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MEASURING APPARATUS.

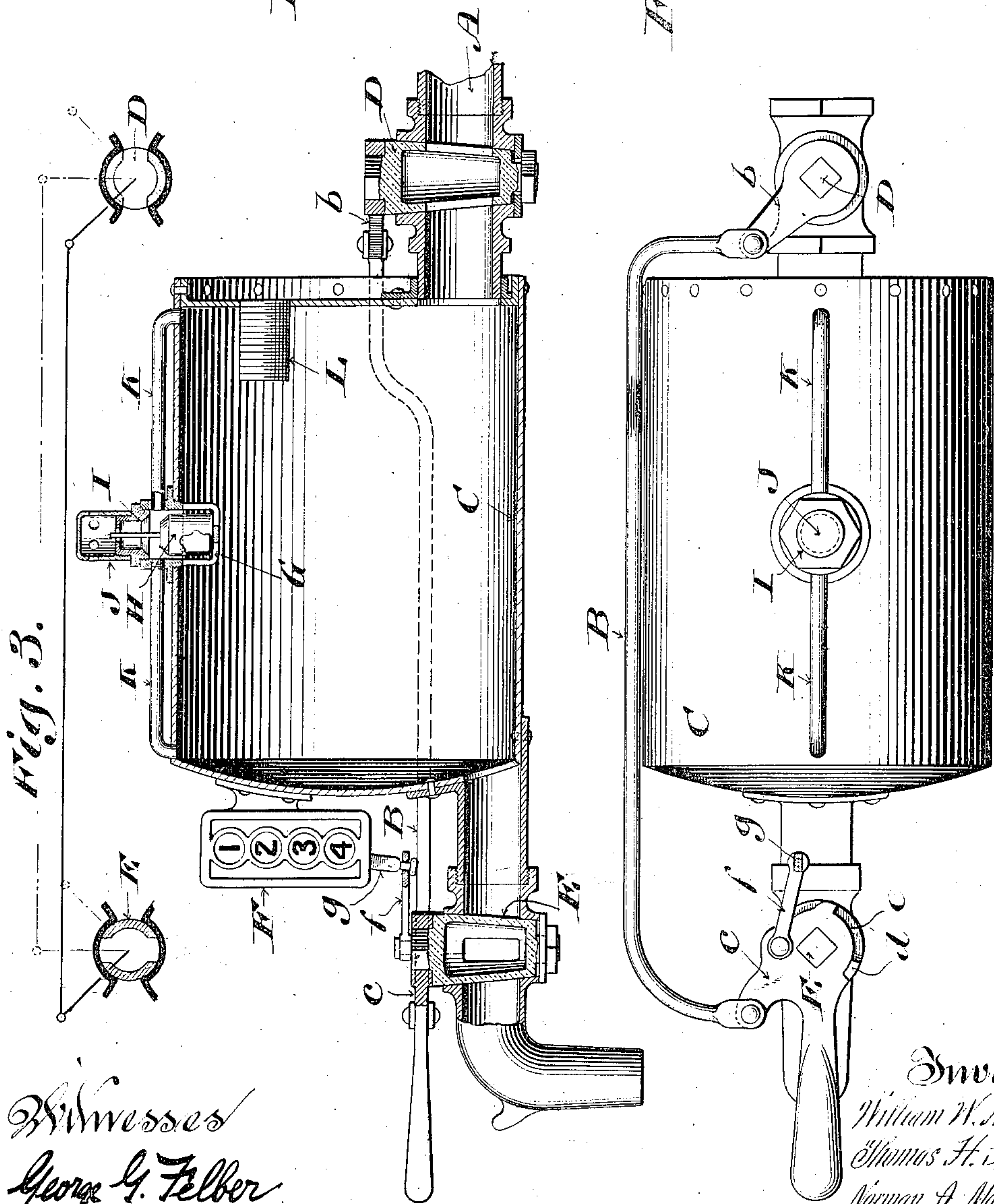
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Fig. 1.

Fig. 2.



