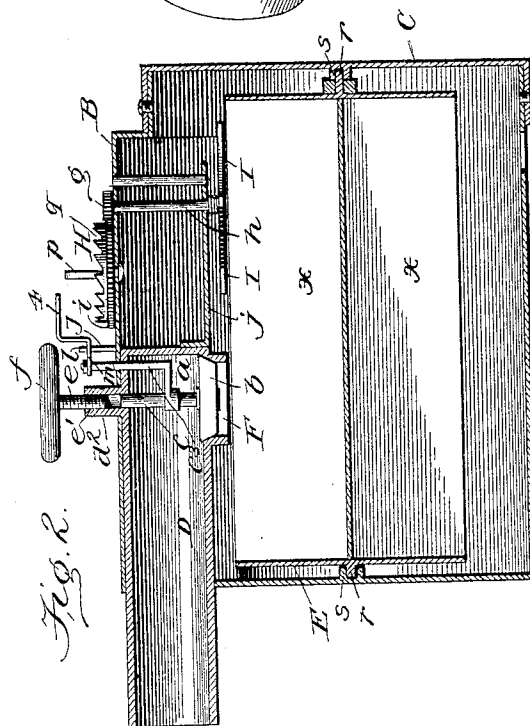
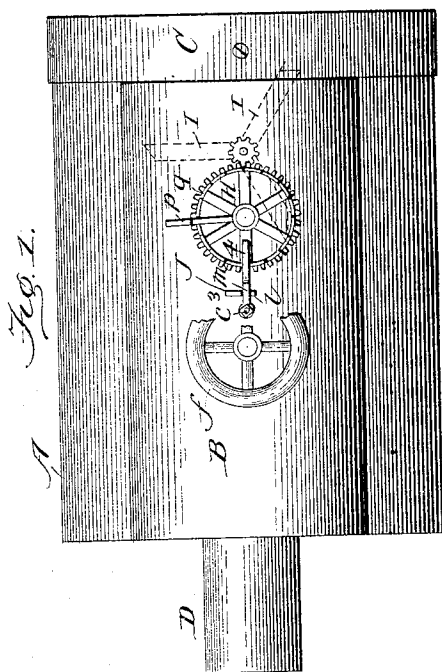
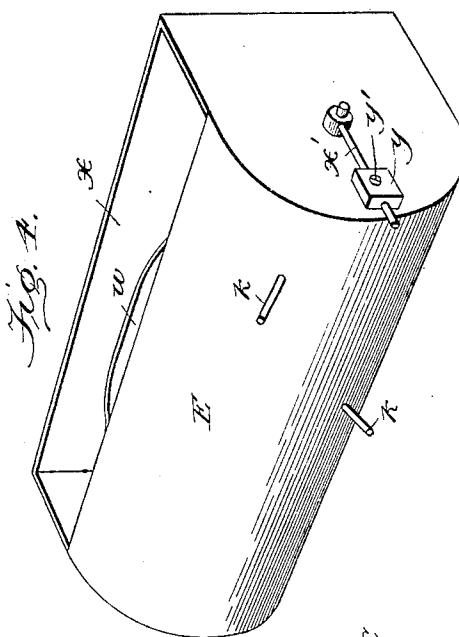
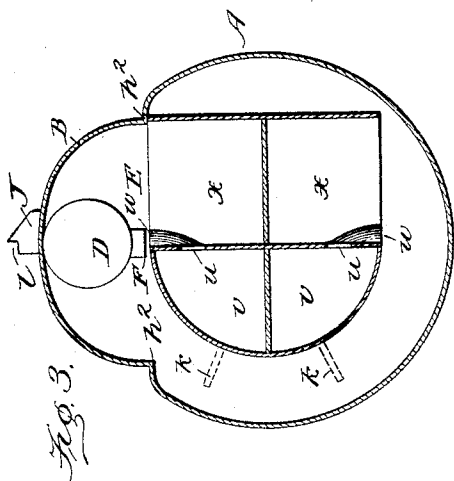


(No Model.)

D. E. ARNE.
AUTOMATIC MEASURING FAUCET.

No. 580,245.

Patented Apr. 6, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVID EDWARD ARNE, OF CHAPIN, IOWA.

AUTOMATIC MEASURING-FAUCET.

SPECIFICATION forming part of Letters Patent No. 580,245, dated April 6, 1897.

Application filed July 20, 1896. Serial No. 599,914. (No model.)

To all whom it may concern:

Be it known that I, DAVID EDWARD ARNE, of Chapin, in the county of Franklin and State of Iowa, have invented an Improved Automatic Measuring-Faucet, of which the following is a specification.

The present invention relates to an automatic measuring-faucet, and its object is to take the place of self-measuring pumps in oil-tanks and other receptacles containing liquids.

With this object in view the invention consists of the details of construction and arrangement which will more fully appear hereinafter.

In the accompanying drawings, which form a part of this application, Figure 1 is a plan view. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detail of the measuring-drum. Fig. 4 is a transverse section of the said drum.

Like numerals and letters of reference indicate corresponding parts in the several views.

