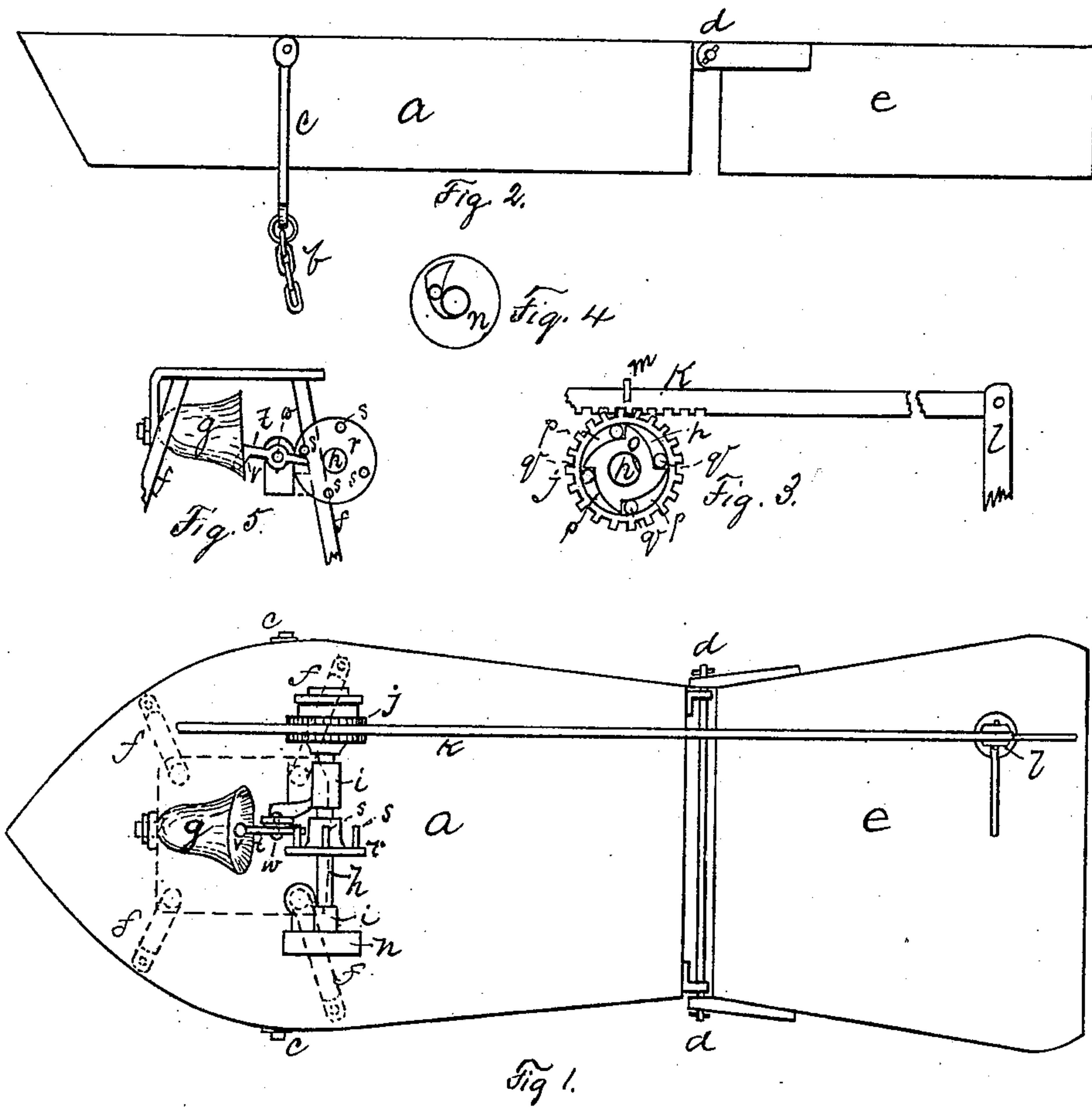


(No Model.)

W. R. CLOSE.
Bell Boat.

No. 238,572.

Patented March 8, 1881.



Witness
Arthur M. Mason
J. M. Mason

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UNITED STATES PATENT OFFICE.

WALTER R. CLOSE, OF BANGOR, MAINE.

BELL-BOAT.

SPECIFICATION forming part of Letters Patent No. 238,572, dated March 8, 1881.

Application filed December 2, 1880. (No model.)

To all whom it may concern:

Be it known that I, WALTER R. CLOSE, of Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Bell-Boats; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 shows a plan; Fig. 2, side elevation of the boats or floats; Fig. 3, detail of clutch mechanism; Fig. 4, detail of same; Fig. 5, detail of bell and striker.

