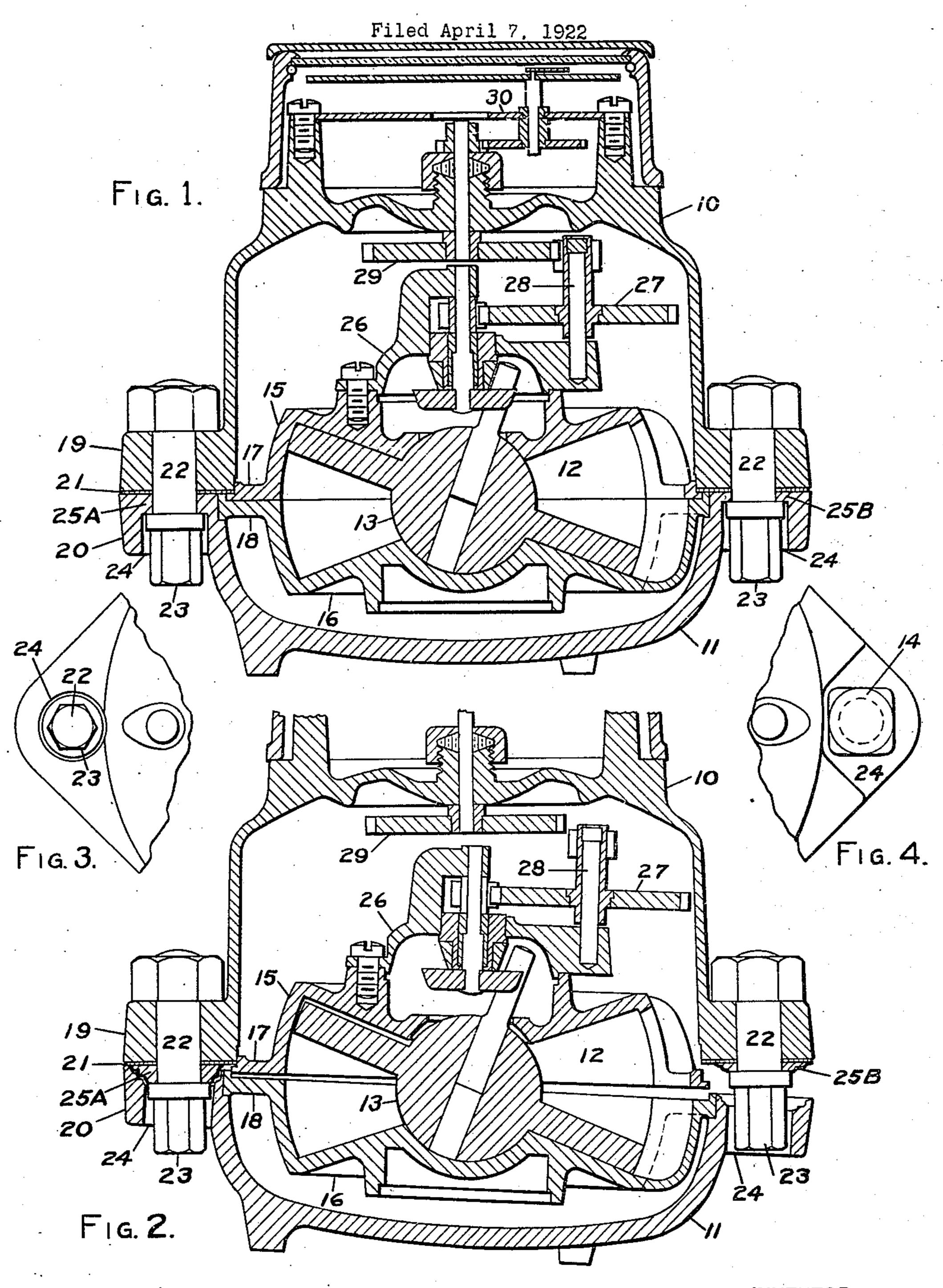
R. S. BASSETT



INVENTOR

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LIQUID METER.

