No. 719,151. PATENTED JAN. 27, 1903.

J. SJOSTROM.

MEASURING FAUCET.

APPLICATION FILED NOV. 3, 1898.

No MODEL. 3 SHEETS—SHEET 1.

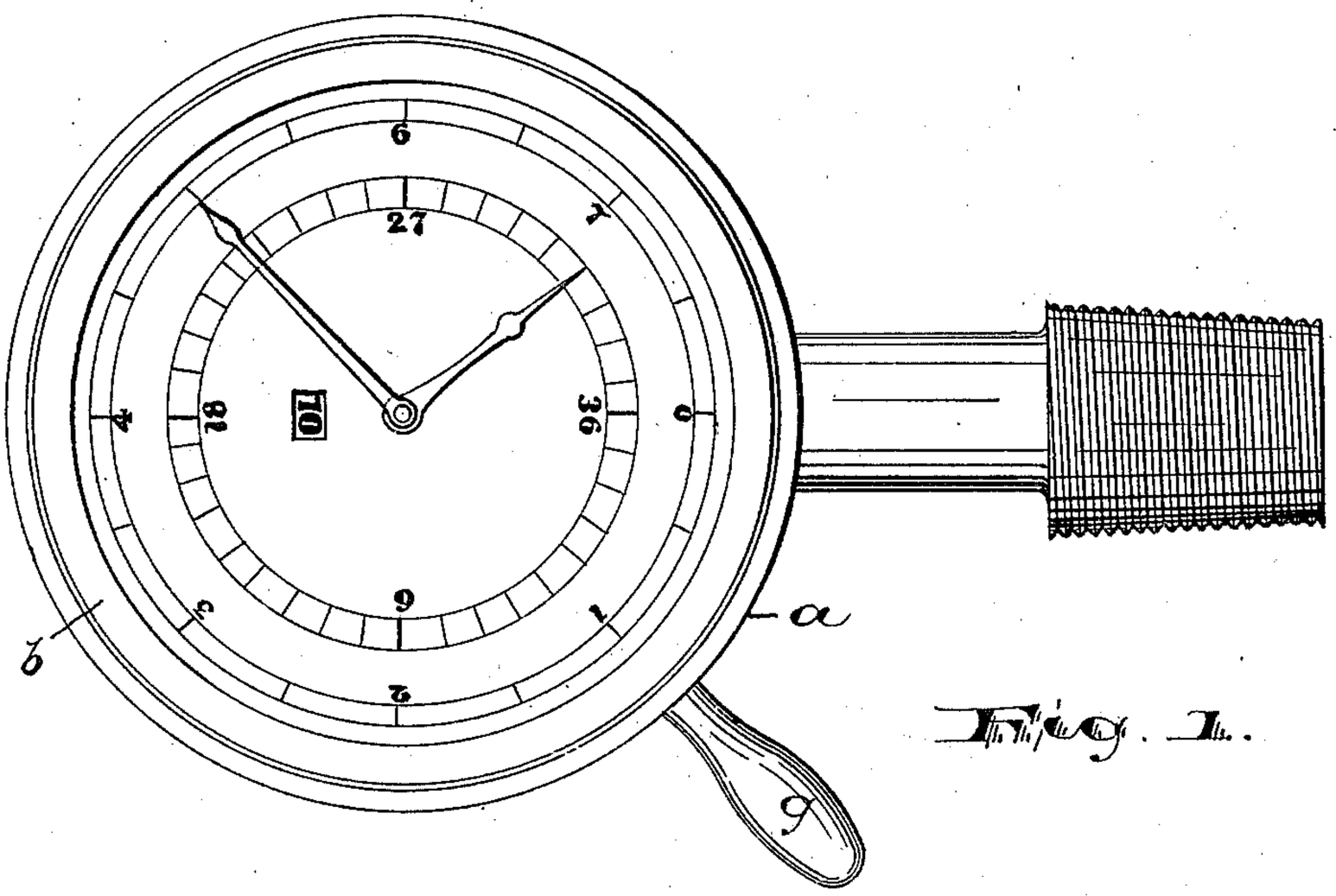

Fig. 1.

