

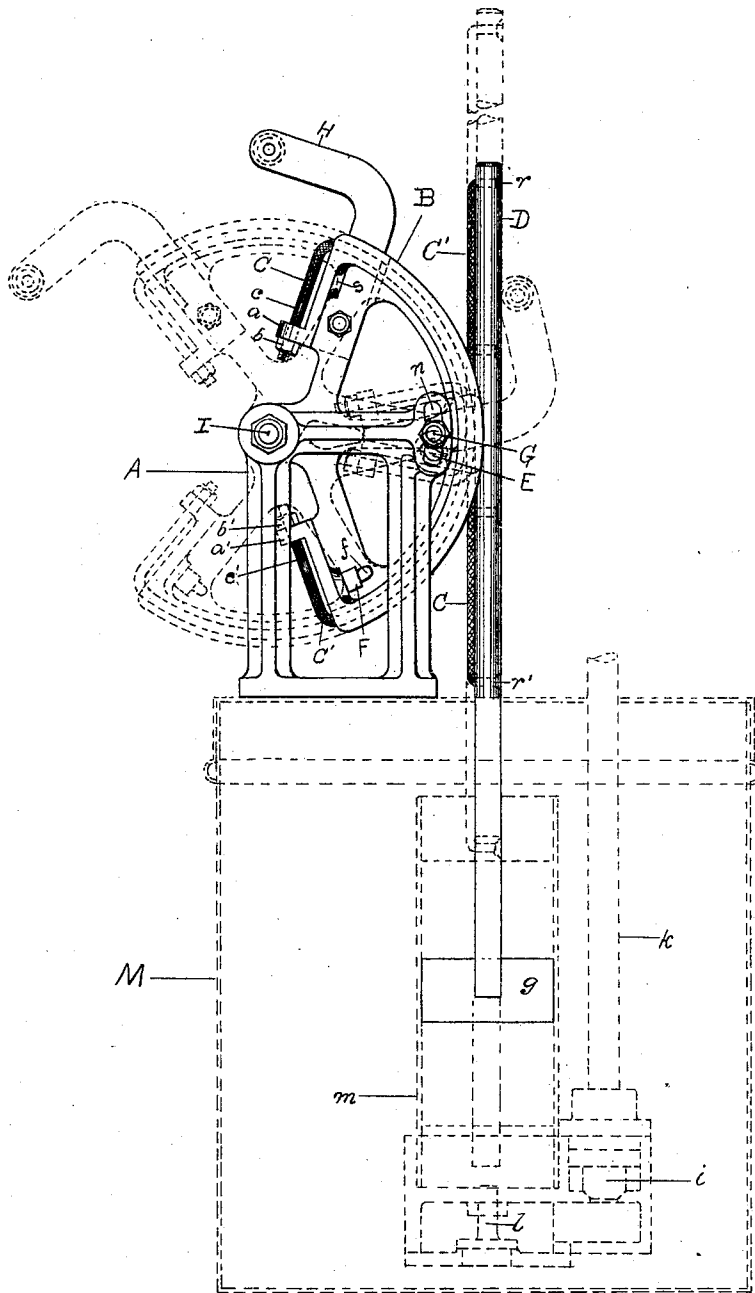
(No Model.)

2 Sheets—Sheet 1.

W. CRIGHTON.
MEASURING PUMP.

No. 486,596.

Patented Nov. 22, 1892.



WITNESSES:

— Fig. 1 —

INVENTOR

W. H. Crighton
Geo. F. Felts.

William Crighton

BY

Chapin & Denny
his ATTORNEYS.

