

G. B. MASSEY.

Water Gage.

No. 62,144.

Patented Feb. 19, 1867.

Fig. 1

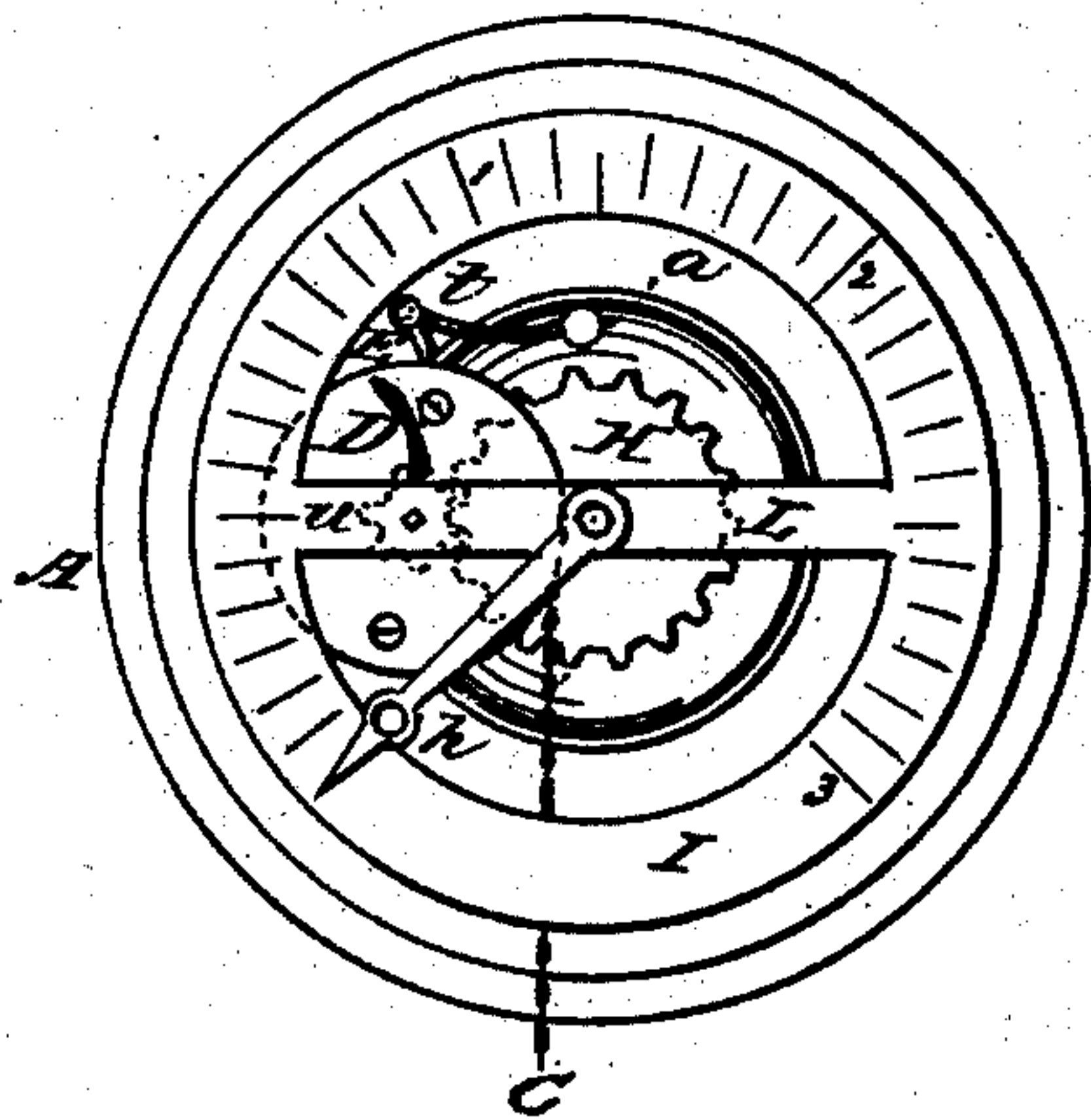


