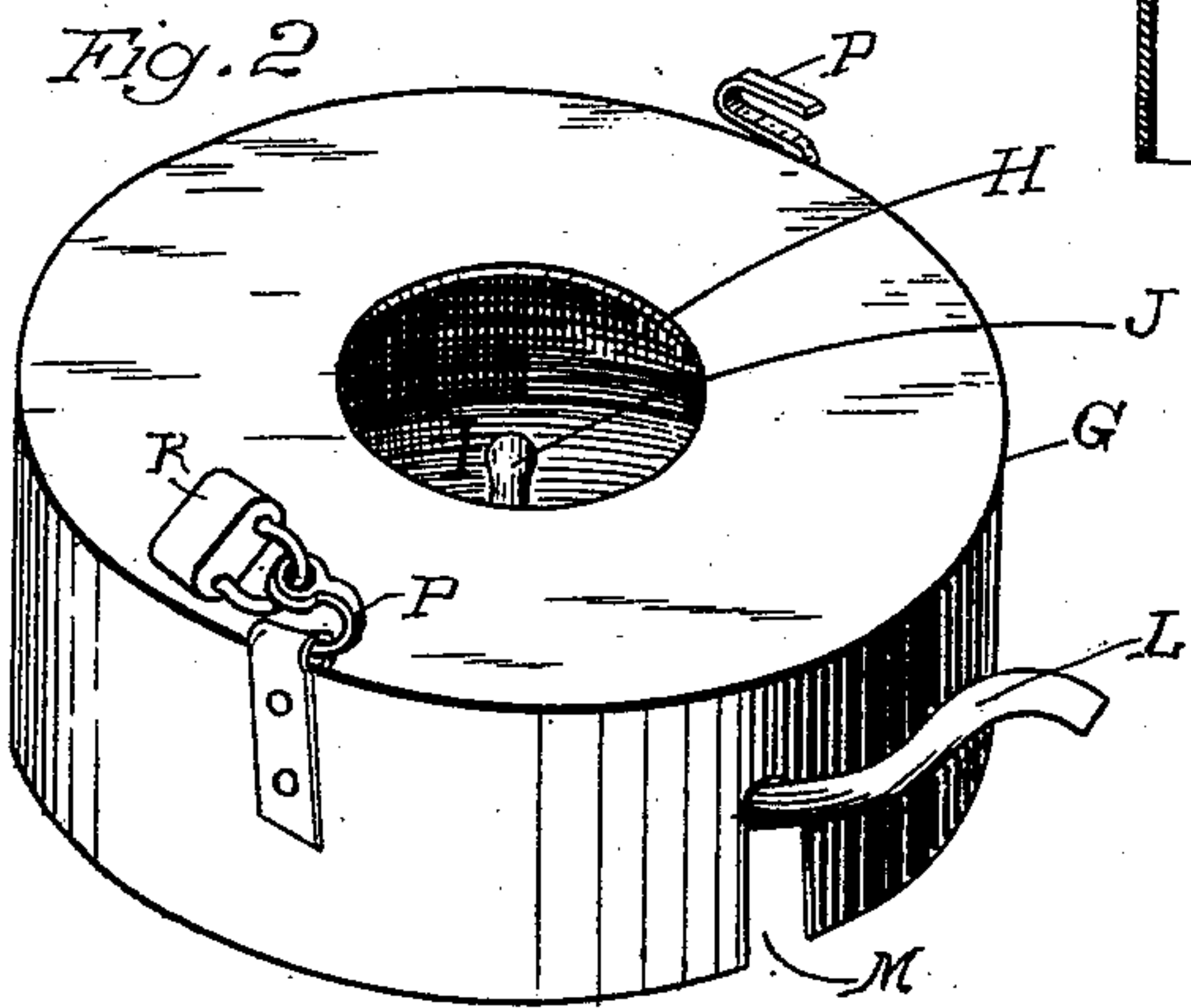
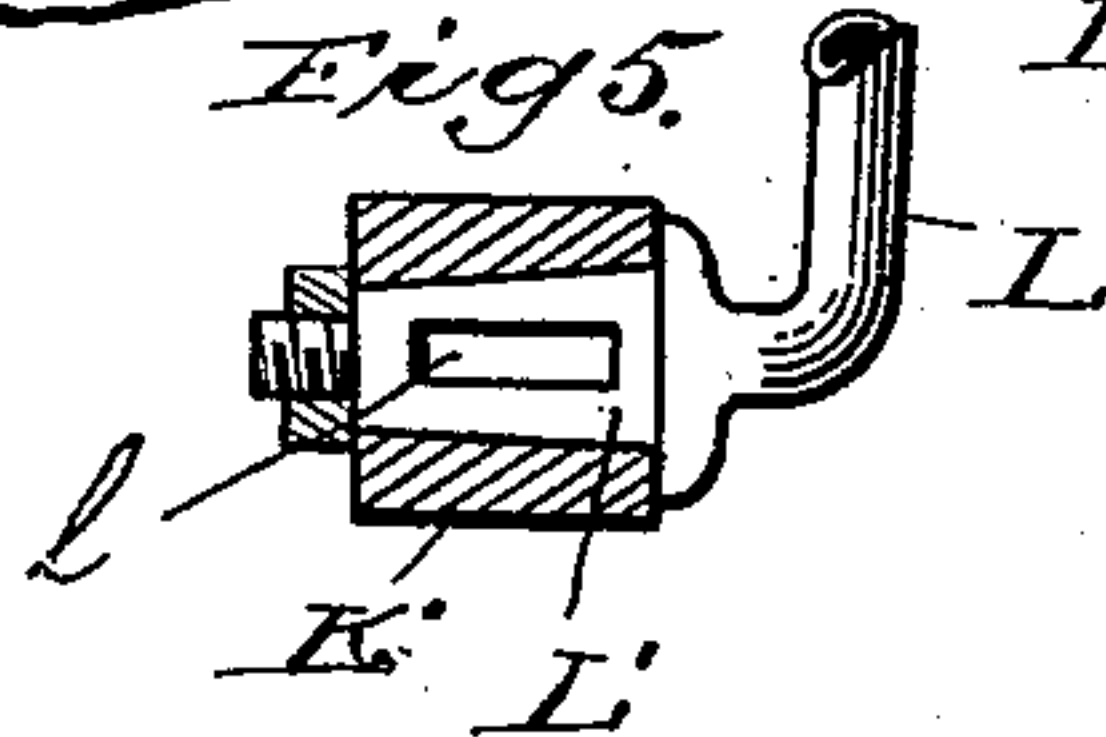