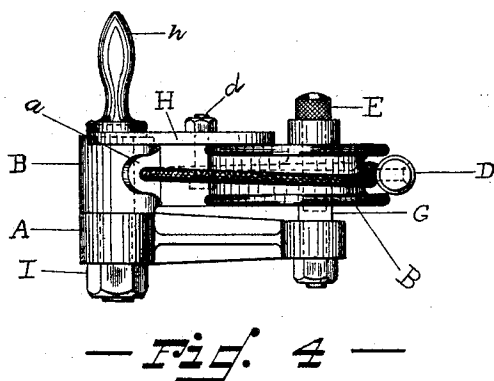
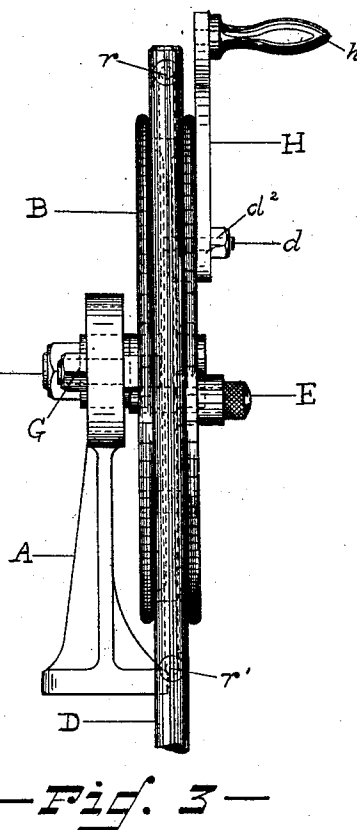
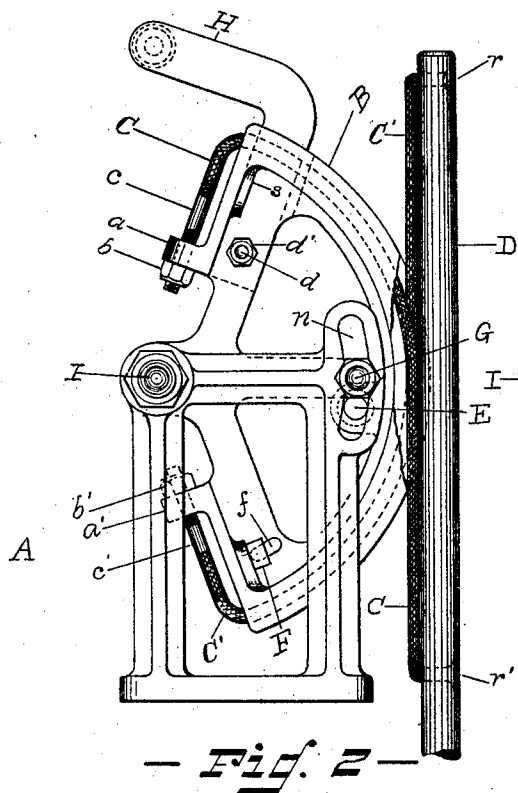
(No Model.)

2 Sheets—Sheet 2.

W. CRIGHTON.
MEASURING PUMP.

No. 486,596.

Patented Nov. 22, 1892.



WITNESSES:

W. H. Crighton
Geo. J. Pillsbury

William Crighton INVENTOR

BY Chapin & Denny
his ATTORNEYS,

UNITED STATES PATENT OFFICE.

WILLIAM CRIGHTON, OF FORT WAYNE, INDIANA, ASSIGNOR OF TWO-THIRDS
TO SCOTT SWANN AND EDGAR D. ROGERS, OF SAME PLACE.

MEASURING-PUMP.

SPECIFICATION forming part of Letters Patent No. 486,596, dated November 22, 1892.

Application filed July 11, 1892. Serial No. 439,659. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CRIGHTON, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Automatic Measuring Devices for Liquids; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improved means for automatically measuring and delivering liquids, and is specially adapted for use in connection with oil-tanks.

The present method of measuring liquids for retail, particularly kerosene-oil, for which my improvement is specially designed, is exceedingly inconvenient and wanting in cleanliness, besides occasioning considerable waste in pouring the oil from one vessel to another in transferring it from the tank to the customer's can, and also greatly increases the danger from fire by the saturation of the floor and neighboring objects with a highly-inflammable liquid, which unavoidably results from the methods of measuring and delivering the same now in use. The objects, therefore, of my invention are to remedy these defects by providing an automatic measuring device by which kerosene-oil or other liquids can be accurately and conveniently measured and delivered from the tank to the customer's vessel or can by a simple movement of the pump-handle, thereby insuring cleanliness in handling, avoids all loss occasioned by pouring from one vessel to another, prevents the usual spilling of the oil in transferring it, and thus avoids the resulting saturation of the floors and surrounding objects, obviates the danger of fire by the use of a lamp about the tank, and affords a method of absolutely-accurate measurement in dark cellars or other storage-rooms without the use of a lamp or other light.

My invention consists in the novel construction and combination of the several parts, as will be hereinafter set forth, and particularly pointed out in the claims.

The objects of my invention are accom-

plished by the mechanism illustrated in the accompanying drawings forming part of this specification, in which similar letters indicate corresponding parts in the several views. 55

Figure 1 is a view in elevation of my invention in position on an ordinary oil-tank, shown in dotted outline. Fig. 1 also shows by dotted outline the different positions and the range of the rotation of my improvement when in operation. Fig. 2 is a side view of my improvement broken away in section to show the cable connection to the lifting-rod of the pump. Fig. 3 is an end view of the same, showing the operating-handle and the movable stop on the cam or sheave wheel by which the quantity of liquid to be measured is regulated. Fig. 4 is a plan view of Fig. 2. 60

In Fig. 1, M is an oil-tank of well-known construction, provided with any proper pump *m*, having a suitable piston *g*, secured to a proper lifting-rod *D*, a suitable suction-valve *l*, a discharge-valve *i*, and a proper discharge-pipe *k*, all of well-known construction. 65

The vertical metallic standard A and the sheave, segment, or cam B constitute the framework of my invention. 75

