D. DRAWBAUGH.

Measuring Faucet.

No. 59,792. Patented Nov. 20, 1866.

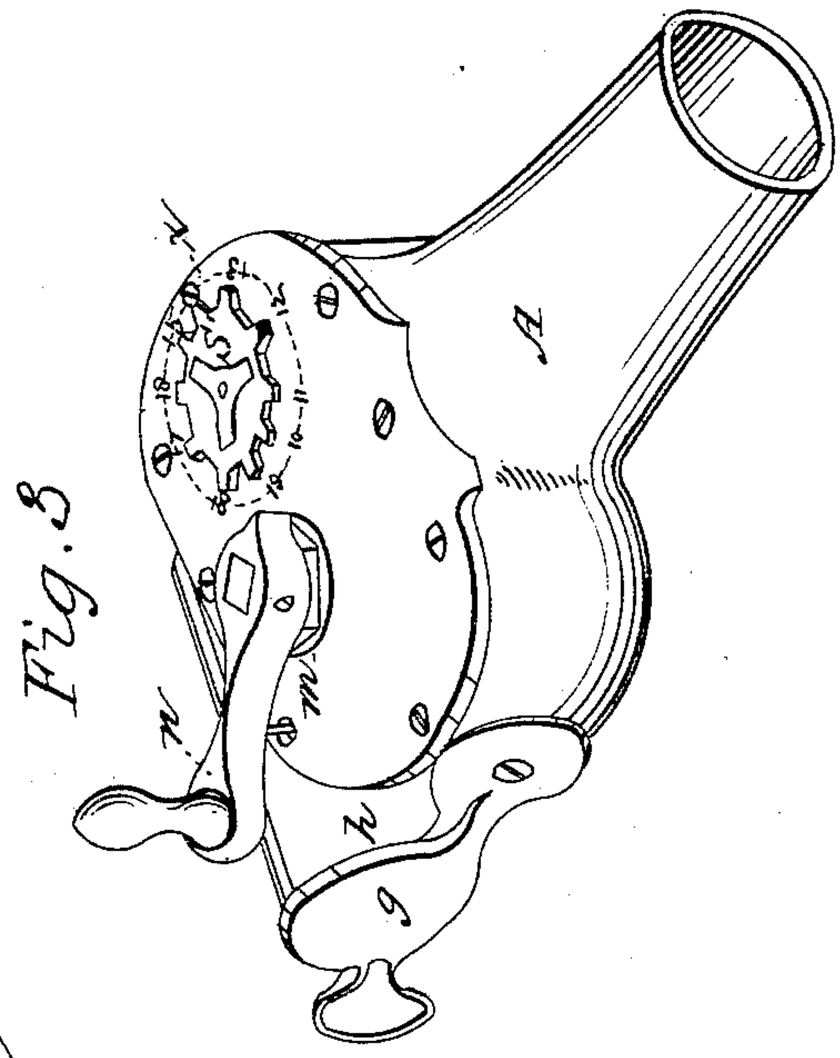

Fig. 3

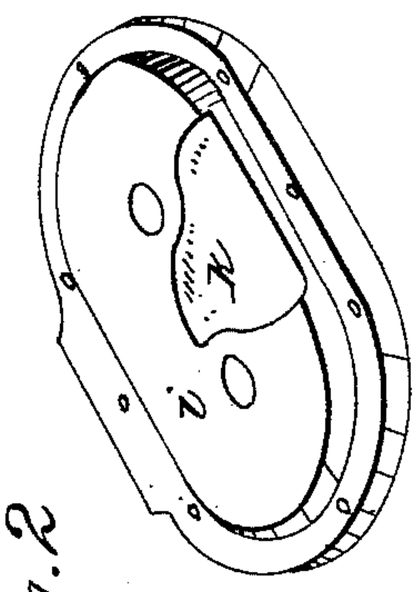

Fig. 2

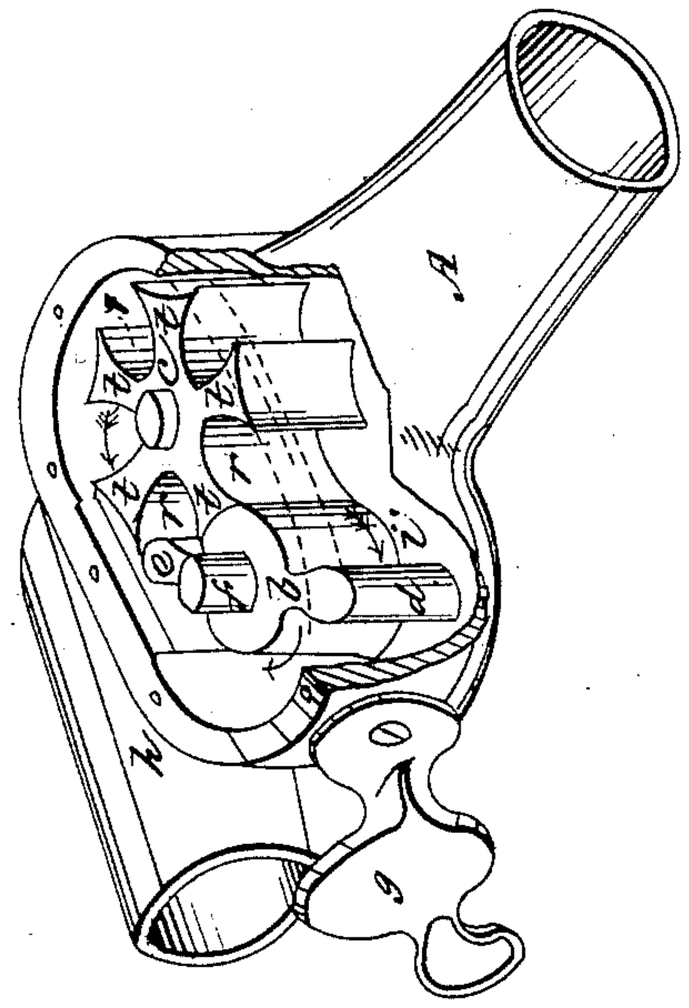

Fig. 1

Witnesses:

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Inventor:

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by

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United States Patent Office.

IMPROVEMENT IN FAUCETS.

DANIEL DRAWBAUGH, OF EBERLY'S MILL, PENNSYLVANIA.

Letters Patent No. 59,792, *dated November* 20, 1866.

SPECIFICATION.

Be it known that I, DANIEL DRAWBAUGH, of Eberly's Mill, in the county of Cumberland, and State of Pennsylvania, have invented a new and useful contrivance to be used as a Faucet for drawing viscid liquids from a cask in which they are contained, and transferring them to an outer vessel, and I do hereby declare the following to be a full, clear, and exact description of my said invention, which will be more fully understood by reference to the accompanying drawings, in which—

Figure 1 shows a perspective view of the internal machinery with the cover removed.

Figure 2 is a perspective of the cover.

Figure 3 is a perspective of the machine when complete and ready for use.

Great difficulty is often experienced in drawing molasses, tar, and other viscid liquids from the casks in which they are contained, and an equal difficulty in measuring them with any accuracy, in consequence of the adhesion of the liquid to the measuring vessel.

My invention effectually obviates both these difficulties, and enables me to draw from a cask the most viscid liquids, and to measure and deliver them with entire accuracy.

To enable others to make and use my said invention, I will now proceed to explain its construction and operation.