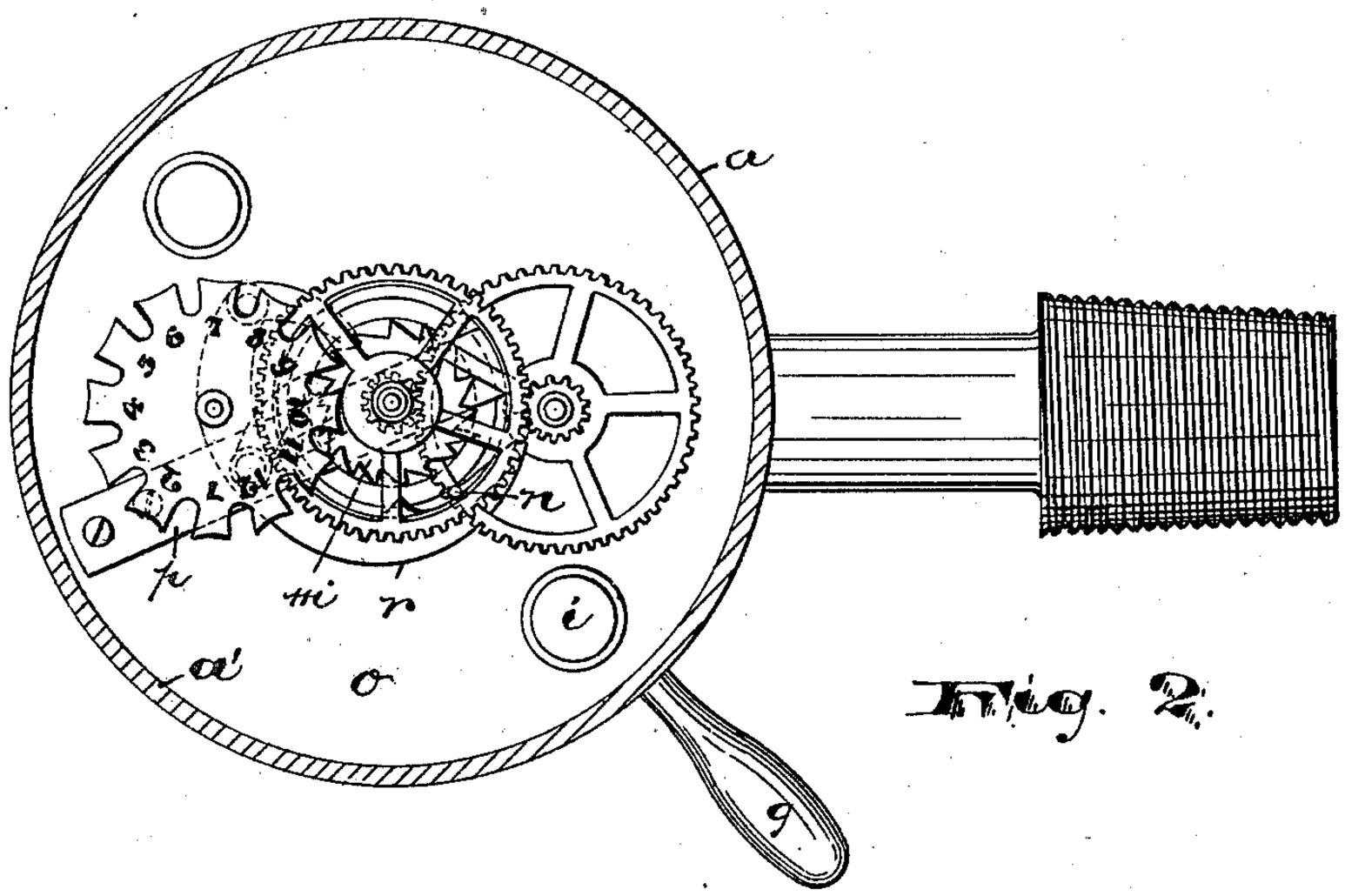

Fig. 2.

WITNESSES:

A. R. Krausse.

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NO MODEL. 3 SHEETS—SHEET 2.