Fig. 4.



Fig. 5.



Witnesses,
J. A. Bayless

Inventor
William Mathews
By Dewey & Co.

attd

UNITED STATES PATENT OFFICE.

WILLIAM MATHEWS, OF ALAMEDA, CALIFORNIA.

DISCHARGE ATTACHMENT FOR OIL-CANS.

SPECIFICATION forming part of Letters Patent No. 517,618, dated April 3, 1894.

Application filed December 22, 1893. Serial No. 494,425. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MATHEWS, a citizen of the United States, residing in Alameda, county of Alameda, State of California, have invented an Improvement in Discharge Attachments for Oil-Cans; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device whereby the contents of liquid containing cans may be drawn therefrom in any desired quantities, and it consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of the can in its normal position for transportation. Fig. 2 is a view of the discharge or drawing attachment. Fig. 3 is a sectional view of the can reversed and the two parts united. Figs. 4 and 5 are detail views showing a modification hereinafter referred to.

The object of my invention is to provide a simple device to which cans containing oil or other liquids may be applied, so that the liquid can be drawn from the can in any desired quantities until the supply is exhausted.

A is a can which may be made of any suitable or desired size or construction. Cans for oil are usually made rectangular in shape and of capacity of five gallons, but any other shape or capacity may be used, and the can provided with any desired form of handle or means for carrying it.

In the top of the can is a cylindrical projection B and in the center of the end of this projection is an opening which is closed by a valve C. This valve is of any suitable material and is adapted to move between guides D, the stem passing through the rear end, or a transverse cross piece as shown.

Within the guides and surrounding the stem is a spring F which acts to keep the valve closed under ordinary conditions to prevent any leakage while the can is being transported in its upright position, and also prevent any leakage when the can is reversed until such time as it is connected with the drawing off attachment. This latter consists of a low vessel G, preferably similar in shape to the can so that the latter coincides with it when they are placed together. H is an open-

ing made in the top of this supplemental chamber of a size and shape adapted to admit the projection B in the top of the can A when the latter has been reversed.

The bottom I of the chamber G is preferably made of metal which is sufficiently flexible, and which may be buckled or made wavy in the center, so as to have considerable freedom of motion at this point. The edges are firmly secured and sealed around the sides of the chamber so as to form a tight bottom.