A is a spigot which is to be inserted into the cask, and through which the liquid is to be drawn. Within the faucet are two hubs, each having flanges or pistons of a peculiar shape. These hubs are denoted by the letters *b* and *c*. The pistons on the former are denoted by the letters *d* and *e*, and on the latter by the letters *t t*, having recesses *r r* between the pistons respectively.

The hub *b* is moved by the crank *n*; the square portion of the shank to which this crank is attached being broken off in fig. 1, as shown at *f*.

The pistons or flanges on the hub *b* are so constructed and arranged that when describing their outer semi revolution the extreme surfaces of each respectively move in close contiguity with the interior semicircular surface of that portion of the exterior case of the faucet; and in making their inner semi revolution they work in contact, from point to point, throughout their entire extent, with the surfaces of the concave recesses *r r*, the whole being so constructed and arranged that the convex surface of the one shall inpinge upon and press directly against the concave surface of the other, from point to point, in regular continuity, so as to press out from between the two surfaces, every drop of liquid, and cause it to flow towards the eduction pipe *h* of the faucet, or to flow upwards or downwards, as will be hereinafter explained, but in no case to flow backwards towards the induction pipe A.

In like manner the pistons *t t*, on the hub *c*, throughout their outer semi revolution, move in close contiguity with the interior semicircular surface of the external case of the faucet, so that the liquid cannot flow backwards past these pistons towards the induction pipe A.