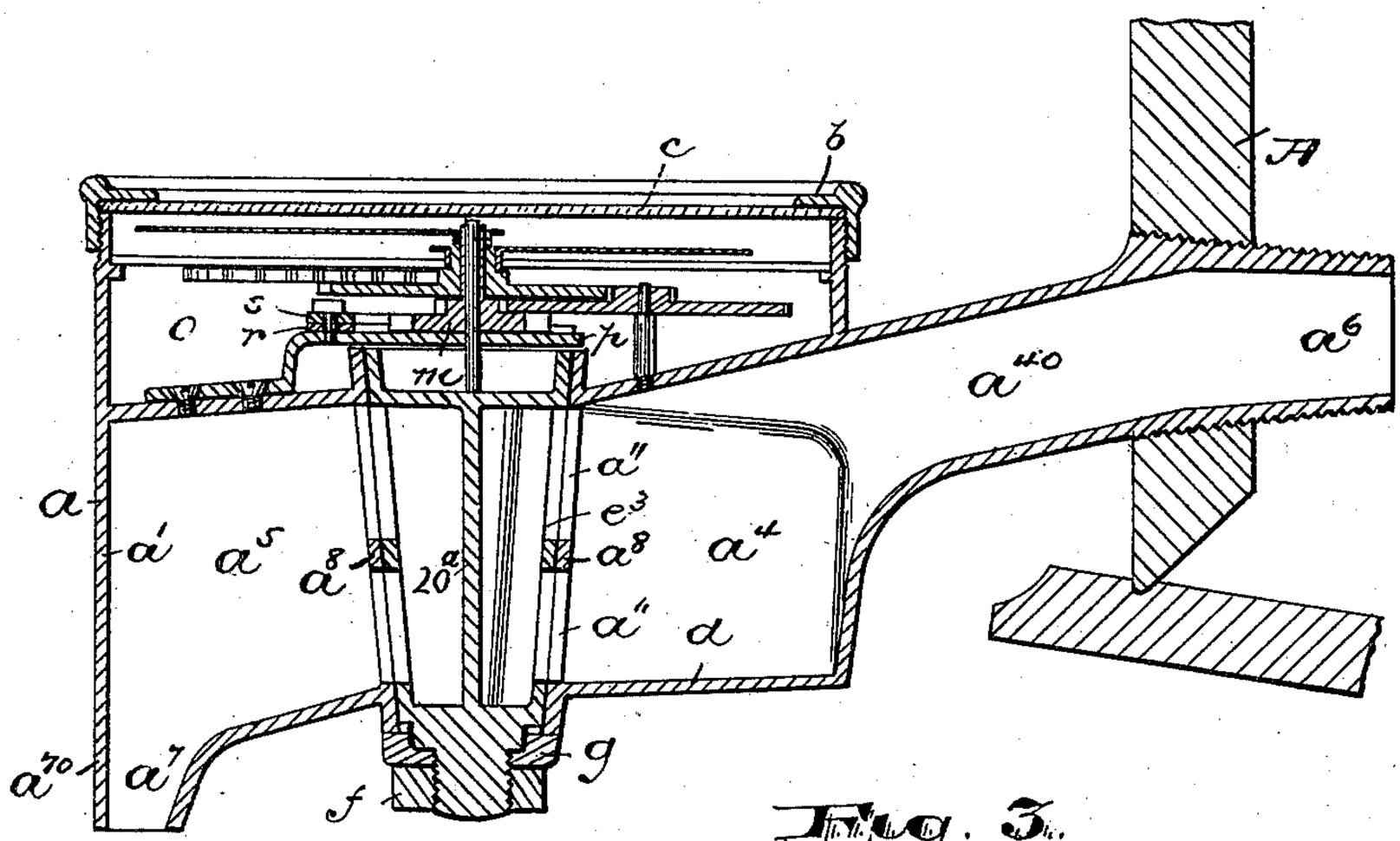

Fig. 3.