Fig. 2

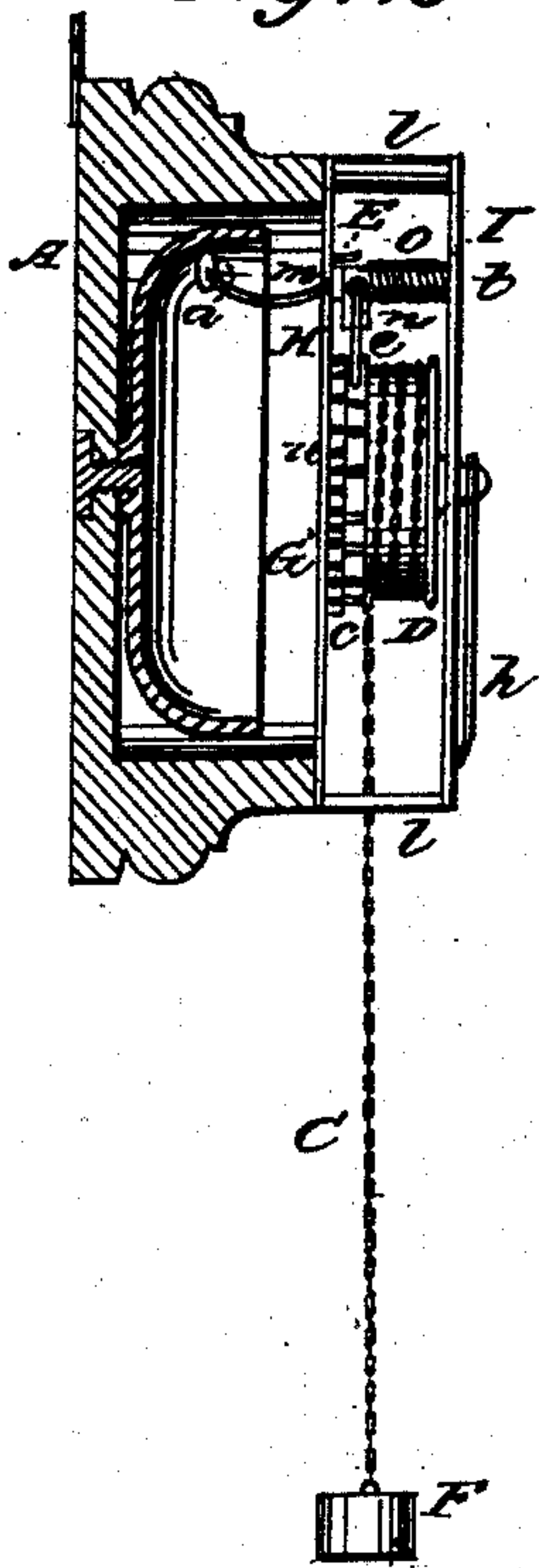
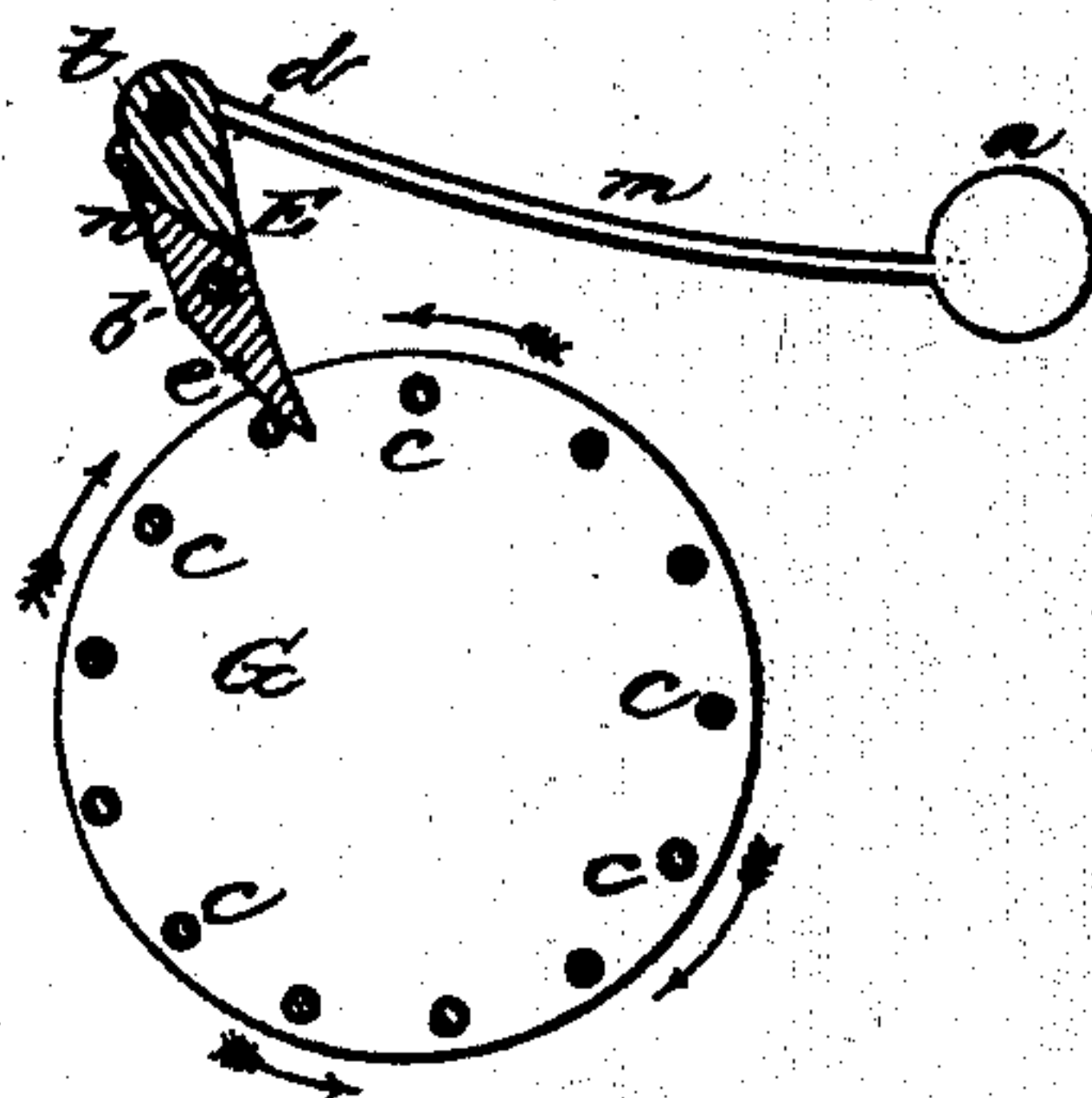