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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM W. NICHOLAS and THOMAS H. KANE, both citizens of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, and NORMAN A. MACRAE and CHARLES D. GANO, also citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Measuring Apparatus; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and pointed out in the claims of this specification, its object being to provide simple, economical and efficient means for readily determining the number of deliveries of a predetermined quantity of liquid or dry material of various kinds from a main receptacle for same, said means involving a container of predetermined capacity in connection with said receptacle, cut-offs controlling the flow of material to and from the container and a register mechanism in connection with the delivery cut-off.

Figure 1 of the drawings represents for the most part a sectional view of a registering measuring apparatus in accordance with our invention; Fig. 2, a plan view of the same, and Fig. 3, a diagram illustrating the operation of the cut-offs of said apparatus.

Referring by letter to the drawings, A indicates a spout from a main receptacle coupled to a faucet in connection with an auxiliary receptacle C constituting a container of predetermined capacity provided with an outlet faucet. Cranks *b*, *c*, of the faucet-plugs D, E, are connected by a link rod B, and the set of the cranks is such that but one of the faucets can be open at a time. Both faucet plugs being in their normal position, herein shown, the inlet-faucet of the container will be closed on the first one-eighth turn of the plug E toward open position, and it will require another one-eighth turn of the same plug to open the outlet faucet, the plug D serving in the meantime to close the inlet faucet, as is well illustrated in Fig. 3. The outlet faucet aforesaid has the shell thereof provided with an upper outer lug *d* constituting a stop engaging a one-quarter

circle recess *e* in the crank *c* to limit the movement of same to a one-quarter turn for the opening and closing movements of the plugs D, E, and said crank is connected by a link *f* with an actuating lever *g* of a multiplying register F attached to the front head of the container.

In union with the upper portion of the container C midway of its ends is solid annular portion of a depending cage G for a float-valve H that seats in a screw cap I of said cage and is provided with a stem that extends through an aperture in said cap. To protect the valve-stem, a vented housing J is shown in slip-fit on the cage-cap. Connecting the upper outer solid annular portion of the valve-cage with the container C, adjacent to its heads, are outer vent-pipes K, and to gage said container to exact predetermined capacity, an inwardly extending screw-plug L is adjusted in one of said heads, the outer end of said plug being cut-off and permanently sealed flush with said container after the gaging has been effected.

The apparatus above specified is especially designed for connection with the tank of a kerosene or gasoline tank-wagon to prevent short measure by the peddler to customers, and to tally every time the cut-offs aforesaid are moved from normal position, it being intended to employ a check-system to record the registrations. Assuming the container to have a capacity of five gallons the fact of its being full may be determined by an observation of the position of the stem of the float-valve, and the delivery faucet being opened, the inlet-faucet will be closed as above described, while incidental to this operation the register aforesaid is actuated to tally one emptying of said container. If less than the capacity of the container is drawn, the gaged bucket, ordinarily employed to carry the material from wagon to store tank, will show the shortage to the customer if inspected, as is ordinarily the case. On the other hand if the full capacity of the container has been drawn off into a carrying bucket and the whole amount is not turned into the store-tank, it can be of no benefit to the peddler, because at the next filling of the bucket there will be a registration of an emptying of the container even though less than its capacity is drawn.

The peculiar venting of the container in-

tures of its filling whenever the cut-offs of its faucets are left long enough in normal position, whether the tank-wagon be at rest or traveling on level or inclined surface.

5 By permanently sealing the gage-plug L, as aforesaid, it cannot be tampered with by a distributor to vary capacity of the container without ready discovery, this being an important feature of our invention.

10 We claim:

1. The combination of a container of predetermined capacity having an inlet and an outlet, this container being adapted for connection with a main receptacle and provided with an upper central cage that has an exposed solid rim and depends in said container a cage-confined valve a vented valve-seat cap covering the cage, vent-pipes connecting the exposed rim of said cage with the container adjacent to heads of the latter, means governing the inlet and the outlet of said container, whereby when one is opened the other is closed, and means cooperating with the means aforesaid for registering each opening of the outlet.

2. The combination of a container of pre-

determined capacity having an inlet and an outlet, this container being adapted for connection with a main receptacle and provided with an upper central cage that has an exposed solid rim and depends in said container, a cage-confined valve a vented valve-seat cap covering the cage, vent-pipes connecting the exposed rim of said cage with the container adjacent to heads of the latter, means governing the inlet and the outlet of said container, and means cooperating with the means aforesaid for registering each opening of said outlet.

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