No. 871,556. PATENTED NOV. 19, 1907.

W. BANGS.

SHOAL INDICATOR.

APPLICATION FILED MAR. 25, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

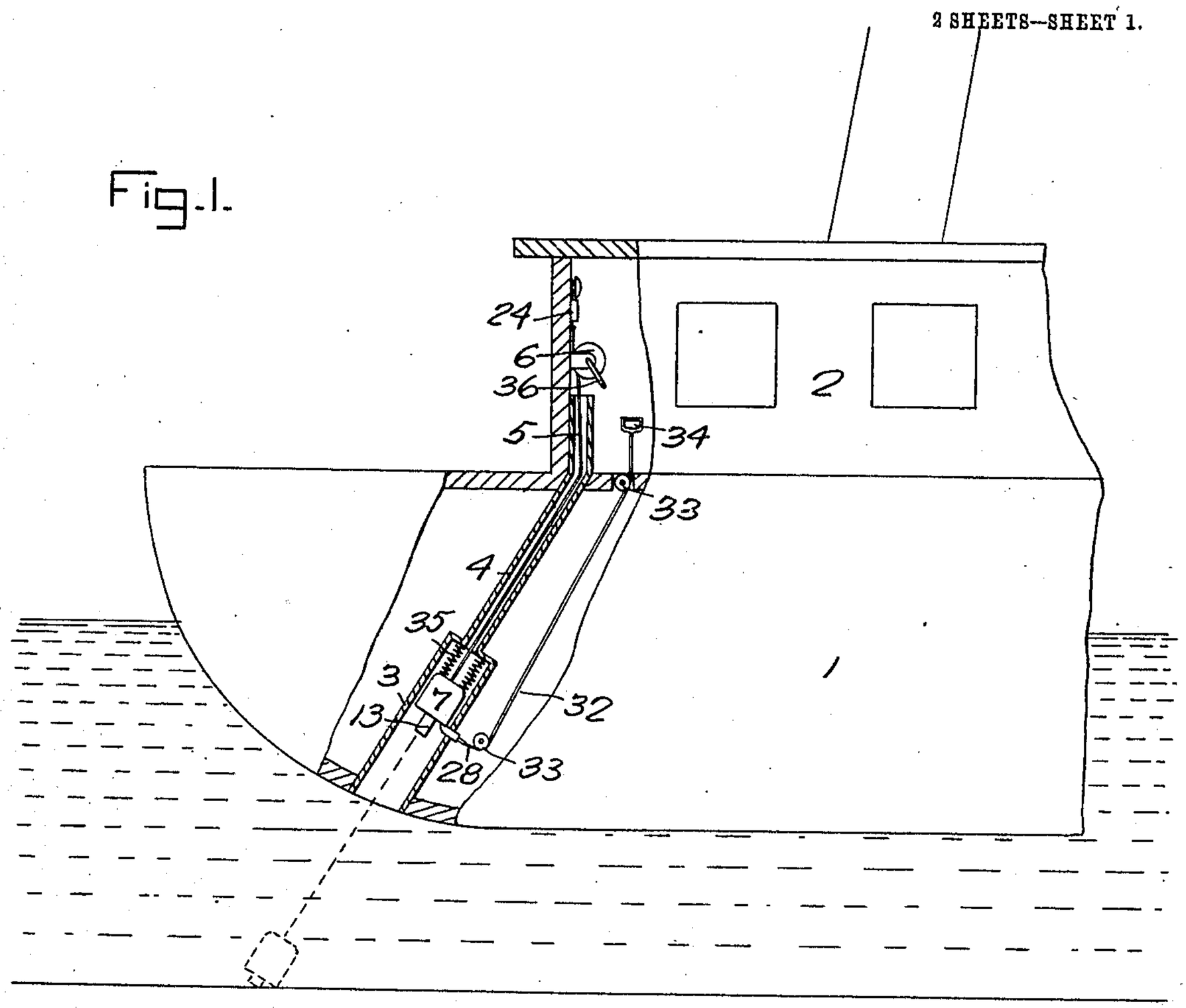
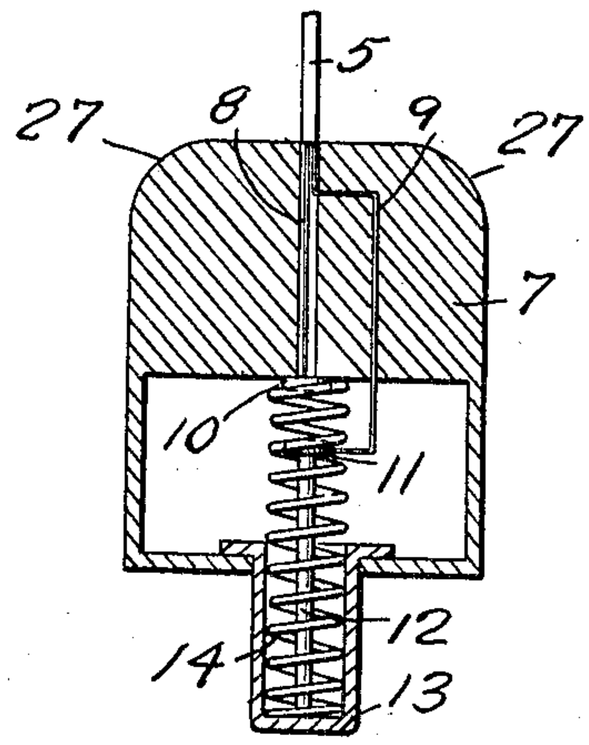