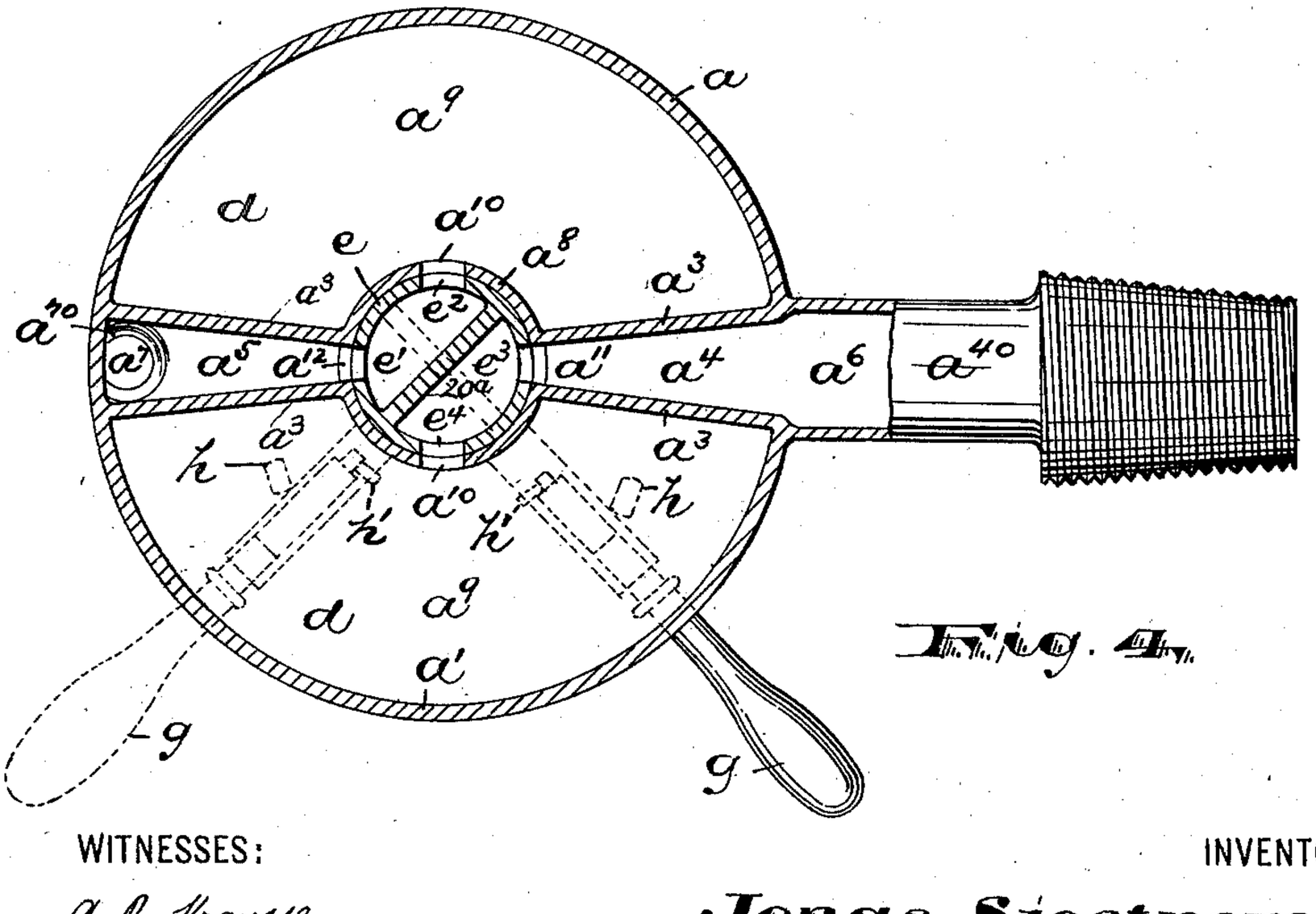

Fig. 4.

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NO MODEL. 3 SHEETS—SHEET 3.

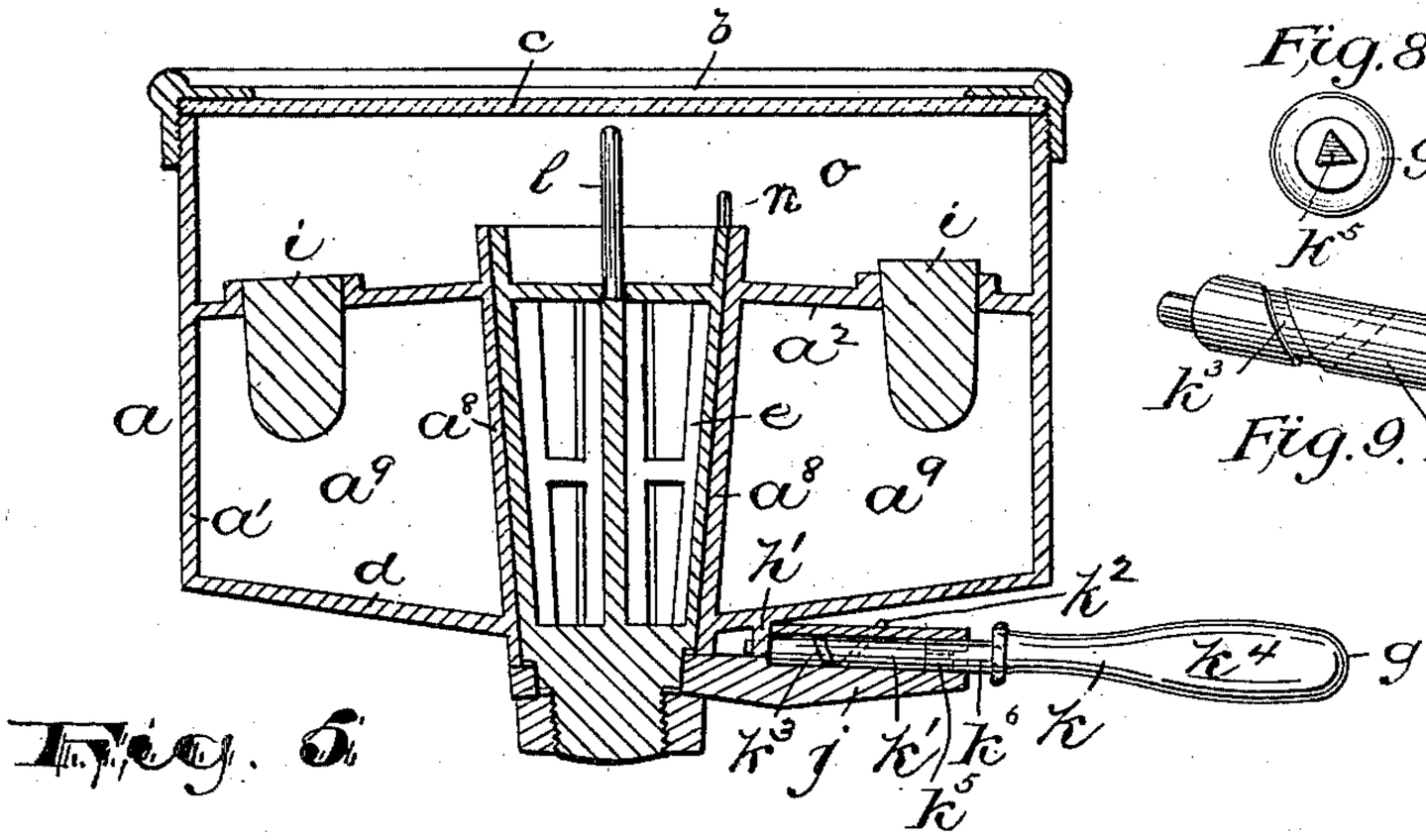

Fig. 5.

