

I. F. THOMPSON.

Speed Measure.

No. 14,328.

Patented Feb. 26, 1856.

Fig. 1

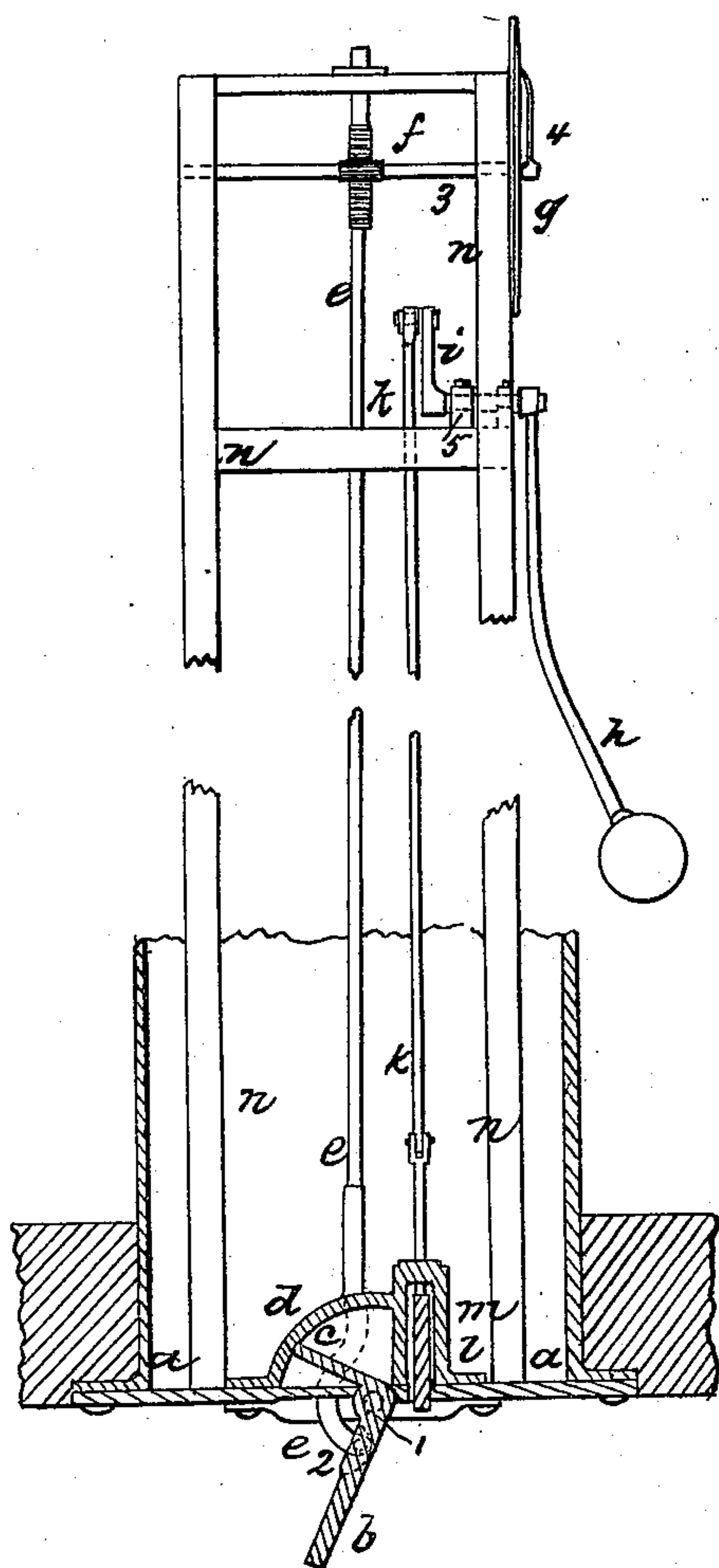
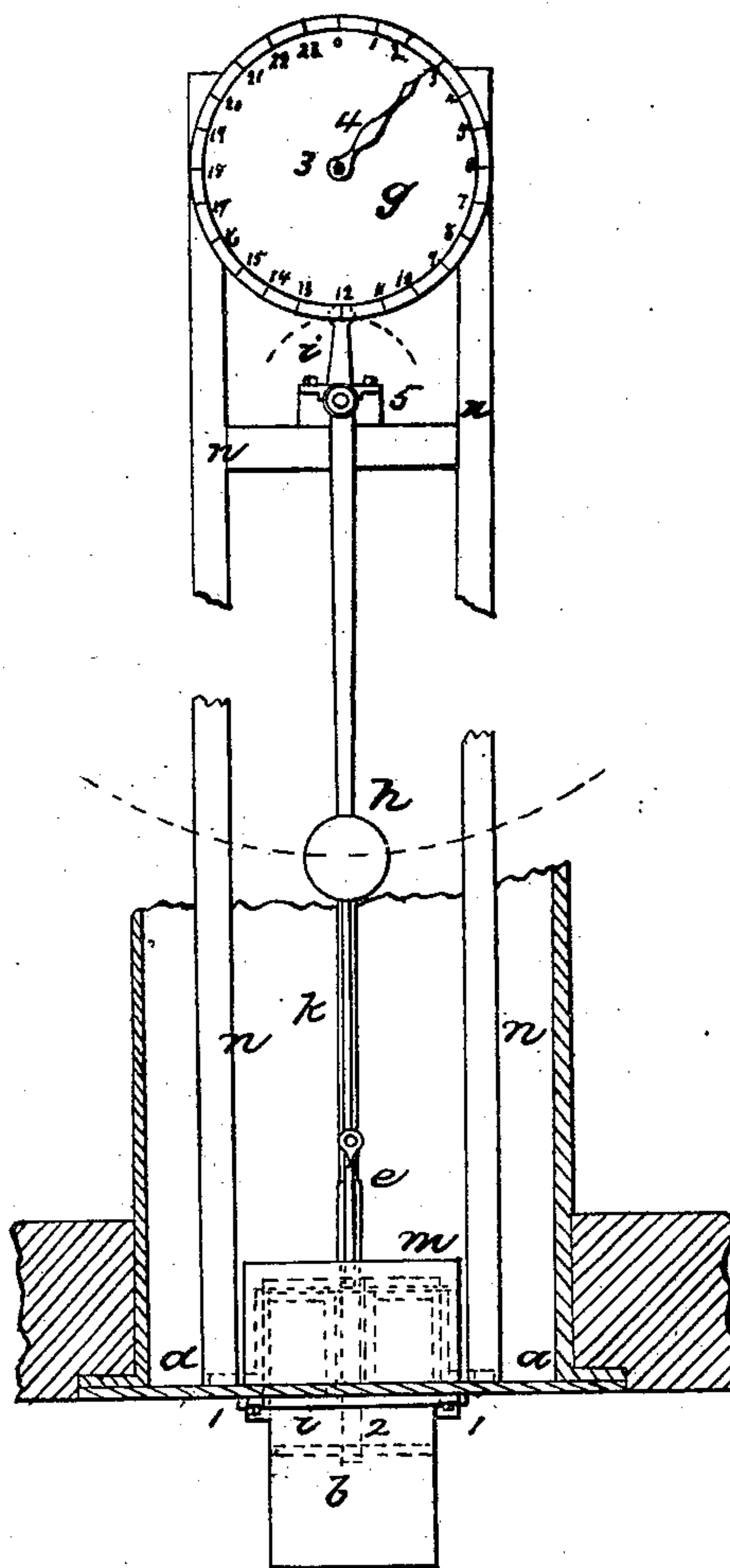