The standard A is rigidly mounted in any proper manner upon the tank M and is provided with a suitable axis or pivot I and a vertical slot *n*, preferably having the same curvature as the perimeter of cam B, and an adjustable stop G, adapted for engagement with different points hereinafter mentioned on cam B. Upon the axis or pivot I is mounted in a proper manner the cam B, which may be a segment-wheel or a segment of a wheel, or of any other suitable form; but it is preferably a segment or cam, as shown in the drawings, Figs. 1 and 2. The cam B has its perimeter preferably grooved for the reception of elastic cables or other equivalent device, and is provided with lugs *a* and *a'* for securing said cables thereto, a slot *f*, containing an adjustable stop F, adapted for engagement with stop G, an operating-handle H, having a proper handpiece *h*, said handle being secured to said cam B by the bolt *d*, provided at its extremities with nuts *d'* and *d''*, and a transversely-movable stop E, adapted when properly adjusted for engagement with stop G in slot *n* of standard A. 80
85
90
95
100

The cables C and C' may be made of wire, steel ribbons, or other suitable flexible material, which cables are adapted to rest and form a bearing upon the grooved perimeter of cam B and connect either extremity of said cam with the lifting-rod D. The said cables C and C' are provided at one extremity with screw ends *c* and *c'*, which ends are secured in the perforated lugs *a* and *a'* by the threaded nuts *b* and *b'*, while the other extremities of said cables are secured in the perforations *r'* and *r*, respectively, of the lifting-rod D in any proper manner. The threaded nuts *b* and *b'* afford a convenient means for tightening or lengthening said cables, as occasion may require.

The stop F is adjustable in slot *f* and is adapted for engagement with stop G when cam B is in the position in which handle H is farthest from rod D, as seen in the outline in Fig. 1.

The mode of operation and the manner of using my improvement thus described are as follows: When my improvement is at rest, it assumes the position represented by the lower dotted outline in Fig. 1, with the adjustable stop G in engagement with the projecting perimeter of cam B at *s*, and piston *g* resting upon the bottom of pump *m*, though the engagement of stop G with said perimeter is not essential to such position of my improvement. The adjustable stop G is now set at such a point in slot *n* of standard A that moving cam B into the position shown by full lines in Fig. 1 will elevate rod D to such a height that the space below piston *g* will accurately measure one quart, half-gallon, or other desired quantity of oil or other liquid, which enters pump *m* through the suction-valve *l* in a well-known manner, stop E being now set for engagement with stop G, as seen in Figs. 2 and 3. When it is desirable to measure two quarts, a gallon, or double the quantity of liquid before mentioned, the operator simply withdraws the movable stop E from its engagement with stop G and moves cam B by means of the operating-handle to its farthest limit, (shown by dotted outline in Fig. 1,) when stop G will be in engagement with stop F, and piston *g* will thereby be elevated to the position seen in Fig. 1, or at twice the height shown in full outline in Fig. 1, stop F being so adjusted in slot *f* as to accurately measure said quantity. When pump *m* contains the desired quantity of oil or other liquid thus accurately measured, it is forced through

discharge-pipe *k* into any desired can or vessel by a simple forward movement of the operating-handle.

It is thus seen that by the use of my improvement oil or other liquid can be accurately and automatically measured and conveniently transferred from one vessel to another by setting the movable stop E in the proper position and by a simple backward-and-forward movement of the operating-handle.

What I claim, therefore, as my invention, and desire to secure by Letters Patent, is—

1. An automatic measuring device for liquids, consisting of a vertical standard A, having a pivot I, a slot *n*, and an adjustable stop G, a cam or segment B, pivoted to said standard, having its perimeter properly grooved for the reception of operating-cables, and provided with an operating-handle H, perforated lugs *a* and *a'* for securing said cables, a slot *f*, with an adjustable stop F, adapted for engagement with the stop G in standard A, and a movable stop E, also adapted for engagement with the stop G, said cam or segment being adapted to raise and lower the lifting-rod D by means of operating-cables connected therewith, all substantially as set forth and described.

2. In a measuring device for liquids, the combination of the vertical standard A, having a pivot I, a slot *n*, and an adjustable stop G, with the cam or segment B, hinged on the pivot I and having a grooved perimeter, an operating-handle H, perforated lugs *a* and *a'*, slot *f*, having a stop F, adjustable therein, and a movable stop E, adapted for engagement with stop G, and the flexible cables C and C', secured in said lugs and grooved perimeter and adapted to operate the lifting-rod D of a suitable pump, all substantially as hereinbefore set forth and described.

3. The combination, in a measuring device, of the slotted standard A and the cam B, pivoted thereto and provided with an operating-handle, a movable stop E, a slot *f*, having a stop F, adjustable therein, and perforated lugs *a* and *a'*, with the lifting-rod D, and the cables C and C', connecting said lugs with said lifting-rod and having a bearing on the grooved perimeter of said cam, all substantially as set forth and described.

Signed by me this 7th day of July, 1892.

WILLIAM CRIGHTON.

Witnesses:

W. H. CRIGHTON,
GEO. F. FETTS.