Fig. 9.

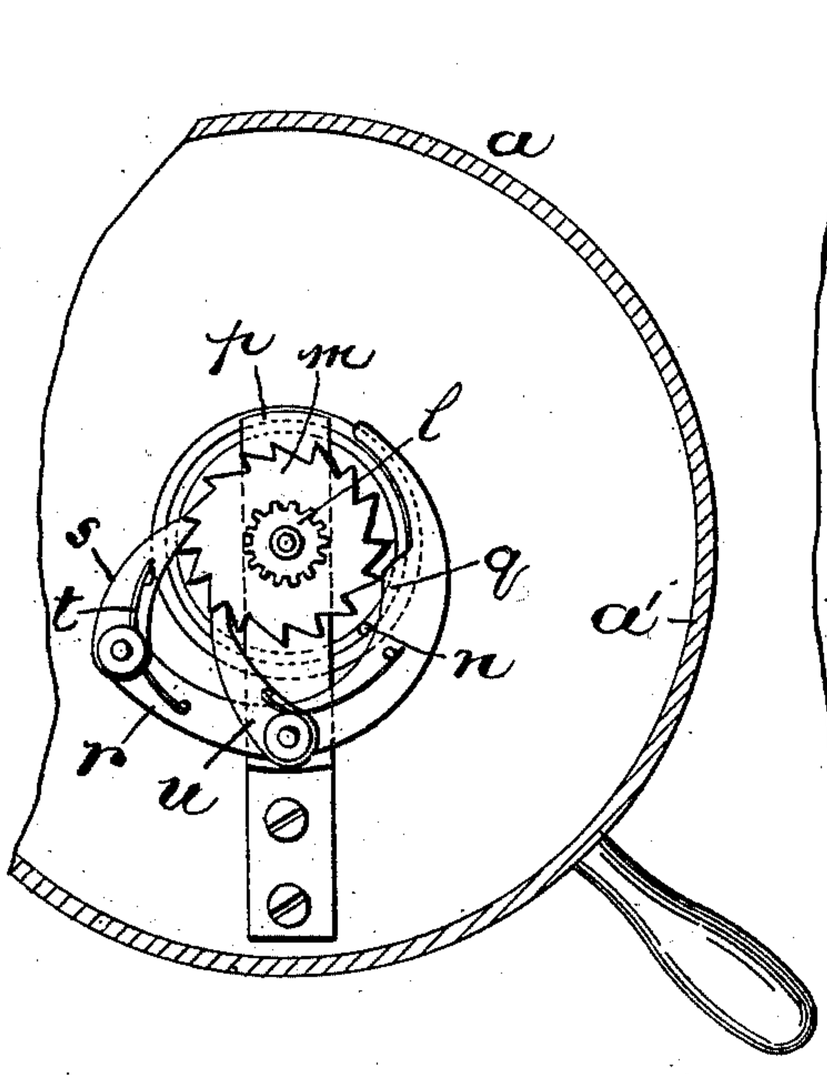

Fig. 6.