In the center of the bottom or at a point corresponding with the center of the opening H is an upwardly projecting pin J. This pin is of such height that when the can A has been reversed and the projecting extension B introduced into the opening H in the top of the chamber G, the pin will form contact with the valve C, and as the containing vessel settles down upon the top of the chamber G, the pin will force the valve open, thus allowing the liquid to flow from the containing vessel into the chamber until it rises to a point where it will submerge and seal the lower end of the extension B, when the liquid will cease to flow until it has been drawn down below this point. It will then again flow until it fills the chamber so as to cover the extension, and so on until the can is empty.

In order to draw the liquid from the chamber G when wanted, and to draw it down to the lowest point so as to discharge the whole, I preferably make the bottom I inclined from one side to the other, and at the lowest point I make a depression or receptacle K which extends below the bottom I. From the side of this receptacle a pipe L extends across beneath the bottom and projects through a slot M in the opposite side of the chamber G beneath the bottom thereof as shown. It is there turned up forming a reverse curve, as shown, exterior to the side of the chamber, and the upper end of the pipe is above the level occupied by the liquid within the chamber so that no flow can take place from the pipe, while it is in this position. If it is desired to draw liquid, it is only necessary to press down upon the pipe and the flexibility of the bottom of the chamber allows the pipe to be depressed until its mouth is below the level of the liquid in the chamber when the liquid will commence to flow and will so con-

2
 5
 10
 15
 20
 25
 30
 35
 40
 45
 50
 55
 60
 65
 70
 75
 80
 85
 90
 95
 100
 105
 110
 115
 120
 125
 130
 135
 140
 145
 150
 155
 160
 165
 170
 175
 180
 185
 190
 195
 200
 205
 210
 215
 220
 225
 230
 235
 240
 245
 250
 255
 260
 265
 270
 275
 280
 285
 290
 295
 300
 305
 310
 315
 320
 325
 330
 335
 340
 345
 350
 355
 360
 365
 370
 375
 380
 385
 390
 395
 400
 405
 410
 415
 420
 425
 430
 435
 440
 445
 450
 455
 460
 465
 470
 475
 480
 485
 490
 495
 500
 505
 510
 515
 520
 525
 530
 535
 540
 545
 550
 555
 560
 565
 570
 575
 580
 585
 590
 595
 600
 605
 610
 615
 620
 625
 630
 635
 640
 645
 650
 655
 660
 665
 670
 675
 680
 685
 690
 695
 700
 705
 710
 715
 720
 725
 730
 735
 740
 745
 750
 755
 760
 765
 770
 775
 780
 785
 790
 795
 800
 805
 810
 815
 820
 825
 830
 835
 840
 845
 850
 855
 860
 865
 870
 875
 880
 885
 890
 895
 900
 905
 910
 915
 920
 925
 930
 935
 940
 945
 950
 955
 960
 965
 970
 975
 980
 985
 990
 995

tinue as long as the mouth of the pipe remains depressed. Sufficient air will enter between the adjacent surfaces of the can and the drawing off chamber to permit the liquid to freely flow when the pipe L is depressed. When released, the pipe is raised again to its normal position by the action of a spring O which is so placed as to raise the pipe when it is released from pressure. It will be manifest that the pipe could be made with a swivel joint where it connects with the discharge receptacle as shown in Figs. 4 and 5 but I have preferred to make it in the manner here shown to avoid the use of movable joints which in the case of oil and similar liquids are almost impossible to keep tight.

The swivel joint shown in Figs. 4 and 5 is merely an ordinary plug valve L' on the inner end of the pipe L, and working in a casing K' on the lower portion of the depression K; the opening l in the plug registering with the interior of the said depression K, when the pipe L is depressed, and permitting the liquid to flow out. When the pipe L is released, the spring O, will raise it as in Fig. 3, and close the valve L'.

The amount of movement necessary to depress the end of the pipe so that liquid will flow, is comparatively small, and when the bottom of the chamber is of considerable diameter, the flexure of the bottom necessary to allow it to be depressed is so small that it need not be taken into consideration. It thus enables me to always maintain a perfectly tight connection between the bottom and the discharge pipe.

If, at any time, it is desired to remove the can before the contents are fully drawn off, the valve will immediately close the opening, as soon as the extension B has been raised so that the valve is clear of the pin in the chamber and before the extension is lifted out of the opening H, so that there will be no leakage if the can be thus removed.

I do not desire to limit myself to any particular size or shape of can, as my invention is applicable to any form of containing can or vessel which it may be desired to use.

