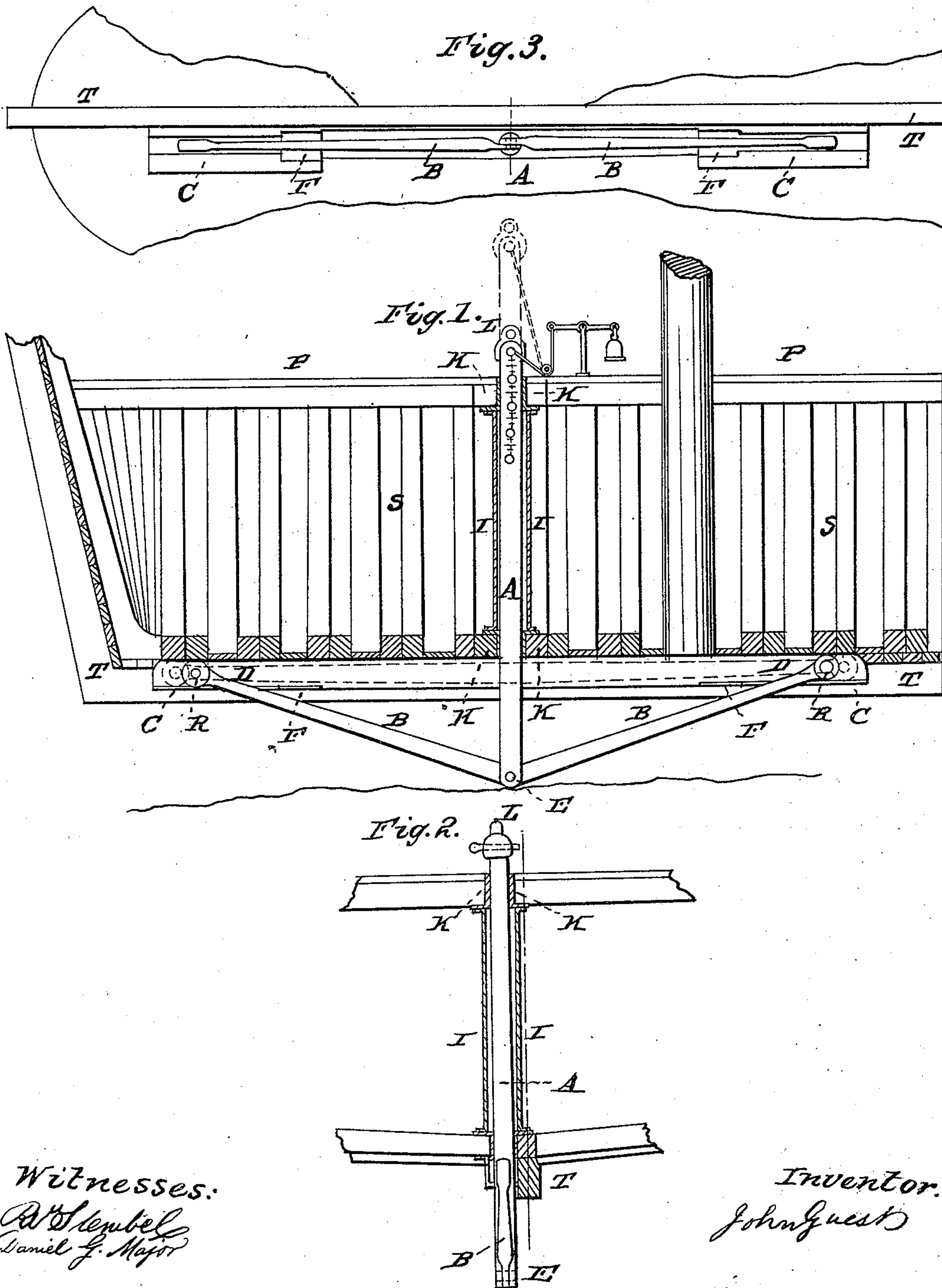


J. GUEST.
Shoal Alarm.

No. 15,319.

Patented July 8, 1856.



Witnesses:
A. S. Knebel
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Inventor.
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UNITED STATES PATENT OFFICE.

JOHN GUEST, OF WASHINGTON, DISTRICT OF COLUMBIA.

SOUNDING-GUARD FOR VESSELS.