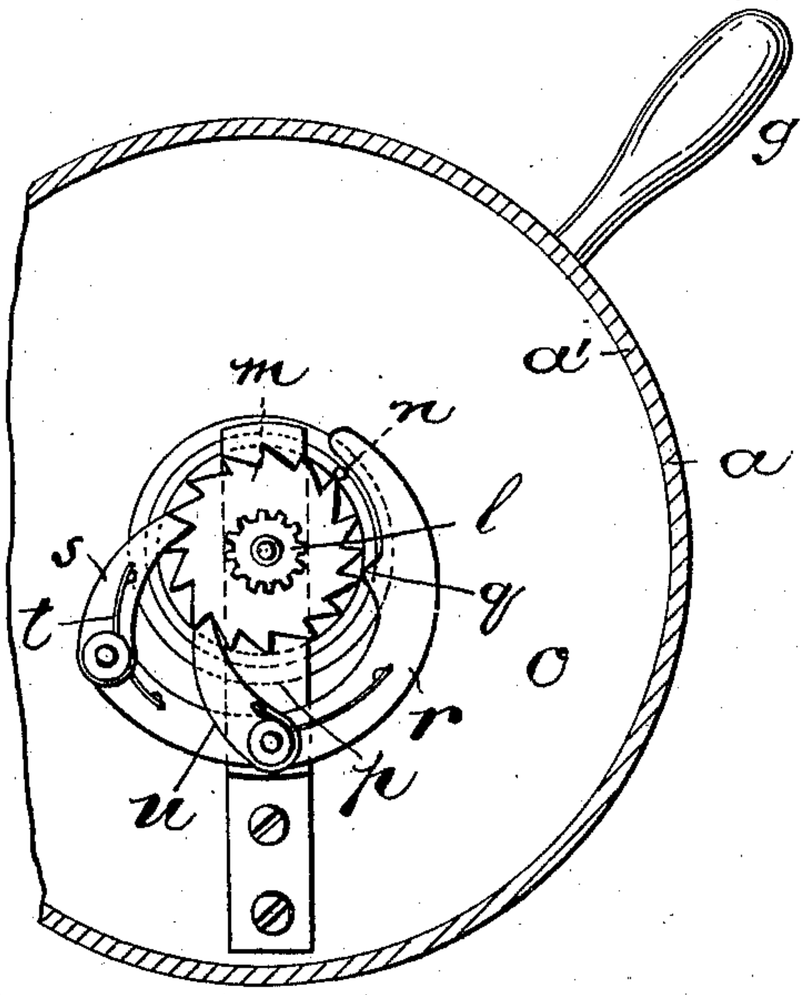

Fig. 7.

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UNITED STATES PATENT OFFICE.

JONAS SJOSTROM, OF KINGSBRIDGE, NEW YORK, ASSIGNOR TO JOSEPH L. DELAFIELD, OF NEW YORK, N. Y.

MEASURING-FAUCET.

SPECIFICATION forming part of Letters Patent No. 719,151, dated January 27, 1903.

Application filed November 3, 1898. Serial No. 695,364. (No model.)

To all whom it may concern:

Be it known that I, JONAS SJOSTROM, a citizen of Sweden, residing at Kingsbridge, in the borough of Bronx, New York city, and State of New York, have invented certain new and useful Improvements in Measuring-Faucets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in measuring-faucets, and has for its objects to reduce the cost of construction, to secure a more effective and certain measuring operation, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved measuring-faucet and in the arrangements and combinations of parts, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the figures, Figure 1 is a plan of the improved device. Fig. 2 is a horizontal section on a line slightly above the measuring-chambers. Fig. 3 is a central vertical section taken in the axial line of the inclined tubular shank. Fig. 4 is a horizontal section taken through the measuring-chambers. Fig. 5 is another vertical section taken at right angles to the first. Figs. 6 and 7 are detail plans showing certain parts of the indicating mechanisms. Fig. 8 is a front elevation of the socket for the operating-handle with the outer section of said handle removed, and Fig. 9 is a perspective view of the inner section of said handle.

In said drawings, a indicates the body of the faucet, comprising in one integral casting a cylindrical body a', a horizontal partition a^2 separating the interior into upper and lower chambers o and a^9, respectively, vertical partitions a^3 a^3 in the lower chamber, a tubular upwardly-inclined shank a^{40}, extending laterally or rearwardly from the side of said cylinder and adapted to enter a bung-hole formed in a barrel, cask, or like receptacle, said shank being threaded at its end, and thus adapted to form an impervious joint with the cask by simply being screwed into place, and a nozzle a^{70} on the opposite side of said body from said shank. In the upper chamber o are arranged the train of wheels, &c., for operating the registering-hands, and superposed above said wheels are the said registering-hands. The said upper compartment is closed by a cover b, having a transparent plate c, through which the registering-hands and the dial-plate may be seen. Below the said partition a^2 the said chamber is subdivided, as before indicated, by two vertical or approximately vertical partitions a^3 a^3, which form fluid-passages a^4 a^5 between them which extend radially from a central spigot-chamber outward to the passages a^6 a^7 of the shank a^{40} and nozzle a^{70}, respectively. The spigot-chamber is formed by a tapering partition a^8, which is also integral with the other parts of the casting. On the outer sides of the radial partitions a^3 a^3 are formed measuring-chambers a^9 a^9 of a capacity equal to the amount of fluid desired to be measured. The central partition a^8 is provided with fluid-passages a^{10} a^{10}, leading from the spigot-chamber into the measuring-chambers, and with passages a^{11} a^{12}, leading, respectively, from the passage a^4 into the spigot-chamber and from said spigot-chamber into the passage a^5, leading to the spout or nozzle. The bottoms of the measuring-chambers are preferably formed of pieces d d, which, as shown, are integral with said chambers. Within the spigot-chamber is arranged a tapering spigot e, held therein by a nut f or in any other suitable manner. Said spigot is closed at the top and bottom and provided with a diametrically-disposed partition a^{20}, extending longitudinally from end to end of the spigot. The walls of the spigot are provided with openings e', e^2, e^3, and e^4, preferably extending lengthwise of the spigot and arranged at a quadrant's distance from one another around the periphery of the