Fig. 2



Witnesses
 Lemuel W. Perrell.
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UNITED STATES PATENT OFFICE.

IRA F. THOMPSON, OF WESTERLY, RHODE ISLAND.

VELOCIMETER FOR VESSELS.

Specification of Letters Patent No. 14,328, dated February 26, 1856.

To all whom it may concern:

Be it known that I, IRA F. THOMPSON, of Westerly, in the county of Washington and State of Rhode Island, have invented, made, and applied to use certain new and useful Improvements in Velocimeters for Vessels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1, is a vertical sectional elevation of my apparatus complete as ready for use, and Fig. 2, is an end elevation of the same.

Similar marks of reference indicate the same parts.

The nature of my said invention consists in so arranging and applying a pendulum or weighted lever that when the vessel is heeled over or inclined by press of canvas or otherwise the same acts on a gate or slide passing down in front of a drag or bucket the inclination of which drag in passing through the water denotes the speed of the vessel. By these means the water is shielded and kept from the drag by the gate or slide, proportioned to the amount that a vessel heels over, compensating for the difference of density of the water as the velocimeter may be brought nearer the surface by the inclination of the vessel, and also compensating for the amount of weight relieved from its vertical pressure or the drag in consequence of the inclined position of the parts by the bearings of the same taking a portion of weight on the drag.

a, is a metallic plate attached to the bottom of the vessel and fitted with a watertight pipe extending up to above the water line and this plate carrying the parts of my apparatus may be located at or near the pump well, or any other convenient part of the vessel.

b, is a drag acting vertically and set so as to swing on centers 1, 1, into any inclined position to which the water may move the same as said drag is drawn through the water, thereby indicating by its inclined position the speed of the vessel. On the upper end of this drag *b*, at nearly right angles to said drag are small buckets or pistons *c*, *c*,

so set and fitted that they act within metallic cases *d*, *d*, which are in a curved form from the centers 1, and coincide with and nearly touch the buckets *c*, *c*, and the upper end of the drag *b*, being formed as a round hub or axis and setting into the lower part of these cases *d*, makes the same nearly watertight, so that any sudden lurching or pitching of the vessel will not effect the drag, because said drag has to change its position or inclination very slowly as the confined water within the cases *d*, *d*, gradually passes or leaks from one side of the pistons *c*, to the other.

e, is a rod jointed at 2, to the drag *b*, and extended up to the deck or any other convenient place, where the same is fitted with a rack acting on a pinion *f*, or other suitable means for rotating the shaft 3, and by its hand 4, and dial *g* indicating the speed of the vessel.

h, is a pendulum or weighted lever on an arbor or shaft in bearings 5, on the frame (*n*) of the machine or other suitable place and *i*, is an arm or crank from said shaft with a pin taking the connecting rod *k*, that is jointed at its lower end to the rod of the gate or slide *l*. This slide *l*, is fitted in a box *m*, so that as the vessel heels over, and inclines the velocimeter drag and rod sideways, the said pendulum hanging vertical will depress the slide *l*, more or less according to the inclination of the vessel, and this slide or gate acting in front of the drag *b*, will shut off or shield the same from the action of the water so that there will not be so much power exerted to incline the drag, thereby compensating for the amount of weight acting to keep the drag down which is relieved from said drag by resting on the bearings instead of the drag when in the inclined position, and also compensating for any variation in the density of the water should the inclination of the vessel bring the velocimeter nearer the surface.

In making use of the velocimeter I contemplate using adjustable weights applied to keep the rod *e*, down and resist the tendency of the drag to come into a horizontal position, and these weights are to be so arranged and applied that as the vessel draws

less water in consequence of the consumption of coal or provisions so the weights can be removed as the density of the water becomes less in consequence of the depth of the
5 velocimeter below the surface.

What I claim and desire to secure by Letters Patent is—

The gate or slide *l*, actuated by the vertical weighted lever or pendulum *h*, in com-

bination with the hinged drag *b*, in the 10 manner and for the purposes specified.

In witness whereof I have hereunto set my signature this fourth day of December 1855.

IRA F. THOMPSON.

Witnesses:

LEMUEL W. SERRELL,
THOMAS G. HAROLD.