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5 Erie and State of New York, have invented chamber comprises an upper part 15 and a

10 used in the measurement of liquids and more ter flange is preferably mounted in a coun-

meter by the freezing of the liquid which it the liquid, the measuring mechanism will be contains.

thereto.

Another object has been to so control the The top casing 10 is provided with a flange mechanism will be effected without damage to, or distortion of, any of the parts, especially the intermediate gear train.

their working position.

usual separation of the parts carried by the uid it contains. Since the bolts are passed

To all whom it may concern: In the drawings, 10 represents the top cas-Be it known that I, Robert S. Bassett, a ing and 11 the bottom casing. 12 is the disc citizen of the United States of America, and chamber, which is of the usual and well a resident of the city of Buffalo, county of known type, having a disc 13. The disc 55 certain new and useful Improvements in lower part 16. Each of the parts 15 and 16 Liquid Meters, of which the following is a is shown provided with a suitable mountfull, clear, and exact description. ing flange 17 and 18, respectively. The My invention relates generally to meters flange 17 rests upon the flange 18, which lat- 60 particularly to the disc type of meter. terbored recess in the bottom casing 11, The principal object of my invention has whereby, when the bottom casing is forced been to provide a meter of such a design that downwardly and released, by abnormal presminimum damage will be caused to the sure within the meter, such as by freezing of 65 allowed to move from its fixed position with-My meter is so designed that a predeter- out injuring the same. Since the parts 15 mined less expensive part will fail thus re- and 16 of the disc chamber are not fastened leasing the internal measuring mechanism together it will be obvious that these two 70 20 from its fixed position, without damage parts will also be free to separate when

freezing occurs.

failure of the predetermined less expensive 19, and the bottom casing 11 is likewise propart that the displacement of the internal vided with a flange 20. These flanges pref- 75 erably extend around the casing parts and arranged between them is a gasket 21. The bolts 22, 22, for holding the flanges 19 and The above objects and advantages have 20 together, will pass through the flanges been accomplished by the device shown in and gasket at suitable intervals, and will be 80 the accompanying drawings of which—four in number in a house size meter. As Fig. 1 is a vertical sectional view through shown in the form of device of Figures 1 my complete device, showing all parts in to 4 inclusive, the head 23 of the bolt 22 is disposed within a counterbored recess 24. Fig. 2 is a vertical sectional view through The depth of this recess is such as to leave 85 the main casing of my device after failure the metal above it in the form of a thin wall of the frangible portions of the bottom cas- 25^A and 25^B, which provides the weakened ing due to abnormal pressure within the me- part of the casing 11, which will break when ter, such as would be caused by the freezing undue presure within the meter is caused by of the liquid which it contains, showing the the freezing, or partial freezing, of the liq-90 bottom casing. through the flanges with the gasket 21 dis-Fig. 3 is a fragmentary bottom view of posed therebetween, it will be seen that the one corner of the main casing joining flange bolts may be tightened the necessary amount and shows the head 23 of the bolt 22 as lo- without danger of breaking the weakened 95 cated within a counterbored recess 24. portion of the casing 11. Due to this con-Fig. 4 is a fragmentary bottom view of struction, it will be seen that when the meter one corner of the main casing joining flange is to be used under conditions where the and shows a variation in the construction, breakable feature is desired, the bolts 22 the bolt being a standard square head ma- with their special head 23, as shown in the 100 chine bolt 14, and the recess 24 a cast recess drawings, may be used. If, however, the open on the outer side.

meter is to be used where the protection

makes it possible to have but one bottom cas-

ing for the two types of meters.

The recess 24 is shown as a circular recess, and this type would be extremely suitable cast.

Arranged above the disc chamber 12 and ing 11 are equally weak. supported by the part 15 thereof, is the gear Obviously, some modifications of the detrain gear 27 is shown mounted on the gear the top gear 29 to transmit the motion of ing device 30 of my meter. This registering ing merely a preferred embodiment thereof.

therefore, be further described.