spigot. When the spigot is at the middle point of its path of oscillation, said partition lies edgewise in line with the flow-passages a^4 a^5, and all openings in the walls of the spigot are covered and closed by the imperviously-fitting walls of the spigot-chamber. When the spigot is swung to either limit of its movement, the partition a^{20} assumes a diagonal position with reference to the line of direction of the passages a^4 a^5, and of the two openings on that side of the partition toward the passage a^4, leading from the barrel, one coincides with the outlet of said passage a^4, while the other registers with the opening a^{10}, leading to the measuring-chamber to be filled. At the same time the two spigot-openings on the opposite side of the partition coincide, respectively, with the entrance to the outlet-passage a^5 and the opening a^{10} into the opposite measuring-chamber from the one being filled, as will be hereinafter more fully described. Two streams thus flow transversely through the spigot at the same time, one into a measuring-chamber to fill it and the other out from the opposite chamber to empty it, the partition a^{20} serving to separate said streams, as will be understood. To the spigot is secured a handle g, which is preferably held thereto by the nut f. Said handle extends horizontally outward from beneath said box or cylinder a sufficient distance to allow the same to be grasped by the hand and operated to reciprocate the spigot to allow an outflow from the measuring-chambers alternately. The said spigot may be locked in relation to the body of the faucet, so as to prevent the same from being turned and measurements from being made, and to secure such locking I prefer the construction shown in Figs. 4 and 5, where h h h' h' are lugs depending from the bottom plates d d at the extreme limits of movement of the handle. The lugs h limit the vibrations of the handle, and the lugs h' are locking-lugs. The said handle is in sections, the section j, nearest the spigot, being socketed to receive the outer or male section k and admit of the latter being turned pivotally therein. The said male part is also in sections, the part k' being held within the socket by a screw k^2, which works in a spiral groove k^3, formed in the periphery of said part k', so as to give the latter longitudinal movement when turned. Said part k' is provided with an angular head k^5 or other clutching means at its outer end adapted to receive the correspondingly-formed end k^6 of the outer part k^4, which last is removable from the part k' and from the socket. The end k of the inner section is shown in Figs. 8 and 9, and in Fig. 5 I have indicated this and also the other parts of the handle in dotted lines. By inserting the removable part k^4 and bringing it into clutching contact with the part k' of the male section and then turning said part k within the socket the part k' is caused to move longitudinally within said socket and enter at its inner end into holding contact with one of the depending lugs h' after the said handle and the spigot attached thereto are turned laterally to the limit of movement.

The capacity of the measuring-chambers is increased or diminished by means of adjustable corks or stoppers i, which entering the said chambers at suitable points may be adjusted to take more or less room therein, as may be desired. As shown in Fig. 5 one of these stoppers is pressed downwardly into the measuring-chamber to a greater extent than the other. It will readily be understood that the raising or lowering of the stoppers will increase or decrease the capacity of the chambers. In operating this portion of the device, the handle being free to be oscillated at will with the spigot, when the said handle is turned to the position shown in full line in Fig. 4 the fluid flows from the barrel through the passages a^6 a^4 a^{11}, through the coinciding spigot-passage e^3, and from thence through the spigot into and through the passages e^4 a^{10} into one of the measuring-chambers a^9, which when full measures the desired unit of quantity. At the same time the fluid in the opposite chambers a^9, should any be therein, flows out from the faucet, as will be described. The chamber a^9 having been filled, the handle g is oscillated to its opposite limit of movement, as indicated in dotted line in Fig. 4, so as to bring the openings e^3 e^4, which were before in coincidence with the passages a^{11} a^{10}, respectively, into coincidence with the passages a^{10} a^{12}, respectively, so as to allow an outflow of the measured fluid through the nozzle-passage a^7, as will be understood.

To enable the measuring-chambers to become filled with liquid from the barrel, tank, or other storage vessel A and at the same time to dispense with the air-exit valves and the objections attending the use of the same, I have formed the passages a^4 a^6 and arranged them so that they have open communication with the uppermost portions of the measuring-chambers and so that when the latter are filled there will have been a complete outflow of air through said passages from said chambers and no air will have become entrapped therein to interfere with a proper measuring. The several passages in the spigot and walls of the spigot-chamber for the liquid and air are all made of sufficient capacity to allow the free passage of air and liquid in opposite directions, as will be understood, and said passages extend upward to the level of the upper walls of the measuring-chambers to prevent the entrapment of air, as will be understood upon reference to Fig. 3.

The floor or bottoms of the measuring-chambers slope toward the centrally-arranged spigot, and the outlet-passage a^5 slopes downward to the outlet a^7, all as clearly shown in Figs. 3 and 5, this construction conducing to a free and rapid escape of the contents of the measuring-chambers at the proper time.

I am aware that various modifications and

changes in construction may be made in the arrangement of partitions and passages without departing from the spirit and scope of the invention, and consequently I do not wish to be understood as limiting myself by positive expressions in the description excepting as the prior state of the art and the claims may require.

The devices for registering the measurement may be of any construction desired. The one preferred, however, is shown in Figs. 2, 6, and 7, the registering mechanisms being so related to the measuring mechanisms as that the latter will indicate or register the measured outflow upon the turning of the handle before said outflow is actually made.