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

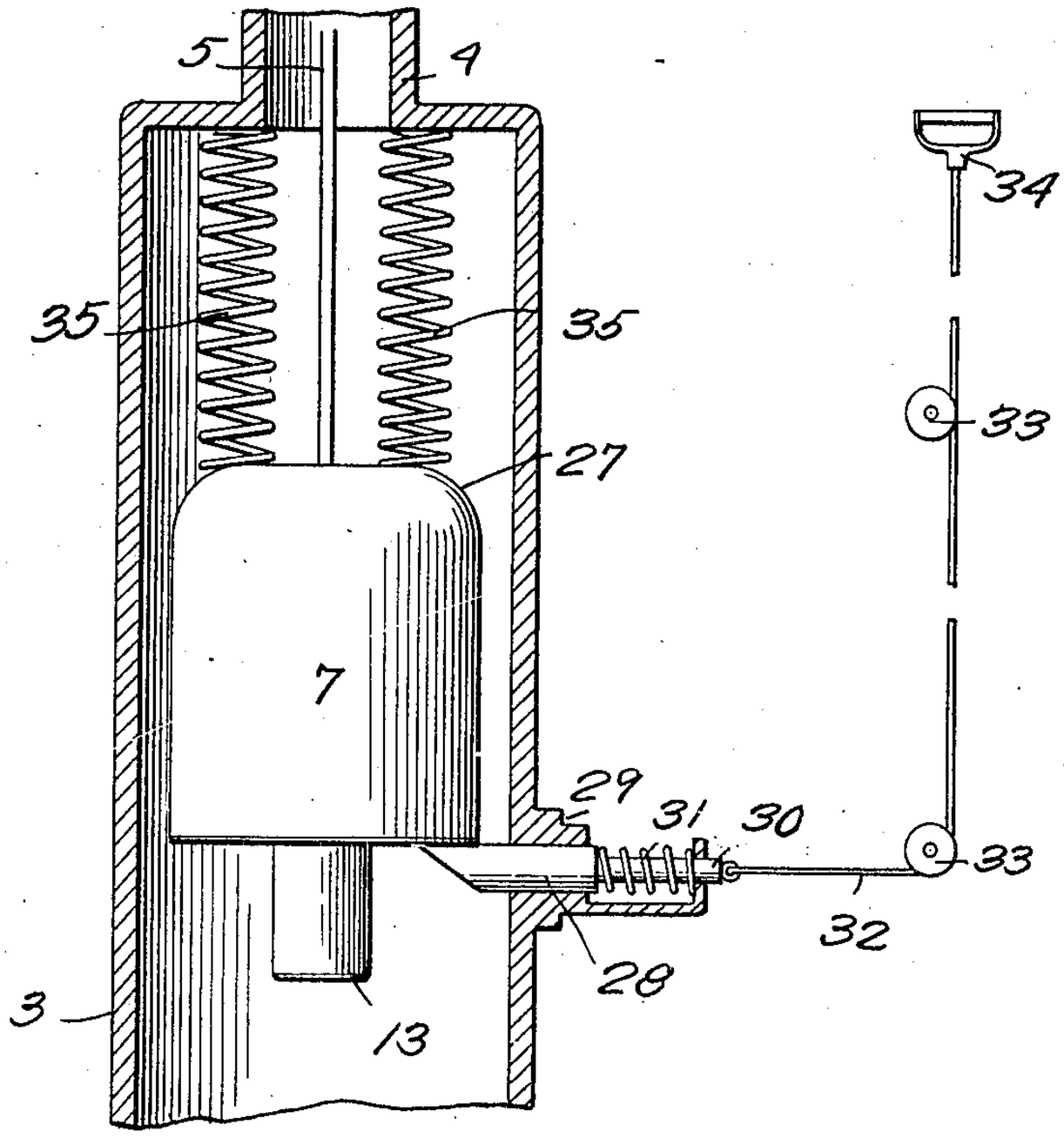
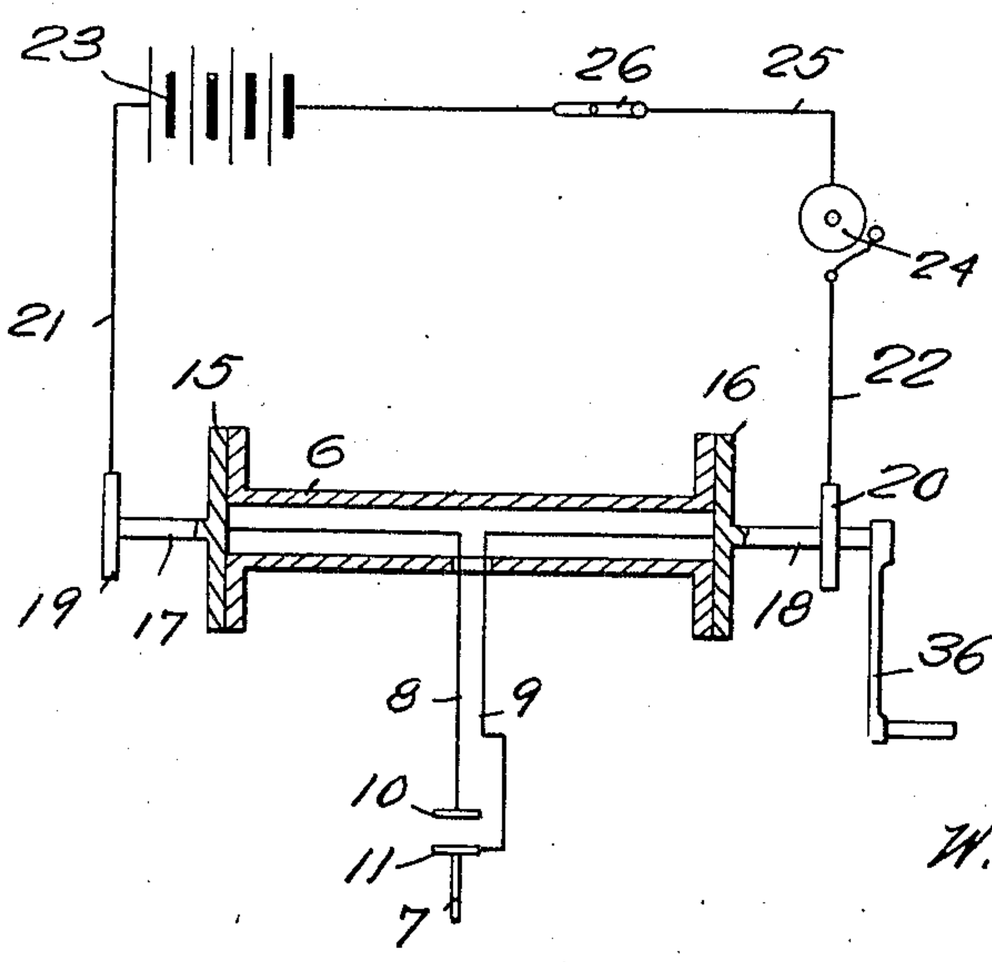


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM BANGS, OF FORT FRED STEELE, WYOMING.

SHOAL-INDICATOR.

No. 871,556. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed March 25, 1907. Serial No. 364,467.

To all whom it may concern:

Be it known that I, WILLIAM BANGS, a citizen of the United States; residing at Fort Fred Steele, in the county of Carbon, State of Wyoming, have invented certain new and useful Improvements in Shoal-Indicators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in shoal locators and indicators, and has for its object to provide an apparatus of the above type embodying a novel construction, combination and arrangement of parts, the details of which will appear in the course of the following description, in which reference is had to the accompanying drawings forming a part of this specification, like characters of reference designating similar parts throughout the several views, wherein:—

Figure 1 is a central longitudinal section partly in side elevation of a vessel equipped with a shoal locator and indicator constructed in accordance with the present invention. Fig. 2 is an enlarged central longitudinal section of the lead embodied in the invention. Fig. 3 is a central longitudinal section of a well included in the vessel and through which the lead is movable, and Fig. 4 is a diagrammatic view illustrating the electrical connections closed when the lead strikes bottom.