In this manner all the liquid which is pressed into the recesses *r r*, or the small concavities in the outer extremities of the pistons *t t*, of the hub *c*, as well as all the liquid which is cut off at each semi revolution of the hub *b*, by the flanges or pistons *d e*, respectively, is carried forwards towards the discharge pipe *h*, and cannot return towards the induction pipe A.

In order that the machinery should work without strain, I provide a recess, *k*, on the under side of the cover, and a like recess on the lower surface which is swept by those hubs and pistons. Both these recesses open outwards towards the discharge pipe *h*, so that the piston *e*, fig. 1, when passing into the corresponding recess, may force the liquid in such recess upwards and downwards, and thus relieve the machine from all strain resulting from the compression of the liquid, and enable it to flow readily and freely.

The liquid, therefore, as it flows through the spigot A in being drawn from the cask, fills all the spaces and recesses left by the hubs *b* and *c*, and their several pistons on the side of this spigot or induction pipe. As they sweep around, they at each semi revolution, sweep away and carry forward the same uniform amount of liquid. By ascertaining how much is carried forward at each revolution, and then counting the number of revolutions, the whole amount drawn off and delivered can be readily calculated.

In order to keep this count automatically, I place on the crank *n*, a pin *m*, so arranged in combination with a wheel *s*, that at each revolution of the crank this pin shall engage with one of the cogs, and move the wheel around the distance occupied by one cog and the intermediate space. An index, *x*, attached to this wheel *s*, will mark this number of revolutions with the utmost precision.

An exit pipe *h*, is provided with a swinging cover or gate, *g*, by which it may be thoroughly stopped, to prevent dripping and waste. The "seat" of this gate is a plain surface, a little inclined from a perpendicular to the axis of rotation of the gate, and the flat surface of the gate, which is to be brought home to that seat when the gate is closed, is parallel, or nearly so, to the plane of that seat.

By this means the gate is so arranged that the farther it is pressed forward on its seat, the closer it will press upon that seat, and when it is withdrawn it will rise from the seat as it is revolved backward.

It is to be observed that the motion of the hub *c* is not constant, but intermittent. As there are five recesses and as many pistons on the hub *c*, and only two on the hub *b*, the latter must revolve two and a half times for every revolution of the hub *c*. And from the construction and arrangement of these hubs and pistons, it will be seen that from the time that the neck of the piston *d* leaves the external edge of the piston *t*, upon one side, until the time that the neck of the piston *e* strikes the external edge of that piston *t*, on the other side, the hub *c* will stand still.

I am fully aware that two cog wheels meshing into each other, somewhat in the manner of the pistons in my faucet, have been used for pumping water. They would also pump molasses.

But in such cases the two cog wheels are in constant motion. The cogs which serve as pistons cannot be so constructed as to fit so closely as not to permit the passing of the liquid backwards to the side of the cog-wheels next the induction pipe; and besides, much less space would be afforded to admit the liquid into the space swept by the pistons than exists in the above described arrangement.

By allowing the hub *c* to have an intermittent motion, I am enabled to use but two pistons on the hub *b*, and to have them made of such size and shape as to effect the purpose I have in view. This could not be done if the pistons were in the form of cogs, so that both hubs should be kept in continual motion, or so that the one should always move simultaneously with the other.

Instead of two pistons on the hub *b*, it might be made with three, or perhaps more, and still act upon the same principle, but I prefer the use of only two.

Having thus described my invention, what I claim as new in a faucet constructed upon the principle above set forth and described, is—

1. I claim the hubs *b* and *c*, with their pistons constructed and operating substantially as above described; that is to say, so that when the one of those hubs has a constant motion, that of the other shall be intermittent, substantially in the manner and for the purpose above shown.

2. In combination with the subject-matter of the first claim, I claim the recess *k*, upon one or both the flat surfaces which are swept by the hubs and pistons aforesaid, which said recesses enable the liquid drawn through said faucet to pass outwards towards the eduction pipe *h*, from between the said pistons, substantially as described.

3. In combination with the subject-matter of the first claim, I claim the cogged wheel *s*, with its index *x*, and the pin *m*, upon the crank *n*, for the purpose of denoting automatically the precise number of revolutions of said crank, substantially as described.

4. In combination with the subject-matter of the first claim, I claim the gate *g*, having its face and the plane of its seat inclined to the axis of revolution of such gate, substantially as and for the purpose described.

In witness whereof I have hereunto subscribed my name, this 11th day of September, A. D. 1866.

DANL. DRAWBAUGH.

Witnesses:

R. T. CAMPBELL,

HENRY SYLVESTER.

59,792.