The metal at the bottom of the recess in the form of the thin flange walls 25^A and 25^B is shown as of two thicknesses, the flange wall on the side of the meter containing the intermediate train gear 27 being thinner and marked 25^B, while the flange wall on the side of the meter opposite the train gear 27 is thicker and marked 25^A. As shown in Figure 2, the thinner flange wall 25^B will 45 to swing as on a hinge around flange wall substantially as and for the purpose de-110 25^A, eventually breaking this wall, as shown. This action, as though the bottom casing 11 were mounted on a hinge, causes the train gear 27 to become disengaged from the top gear 29 without damage, while if the flange walls 25^A and 25^B were all made of the same thickness the bottom casing 11 might swing at any angle, and if it should swing in the reverse direction from that shown, the train gear 27 would be forced against the top gear able section will fail at the extremely weak- 120 proper shape.

As the house size meter has four bolts the two bolts nearest the train gear 27 will pass through the thin flange walls as 25^B, while the two bolts farthest from the train gear 27 will pass through the thick flange walls having bearing on said top casing and said

against extreme damage by freezing is not style of frost bottom meter, four bolts would desired, bolts with larger heads may be em- bear on thin flange walls, and two bolts on ployed, the heads bearing on the outside thick flange walls, which would cause the lower surface of the flange 20, instead of en-bottom casing 11 to move as around a hinge 5 tering the counterbored recess 24 and bear- after failure at the four bolts bearing on 70 ing on the walls 25^A and 25^B as shown in the the very thin flange walls as 25^B. This feadrawings. This interchangeable feature ture of controlling the relative motion of the train gear 27 and the top gear 29 is novel and the exact form for obtaining this motion should not be limited to the construc- 75 tion shown, as any construction whereby the because, if desired, the recess could be ma-side of the bottom casing 11 nearest the train chined to the exact desired depth, though gear 27 is made slightly weaker than the it may also be cast in the flange 20 in other side of the bottom casing 11 farthest from 15 shapes as shown in Figure 4. The exact the train gear 27, will bring about the same 80 style of this recess, however, is not limited results and will cause the train gear 27 to to the styles shown. In Figure 4 the recess properly disengage from the top gear 29 24 in the flange extends out to the outer cor- without damage to, or distortion of, any of ner of the flange, which makes it more of the the parts 26, 27, 28 or 29. This overcomes 20 form of a notch in the flange rather than a the necessity of fastening the intermediate 85 pocket, and such a form would be easier to gear train to the top casing 10, as is usual where all breaking points of the bottom cas-

25 plate 26 of the meter, on which is mounted tails herein shown and described may be 90 the intermediate gear train. Intermediate made without departing from the spirit of my invention, or the scope of the appended pivot 28 in the usual manner and engaging claims; and I do not wish, therefore, to be limited to the exact embodiment herein 30 the measuring chamber disc to the register- shown and described, the form described be- 95

device with its connected gearing is common The recess 24 might be located in the top and well known in the art and will not, casing 10, and the position of the bolts reversed, if it is desired to replace the top casing 10, rather than the bottom casing 11. 100

Having thus described my invention, what

I claim is:

1. A liquid meter comprising a top casing, a bottom casing, meeting flanges for said casing parts, the flange of one of said parts 105 having perforations and recesses surrounding said perforations to provide frangible portions, and fastening means passing break first, allowing the bottom casing 11 through said flanges and recessed portions; scribed.

2. A liquid meter comprising a main casing, an internal measuring mechanism, and means for holding said mechanism in place, said means having a predetermined break- 115 able section with certain portions of minimum strength and certain portions with materially increased strength, so that at a certain predetermined pressure the break-29, and the gear plate 26 and other parts of ened sections and will move as if hinged on the meter might be distorted from their said portions of slightly increased strength; substantially as and for the purpose described.

3. A liquid meter comprising a top cas- 125 ing, a bottom casing, an internal measuring mechanism, an intermediate train of gears as 25^A. In case of a meter with six bolts, internal measuring mechanism, and frangwhich would be the extreme number for this ible means of predetermined different 130

strengths for holding said internal measuring mechanism in place, the part of said intermediate train of gears mounted on said purpose described.

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ible portion of said holding means of greatest strength; substantially as and for the

ROBT. S. BASSETT.

W. J. CHELLEW, CHAS. K. BASSETT.