Referring specifically to the accompanying drawings, the numeral 1 designates a vessel having a cabin 2 and a well 3. The well 3 carries at its upper end a conductor 4 leading to the cabin and a cable 5 is projected through said conductor and into the well. The cable 5 at its upper end is fixed to a reel 6, and at its lower end carries a lead 7. The cable 5 is constructed of flexible insulating material within which are molded wires 8 and 9 insulated from one another, and projecting through the upper end of the cable. The lead 7 comprises a body portion within which is disposed a stationary contact 10, connected to the wire 8, and a movable contact 11 connected to the wire 9. The contact 11 has a stem 12 projecting through the body portion 7, and carrying at its outer end a push button 13 of cup shape, within which is disposed an expansive coil spring 14 surrounding the stem 12, with one end bearing against the button 13 on the interior thereof, and the other end fixed to the body portion 7. The wires 8 and 9 projecting from the upper end of the cable 5, are electrically connected to plates 15 and 16 carried upon the reel 6, the latter in turn bearing with their projected portions 17 and 18 against contact members 19 and 20. Wires 21 and 22 lead from the contact members 19 and 20, the wire 21 leading to a battery 23, and the wire 22 leading to an electric bell or other alarm 24. A wire 25 leads from the battery 23 to said alarm, and a switch 26 is interposed in said wire 25. The lead 7 is formed with a curved upper portion 27, which serves as a cam to engage the inclined edge of a sliding catch 28, projected through the well 3 and mounted in brackets 29. The catch 28 has a rearwardly extending shank 30, upon which is interposed a coil spring 31, bearing against said catch and having its end fixed to a stationary object. A cord or wire 32 is connected to the end of the shank 30, and is guided by idle pulleys 33, to the cabin 2. Within said cabin the wire 32 carries a handle 34 by which it may be pulled to withdraw the catch 28 from the well 3 and release the lead 7. Expansive coil springs 35 are arranged at the upper end of said well, and bear with their free ends against the upper surface of the lead 7. When the catch 28 is withdrawn from the well, the springs 35 force the lead downwardly, the action of the latter being accelerated by momentum. When the lead 7 is started downwardly by the springs 35, it gravitates until it strikes bottom, the cable 5 unwinding from the reel 6. Said cable is wound upon said reel by a crank handle 36.

The manner of use will be readily apparent from the foregoing description. Assuming that it is desired to take a sounding, the cord or wire 32 is pulled to release the catch 28, at which time the lead 7 will be forced out of the well 3 in the manner described until it strikes bottom. When said lead strikes bottom, the push button 13 will be forced inwardly and the contact 11 will engage the contact 10, thus closing the circuit between the wires 8 and 9, and, the switch 26 being closed, operating the electric alarm 24 within the cabin. The sounding is then taken and the reel 6 rotated by the crank arm 36 to rewind the cable 5 thereupon. As the lead 7 is drawn into the well 3, its curved upper surface 27 engages the catch 28 as a cam and

forces said catch rearwardly, thus allowing the lead 7 to pass thereby. When the lead 7 has wholly passed the catch 28, the spring 31 will force said catch into the well 3 and will engage the underneath surface of said lead to prevent its displacement except at the option of the operator.

From the foregoing description, it will be seen that simple and efficient means are provided for accomplishing the objects of the invention, but while the elements herein shown and described are well adapted to serve the purposes set forth, it is obvious that various minor changes may be made in the proportions, shape and arrangement of the several parts without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

A device of the type set forth, comprising the combination with a vessel, of a well, a reel, a cable connected to said reel and having two insulated electric wires therein, a battery, wires leading from said battery to said reel and having electrical connection with respect to the first named wires, an electrical arm included in said battery wires, a lead carried upon the end of said cable and including a fixed contact member and a movable contact member, said first named wires having respective connection with said members, a projected stem carried by said movable contact member, a push button carried by said stem, a spring for holding said movable member normally out of engagement with said stationary member, a sliding catch projected through said well and designed for engagement with said lead to sustain the same in said well, means for withdrawing said catch from said well, a spring for forcing said catch into said well, and springs arranged in the upper end of said well and adapted to bear upon said lead.

In testimony whereof, I affix my signature, in presence of two witnesses.

WILLIAM BANGS.

Witnesses:
J. W. Brown,
M. W. Shofe.