Same letters indicate like parts.

My invention consists of an improved "bell-boat," so called, and is so constructed and arranged as to insure the ringing of the bell in all weathers with an approximately accurate interval between the peals, which interval may be regulated as hereinafter described.

I effect my purpose by mechanism operated by the motion of the waves or tide, as will be understood by reference to the accompanying drawings, in which—

At *a* is shown a boat or float preferably constructed of boiler-iron or similar durable material, and anchored by a chain or cable, *b*, which I prefer to place at or about one-third the length of the boat from the bows and directly under the keel, as I consider that this arrangement secures the maximum degree of motion to the boat. The chain is most conveniently attached to a swinging yoke, *c*, passing around and under the boat, and having its upper ends pivoted at or near the deck.

At the stern of the boat *a* is attached, by a joint, *d*, a second boat or float, *e*, in such a manner that, as the motion of the waves pitches the two boats or floats *a e*, they will rise and fall alternately upon their connecting-joint.

The boat *a* carries near its bows or at the point of greatest motion standards *f f f f*, supporting a bell, *g*. Attached to these standards is a shaft, *h*, turning in journal-boxes *i*. This shaft carries upon it a gear, *j*, which is operated by a rack, *k*, upon a rod pivoted to a standard, *l*, upon the second or rear boat or float, *e*, and is held in place upon the gear *j* by a spring or weight, *m*. The gear *j* is not keyed to the shaft, as usual, but is attached by a friction-

clutch mechanism which bites the shaft when the gear is revolved by the motion of the rod in one direction, and permits its free revolution around the shaft when turned the opposite way. One of the journal-boxes of the shaft is provided with a similar device, as at *n*, so arranged as to tightly clutch the shaft and prevent its revolution in the undesired direction. A detail of an appropriate mechanism to effect these results is shown at Fig. 3, though I do not limit myself thereto, *j* being the gear surrounding but not secured to a block, *o*, keyed to the shaft *h*, and provided with quasi-triangular cavities *p p p p*, one side being formed by the inner surface of the gear-wheel. In these cavities are loose balls or trucks *q*, just fitting the wide part of the cavities and revolving freely in that position. As the gear *j* revolves from right to left, as shown in this sketch, the friction against the interior surface of the gear forces the balls or trucks *q* into the narrow part of the cavities, binding upon the inner circumference of the gear and causing the shaft to revolve with the gear and block. *Per contra*, revolution from left to right permits the balls to drop into the wide part of the cavity, producing no effect on the shaft, the gear turning freely upon the block *o* and revolving the balls or trucks upon their axes in the cavities.

Enough has been described to make it plain that the motion of the boats or floats produced by the waves revolves the shaft *h* in one direction. This revolution is utilized as follows: Upon the shaft *h* is secured a disk, *r*, provided with projecting pins *s* of any convenient number. This disk, as the shaft revolves, turns with it, and the pins *s* act in turn upon the end of a lever, *t*, pivoted at *w*, and carrying a tongue or striker upon its other end, which, when down, is in contact with the suspended bell *g*, before referred to. The action of the pins in their revolution raises the hammer, allowing it, as they pass, to fall on the bell. The rapidity of the stroke may be approximately regulated by varying the number of pins in the disk. The bell is preferably placed with its mouth toward the stems of the boats *a e*, as the boats will naturally be head to wind, and the bell and mechanism will in such case be more effectually protected from the weather.

I do not here claim the devices claimed in my application for a patent on improvements in bell-towers, filed December 2, 1880, this patent being intended to apply to bell-boats only.

5 What I claim as my invention, and desire to secure by Letters Patent, is—

10 1. The double bell-boat herein described, consisting of the two floats or boats *a e*, connected by a joint, *d*, one of said floats having the bell and striking apparatus thereon, and the other connecting mechanism—to wit, the pivoted rack-rod *k*—by which said apparatus may be operated by the motions of the floats, substantially as and for the purposes set forth.

15 2. In combination with the boats or floats *a e*, the rack-rod *k*, pivoted upon the boat *e*, gear *j*, shaft *h*, capable of revolution in one direc-

tion only, disk *r*, pins *s*, bow *t*, striker *v*, and bell *g*, secured to the boat *a*, and operating as and for the purposes set forth. 20

3. In combination with a suspended bell, *g*, the shaft *h*, rotating in one direction only and operating a striker, *v*, with a float and connecting mechanism, said float being subject to the action of the waves and tide and transmitting motion to the striker, substantially as and for the purposes set forth. 25

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of November, 1880.

WALTER R. CLOSE.

Witnesses:

JOHN R. MASON,

WM. FRANKLIN SEAVEY.