Specification of Letters Patent No. 15,319, dated July 8, 1856.

To all whom it may concern:

Be it known that I, JOHN GUEST, lieutenant, U. S. Navy, of Washington, District of Columbia, have invented a new and useful machine to attach to the bottoms of vessels for the purpose of sounding through the bottom and to act as a protector by giving an alarm when a given depth of water is reached, which I have named the "Sounding-Guard"; 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 drawings, making a part of this specification, in which—

Figure 1 is a longitudinal elevation; Fig. 2, a cross section or perspective view; Fig. 3, the plan at bottom of the vessel.

Reference being had to drawing Fig. No. 1, S S is a section of a vessel's frame; P, P, the spar deck; T T, the keel. A is a rod of metal passing through the ship from spar deck to keel, inclosed in a metal pipe I I which pipe is bolted to flanges on castings K K which castings K K K K serve as the upper and lower guides at the spar deck and bottom of the ship respectively for the sounding rod A. The shackle and pin at L are for the purpose of resting the rod A on the deck and also to hook on a tackle to hoist up under the bottom when the "guard" is not in use. The holes in rod A are to set the machine to the required depth. At E, the lower end of rod A the radius bars B B are attached by a toggle joint as shown in Fig. 2. The upper ends of radius bars B B work in grooved castings C, C on a joint and rollers R R (or other guides). At F F the grooves C C are widened to admit of the upper ends of the radius bars B B falling out when the rod A is lowered through the bottom of the ship. Fig. 1 shows the machine when down for use, the rod A is marked in feet so as to show on the spar deck, the number of feet of water under the bottom when the end of the rod or the radius bars B come in contact with the ground, the bars B B serve as fenders to prevent the rod A from breaking or bending and to shut it up as the water shoals. A bell is attached to the pin of the shackle L so that an alarm is given the instant the rod A rises above the mark at which it was set.

When the "sounding guard" is not in use

it is shut up by means of a tackle on deck and appears as in Fig. 3, under the bottom of the vessel. The pin from the shackle L is put through the lower hole and prevents the rod A from falling.

The red ink lines in Fig. 1 show the position of all parts of the machine when shut up.

Should any damage occur to the machine which might prevent it from working, it may be lowered by a rope through the bottom of the vessel and then grappled and hauled on board by means well known to seamen and this is the use of the opened ends of the grooves C C at F as before mentioned.

The machine may be attached to any part of the bottom of the vessel or to the side of the keel with a trifling change of arrangement. These drawings show it attached to the next plank to the keel.

The advantages proposed to be gained by the use of this machine are as follows:

1st. It dispenses with the leadsmen, thus adding to the effective force for working ship and preventing the labor, hardship and exposure of men in the chains which in cold or stormy weather is sometimes unendurable.

2nd. It is correct at any speed. It is well known to seamen that when a vessel is going rapidly over the bottom correct "up and down" soundings are seldom procured. The ignorance, carelessness or mistakes of the leadsmen often produce the most disastrous results all of which are obviated by this "sounding guard." At night the difficulty in sounding with the lead and line is very great for the leadsmen not being able to see the marks on the line can only feel and guess. This machine will act as well by night as day. In a sea way the lead and line give no correct soundings, while the machine going down with the ship always make the least water.

3rd. It is instantaneous in its action and constant. Thus the danger arising from the interval between one cast of the lead and the next is avoided. Ships often go on shore between the casts of the lead.

4th. The depth of water under the bottom is known (when in soundings) without knowing the draft of the ship.

5th. It is likely to produce a feeling of confidence and security in the navigator

which the lead and leadsman do not and thus enables him to devote his time and energies to working his vessel instead of the greater part being expended watching the
5 leadsman.

6th. For surveying purposes in shoal water it is well adapted—saves time, labor and above all is accurate, presenting a constant register to the person recording sound-
10 ings.

7th. In passing over banks or working up a channel at night, giving the alarm at the instant of approaching danger it is invaluable to the navigator.

I claim as my invention and desire to se- 15
cure by Letters Patent,

The mechanical construction of the machine herebefore described and especially the attachments (referring to the drawing) of the radius bars B B working in the 20
grooves C, C by which I am enabled to indicate the approach to shoal water whether the vessel be going ahead or astern.

JOHN GUEST.

Witnesses:

DANIEL G. MAJOR,
E. F. PHELPS,
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