Upon the center shaft *l*, Fig. 5, which is preferably secured upon the spigot, as best shown in Fig. 5, is arranged the ratchet-wheel *m*, and at one side of the upper end of the spigot is a pin or projection *n*, which oscillates reciprocally with the spigot as the latter is turned by the handle. Adjacent to said ratchet-wheel and pin within the chamber *o* is pivoted or fulcrumed on suitable bearings, such as the bracket *p*, a curved pawl-carrying lever *r*, having a projection *q* extending normally into the path of the pin *n*, so that when said pin moves in one of its reciprocations it engages the projection and turns the lever *r* on its fulcrum. The lever *r* has at one end a pawl *s*, which normally engages the ratchet-wheel *m*, being held thereto by the spring *t*, and when the lever is actuated by the pin *n* the said ratchet-wheel is advanced one degree or tooth, and this movement is transmitted by suitable gearing to the indicating-hand at the dial. I may employ in transmitting the movement any desired and suitable mechanism.

It may be noted that the pin *n* strikes the projection *q* before the spigot and the pin thereon completes a stroke and before a new set of liquid-passages are brought into coincidence, and thus a measurement is registered before an actual dealing out, and as a result it is impossible to deal out a measurement without registering.

A spring-controlled pawl *u*, pivoted upon the bracket *p*, operates to restrict the movement of the ratchet-wheel *m* and also to prevent reverse movement thereof. The lever *r* is mounted upon the same pivot as the pawl *u*, and this pawl *u* is independent of the lever *r*.

Having thus described the invention, what I claim as new is—

1. The improved measuring-faucet herein described, in which is combined, with the cylindrical body having a horizontal partition forming upper and lower divisions of the body, vertical partitions in the lower division forming measuring-chambers, intermediate fluid-passages and a spigot-chamber having fluid-passages in its walls, a spigot arranged in said spigot-chamber, and having passages in the walls thereof adapted to coincide with those in the spigot-chamber walls, a handle, *g*, for reciprocating said spigot and indicating mechanism arranged in the upper division of the body for registering the measurements, substantially as set forth.

2. In combination with the body having a horizontal partition dividing the body into upper and lower compartments and, in the lower compartment or division, having vertical partitions arranged separately side by side and extending outwardly from a central partition forming a spigot-chamber, the passages between said partitions having open communication with said spigot-chamber and with the nozzle and shank passages respectively, measuring-chambers being formed on the outer sides of said partitions, of the nozzle and shank, the spigot and handle for turning the same, and registering mechanisms, all arranged and combined substantially as set forth.

3. The improved measuring-faucet herein described, in which is combined a cylinder having a horizontal partition dividing the space therein into upper and lower chambers or divisions, the lower space or division being subdivided to form measuring-chambers, and the upper space being inclosed by a cover *b*, and containing registering mechanisms, said horizontal partition having therein adjustable corks or plugs *i*, extending into said measuring-chambers, and protected by said cover *b*, and being adapted to vary the capacity of said chambers, substantially as set forth.

4. The improved measuring-faucet herein described in which is combined a cylinder divided by a horizontal partition into upper and lower divisions, the upper containing the registering mechanism and the lower being subdivided so as to provide measuring-chambers and a spigot-chamber, a spigot with a handle at its lower end, and at its upper end with a pin, eccentric in its relation to the axis of said spigot, and lying in the registering-mechanism chamber and operating the registering mechanism, and said registering mechanism comprising a lever having the projection *q*, and pawl *s*, a ratchet-wheel engaged by the pawl and a train of mechanisms connecting with the indicating-hand, substantially as set forth.

5. The combination with the body having measuring-chambers, passages for the liquid and registering mechanisms, of a spigot and its handle formed in sections, one of which is adapted to be brought into locking contact with the body, and the other is removable from said spigot, substantially as set forth.

6. The combination with the body, having measuring-chambers, passages and registering mechanisms, of a spigot and its handle made in sections, one of which is socketed, and has a pin or projection k^2, another of which is arranged within the socket, is spirally grooved to receive said pin or projection and is longitudinally movable to and from

locking engagement with the body, and a third is adapted to clutch said longitudinally-movable section and is removable therefrom, substantially as set forth.

7. The combination with the spigot-chamber and the spigot adapted to be oscillated in said chamber, of a socketed lever for oscillating said spigot, a bolt lying in said socket and being adapted to slide spirally upon a pin which extends through the walls of the socket into a spiral groove in said bolt, and a detachable handle adapted to enter said socket and engage the end of the bolt, substantially as set forth.

8. The combination with the spigot adapted to be oscillated, of a lever for oscillating said spigot, and a part k', connected therewith and provided with a peripheral spiral groove receiving a screw k^2, whereby as said part k' is rotated it is moved longitudinally to engage or disengage suitable stops, substantially as set forth.

9. The combination with the spigot-chamber and spigot lying therein, of a lever having a collar fastened on the spigot and a socket, an interior bolt provided with a spiral groove lying in said socket and a pin projecting through the wall of said socket into said groove, said bolt being shaped at its outer end to receive a key and at its inner end to engage suitable stops h, h', substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of October, 1898.

JONAS SJOSTROM.

Witnesses:
CHARLES H. PELL,
C. B. PITNEY.