Fig. 3



Witnesses:

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United States Patent Office.

G. B. MASSEY, OF NEW YORK, N. Y.

Letters Patent No. 62,144, dated February 19, 1867.

IMPROVED LEAKAGE ALARM FOR VESSELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, G. B. MASSEY, of New York, in the county of New York, and State of New York, have invented certain new and useful improvements in Leakage Alarms and Registers for Vessels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur. To enable others skilled in the art to construct and use my invention I will proceed to describe it.

My invention consists in certain improvements in the construction of leakage alarm and registers for vessels, the invention having reference to improvements upon the device patented to me on the 11th day of August, 1857.

Figure 1 is a front view of my improved device.

Figure 2 is a vertical section; and

Figure 3 is a view of a portion detached.

In the drawings, A represents the frame or case, which is circular in form, and is recessed, as represented in fig. 2, with a bell, B, secured therein, these parts being similar to those described in my patent above referred to. To the front of this case, A, are secured two metal plates, secured together by posts or pins, *l*, the front plate I forming a dial, as represented in fig. 1, and having marked on its face a series of numbers indicating feet, with the spaces between graduated to indicate inches; these parts being similar in their general construction to my former instrument. Across the centre of the face extends a bar, L, as shown in fig. 1, and to this bar is secured a drum, D, as shown. Within this drum is placed a coiled spring, which tends to turn the same in such a manner as to wind up the chain C on the drum. Attached to the drum D is a pinion, *u*, which gears into a wheel, H, located at the centre of the face, and to the shaft of which is secured a hand or index, *h*, as shown clearly in fig. 1. To the back side of the drum D is attached a plate, G, this plate being circular in form, and corresponding in size with the drum D. The plate G is connected to the drum D by a series of pins, *c*, placed at equal distances in a circle around near the edge of the plate, as shown clearly in fig. 3, thus forming, as it were, a series of ratchet-teeth or cogs. A hammer, *a*, attached to a suitable arm, *m*, is pivoted at *t*, and the arm *m* bent so as to bring the hammer *a* within the bell, as represented in figs. 1 and 2. An elbow or arm, E, is attached rigidly to the arm *m* of the bell, as shown in fig. 3. This arm, E, consists of an upper and rigid part, *d*, and a lower portion, *e*, which is pivoted to *d* at *b*. The rear portion of this pivoted portion, *e*, extends obliquely up behind *d*, as represented in fig. 3, in such a manner that while it is free to move in the direction of the hammer *a*, it cannot move in the opposite direction beyond a given point without locking against the part *d*, as represented in fig. 3, and thus rendering the arm E rigid. A flat spring, *n*, is fastened to the rear face of *d* in such a manner as to press against the rear face of *e*, above the pivot *b*, thereby tending to keep the part *e* in line with *d*, as shown in fig. 3.

If, now, the drum D, with the plate G, is rotated in the direction indicated by the black arrow, it will be seen that the pin *c* will strike against the point *e* of arm E, thereby depressing the hammer *a*, until the pin *c* has passed the point of *e*, when the hammer will fly up and strike the bell; this upward movement of the hammer being secured by the spring *o*, coiled around the pivot *t*, as shown in fig. 2. When, however, the drum is rotated in the opposite direction, as indicated by red arrow, the point *e* will yield or turn on its pivot *b*, and permit the pins *c* to pass without affecting or moving the hammer. To the end of the chain C is attached a float, F, which is weighted to correspond with the tension of the spring in drum D, so as to keep this float on the surface of the water in the hold of the vessel. When the water rises the float will rise also, thereby permitting the drum to revolve and wind up the chain, the revolution of the drum at the same time causing the bell to ring and give the alarm, and also to move the index over the dial to indicate the height to which the water has risen. As the water subsides the float will fall, thus unwinding the chain, and at the same time winding up the spring again; the operation of the instrument in this respect being the same as described in my former patent.

Having thus described my invention, what I claim, is—

1. The drum D, having the plate G attached thereto by the pins *c*, or an equivalent device, in combination with the jointed arm E of the hammer, when arranged to operate as and for the purpose set forth.
2. The combination of the drum D, having the plate G and pinion *u* attached, with the wheel H, index *h*, and dial I, the drum being operated by the rising and falling of the float F, as shown and described.

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Witnesses:

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