To prevent the can from being separated from the chamber G except by the proper person, I employ locking hooks or devices P upon the chamber, into which the pins R, projecting from the sides of the can, enter, and which are locked to prevent removal by any suitable lock S.

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

1. A can having an extension in the top provided with an opening, a spring-actuated valve closing said opening from the inside in combination with the independent chamber having a hole in the top corresponding with the extension in the top of the can into which said extension enters when the can is inverted upon the chamber, said hole being of a diameter to admit air into the chamber and a

pin projecting upwardly from the bottom of the chamber and registering with the opening in the top thereof so as to form contact with and open the valve when the can is inverted upon the chamber, substantially as herein described.

2. A chamber having an opening in the top, a pin extending upwardly from the bottom centrally disposed with relation to the opening, a can separate and independent from said chamber to rest thereon and having an extension and an opening therein with the spring-actuated closing valve adapted to form contact with the pin in the bottom of the chamber when the can is inverted, so that the extension enters the opening in the top of the chamber, whereby the liquid in the can will flow into the chamber until it covers the end of the extension, and a drawing off tube connected with the bottom of the chamber having the outer end curved so as to stand normally above the level of the liquid in the chamber, said tube being movable so that its outer end may be depressed below the level of the liquid whereby the latter will flow as long as it remains in this position, substantially as herein described.

3. A chamber adapted to contain liquid, having a depressed receptacle upon one side of the bottom, a tube connected therewith extending across beneath the bottom and through the side of the chamber below the bottom having the outer end curved so as to stand normally above the level of the liquid in the chamber, said tube being depressible so as to carry the outer end below the level of the liquid whereby the latter will flow while the tube remains depressed, the said chamber being provided in its bottom with a projection registering with an opening in its top substantially as herein described.

4. A chamber adapted to contain liquid, having a flexible bottom and a depressed receptacle near one side thereof, and forming part of said bottom a tube opening into said receptacle and rigidly connected therewith, and adapted when depressed to flex said bottom said tube extending through the side to the exterior of the vessel and having the outer end upturned so as to stand normally above the level of the liquid in the chamber, a spring whereby it is retained in this position, said tube being depressible so that its discharge end is lower than the level of the liquid in the chamber, substantially as herein described.

5. A drawing off chamber for cans having an opening in its top, a projection registering therewith and a depressible outlet tube connected with its bottom, the outer end of the said tube extending above the level reached by the liquid, substantially as herein described.

6. The combination with the chamber having a flexible bottom a vertically movable rigid outlet tube rigidly connected with said bottom and extended at its upper end above the liquid line; the said tube being adapted

to be moved vertically by flexing the said bottom, substantially as herein described.

7. The combination with the chamber having a flexible bottom, a vertically movable rigid spring pressed outlet tube rigidly connected with said bottom and extended at its outer end above the liquid line; the said tube being depressible against the action of its spring by the flexure of said bottom, substantially as herein described.

8. The combination with the chamber having a flexible diaphragm or bottom depressed to concentrate the flow to that point, a rigid outlet tube extended outwardly from said depressed point, and upwardly to a higher point than the liquid line or level, said tube being rigidly connected with the bottom and adapted to be moved up and down by flexing said bottom, substantially as herein described.

9. The combination with the invertible can having a tubular extension on its top provided with an inwardly opening valve, of a separate and independent chamber having an opening in its top to admit said extension, the rise of the liquid in the said chamber serving to seal the said can extension a projection to open said valve, and an outlet, and means for locking said chamber to the can, the said opening in the chamber being of a diameter to admit air into the chamber, substantially as herein described.

10. The combination with the invertible can

having a tubular extension on its top provided with an inwardly opening valve of the separate and independent chamber having an opening in its top of greater diameter than said extension to admit the passage of air when said extension enters the opening upon inverting the can, and also provided with a projection to open the valve, and with a flexible bottom having a rigid outlet tube rigidly connected therewith and extending at its outer end above the liquid level in the chamber, substantially as herein described.

11. The combination with an invertible can having a valved opening in its top, of a separate and independent drawing off chamber upon which the can may be placed when inverted; the top of the said chamber being provided with an opening of sufficient diameter to receive, and admit the entrance of air around the valved end of the can, and the said valved end being sealed by the rise of the liquid in the chamber, and means for automatically opening said valve when the can is so placed on said chamber, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM MATHEWS.

Witnesses:

S. H. NOURSE,
J. H. BAYLESS.