Referring to the drawings, A represents the outer casing of my device, which is substantially cylindrical in shape, the top of said casing being dome shape, which is designated by B. The end C is made adjustable, so as to be easily removed, thereby allowing measuring mechanism to be readily removed. A pipe D is connected to the dome-shaped top of the casing B, and is the inlet-pipe, which brings the water or other liquid to the measuring-drum E. The end a of the inlet D is provided with an outlet F. Said outlet is provided with a valve b for regulating the flow of the liquid through the said outlet. The said valve is connected to the rod c , which projects up into the tubular post d^2 . The operation of the said valve will be explained hereinafter.

In case the valve b leaks slightly by not fitting snug down in the outlet F, or for greater safety in leaving it over night screw-rod e , operated by the wheel f , works in the tubular post d^2 by means of the interior threads e' and presses down upon the end of the valve-rod c .

A register-wheel H is pivoted to the dome-shaped top B, and is operated by the pinion g , which is keyed to the upper end of the upright shaft h , the said pinion g meshing with the circumferential gear-teeth i , situated upon

the register-wheel H. The upright shaft h is supported by the strip j and the dome-shaped top B.

Rigidly attached to the lower end of the upright shaft h are the striker-arms I, which are struck by the pins k , situated on the measuring-drum E. An upright standard J, having a notch l , is suitably placed, so as to allow the attached arm m to fit therein, the said arm being attached to the rod c^3 , the lower end of which is attached to the valve-rod c , the said rod c^3 having an upright handle 4.

An adjustable pointer p is attached to the register-wheel h and fits into the notches q of the said wheel H. The said pointer can be placed in any notch desired. The amount of liquid to be measured determines the particular notch in which the pointer is to be placed, as when the register-wheel H is operated it causes the said pointer to come in contact with the handle 4, which is connected to the arm m , thereby causing the said arm to be thrown out of the notch l , thus allowing the said valve to be closed. The measuring-drum E is situated within the said outer casing and is journaled to the ends thereof by means of trunnions r , working in the boxes s . The said drum is composed of two rectangular buckets x , having in one of their sides holes u and the curved section v and the curved openings w . A rod x' is attached to one of the said trunnions and has the sliding weight y working thereon and the thumb-screw y' for adjusting the said weight upon the rod x' .

The operation of the device is as follows: The valve b , which is connected to the rod c , is drawn upward by means of the rod c^3 , thus allowing the liquid to pass through the outlet F into the curved opening w , which fills the curved section v of the drum E. Then the liquid passes through the holes u and fills the rectangular buckets x to the same level, and then continues to fill the two sides equally until they are nearly full or until the preponderance of weight on the rectangular side overcomes its equilibrium and it turns to the reversed position of the lower bucket. When the buckets tip and the outer edge of the buckets come in contact with the shoulder h^2 , situated on the cylindrical casing A, which serves as a banking stop, owing to the reac-

tion of the water, and in order to allow the buckets to resume their normal position at once the water or other liquid is allowed to escape from the rectangular side of the bucket as soon as it tips, but is retained for a short time in the opposite side by the partition and with the weight serves to keep the bucket in its normal position until the curved side of the upper bucket is filled.

- 10 The striker-arms I, which operate the measuring-wheel H, are struck by the pins *k* as the rectangular drum E rotates. The register-wheel H operates the adjustable pointer *p*, which strikes the handle 4, which is connected to the arm *m*, thereby causing the said arm to be thrown out of the notch *l*, thus allowing the valve to be closed and shutting off the flow. The notches *q* of the said wheel H may be any size or any distance apart, and the amount of liquid required to operate the drum E may be regulated by adjusting the sliding weight on the rod *x*'.

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

1. In an automatic measuring-faucet the combination of an outer casing having a dome-shaped top, an inlet-pipe connected thereto and having an outlet-opening, a valve situated in said outlet, means for operating said valve, a registering-wheel pivoted to the dome-shaped top B, said wheel having circumferential gear-teeth, notches *q* situated around said wheel, a pinion meshing with said cir-

cumferential gear-teeth, said pinion keyed to an upright shaft, striker-arms rigidly attached to the lower end of said shaft, said shaft working in the strip *j* and top of the casing B, and an adjustable pointer *p*, substantially as set forth and described.

2. In an automatic measuring-faucet, the combination of an outer casing having a dome-shaped top, an inlet-pipe connected thereto, a measuring-drum situated within said outer casing, said drum having rectangular-shaped buckets situated therein, a curved drum situated within said measuring-drum, said drum journaled to the ends of the said outer casing, a rod attached to one end of said drum, a weight sliding on said rod and adjustably secured thereto by a set-screw, pins situated on the curved top of the said drum and engaging with the striker-arms, striker-arms keyed on the lower end of an upright shaft, said shaft being supported by the strip *j* and the drum-shaped top, a pinion keyed to the upper end of the said shaft, a register-wheel pivoted to the dome-shaped top, gear-teeth situated circumferentially around the said wheel, and meshing with the said pinion an adjustable pointer *p*, said pointer operating the said valve-operating mechanism, substantially as described and set forth.

DAVID EDWARD ARNE.

Witnesses:

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