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AUTOMATIC SHIP'S TELEGRAPH ALARM.

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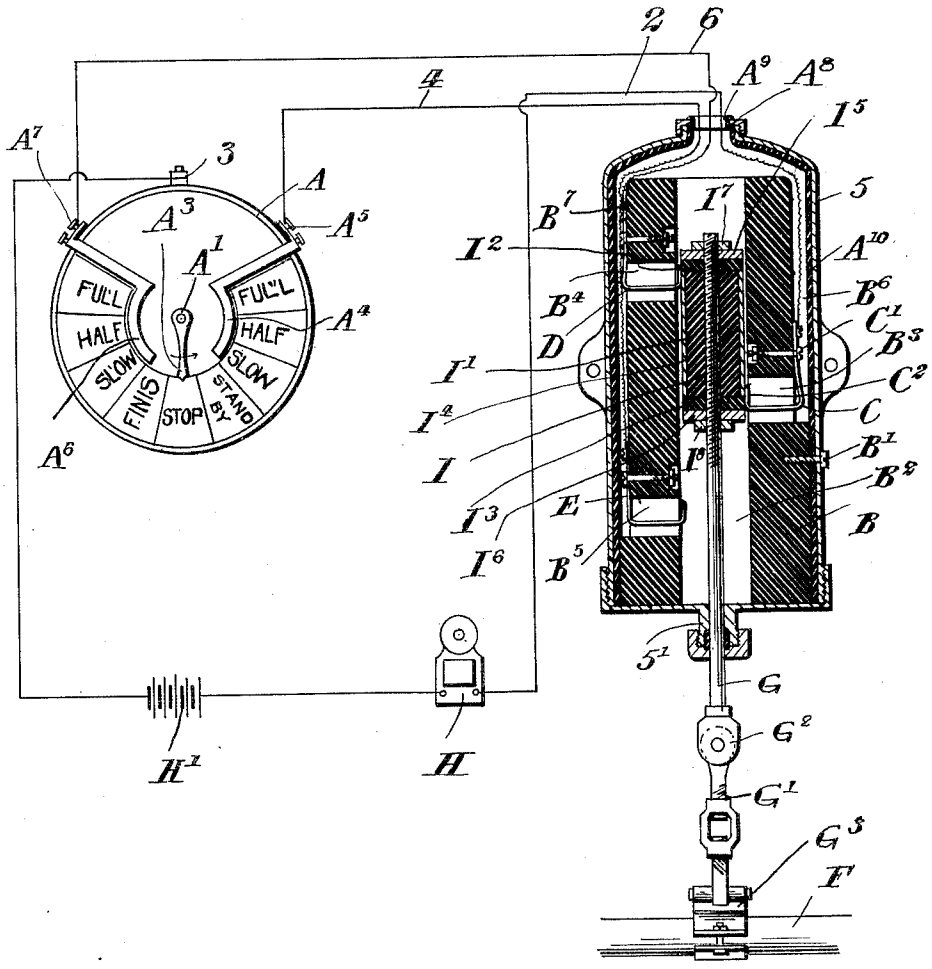
1,099,673. Patented June 9, 1914.



WITNESSES

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AUTOMATIC SHIP'S-TELEGRAPH ALARM.

1,099,673. Specification of Letters Patent. Patented June 9, 1914.

Application filed February 26, 1913. Serial No. 750,867.

To all whom it may concern:

Be it known that I, JAMES AUGUSTUS SULLIVAN, of the city of Victoria, Province of British Columbia, Dominion of Canada, have invented certain new and useful Improvements in Automatic Ships'-Telegraph Alarms; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in automatic ships' telegraph alarms, and the object of the invention is to devise audible means for indicating to the ship's engineer when the position of the way-shaft does not correspond to the position indicated by the ship's telegraph, and it consists essentially of the ship's telegraphic apparatus provided with a pair of contacts one on the astern side of the device, and one on the ahead side, a core of insulating material supported in a suitable casing, a plunger supported within the core and forming a movable contact, connecting means between the plunger and the way-shaft and a stationary contact supported by the core and with which the plunger contact is permanently in engagement. A pair of contacts also carried by the core with which the plunger is alternately in engagement. A circuit wire leading from the permanent contact through a bell and battery, to a ground contact on the telegraph device, and circuit wires connecting the two remaining contacts with the contact plates on the telegraphic device, all as hereinafter more fully set forth and described in the accompanying specification and drawings.

In the drawings: The figure represents a partially diagrammatic and partially sectional view of my device.

In the drawings like characters of reference indicate corresponding parts.

A is the telegraph device constructed in the usual manner with the ahead indications on one side of the dial, and the astern indications on the other side of the dial, and the usual indicating pointer A^3 operated by a handle in the pilot house. The pointer A^3 of the device is adapted to serve as a contact finger.

A^4 is an arc shaped contact plate located on the ahead side of the telegraph device A. The plate A^4 is provided with a terminal A^5.

A^6 is a similar plate located on the astern side of the telegraph device A, and provided with contact post A^7.

It will be readily understood that when the handle is swung in the direction indicated by the arrow that is toward the ahead portion, the pointer A^3 will engage with the contact plate A^4, and when the handle is swung in the opposite direction to that indicated by the arrow, or toward the astern portion the pointer carried thereon will engage the contact plate A^6.

5 is a casing secured by suitable means to a portion of the engine column or other convenient place. The casing 5 is insulated on its inner side and is provided with an opening A^8, which is threaded to receive a conduit for carrying wires.

B is a core of insulating material secured within the lining A^D of the casing 5 by screws B^1, and B^2 is an orifice extending vertically through the center of the core B, and B^3, B^4 and B^5 are openings extending from the periphery of the core into the vertical orifice B^2.

B^6 is a vertical channel extending from the top of the core into the opening B^3. B^7 is a similar channel extending from the top of the core into the opening B^5.

C is a contact finger secured to the outside of the core in the channel B^6 by screws C^1. The lower end of the finger extends horizontally through the opening B^3 and is provided with upturned end C^2. D is a similar contact to the contact C, the contact D extending through the opening B^4 into the center orifice B^2. E is a contact also similar to the contact C and extending through the orifice B^5.

F is the way shaft.

G is a vertical plunger rod having vertical bearing formed by a stuffing box 5^1 on the casing 5.

G^1 is a link connected at its upper end by knuckle joints G^2 to the plunger rod G, the lower end of the link G^1 being connected by knuckle joints G^3 to the way shaft F, or corresponding element in case of a turbine or other engine. The link G^1 is made with a turnbuckle having right and left hand

threads with a lock nut on one end, this allows for adjusting position of movable contact 1.

H is an electric bell.

H^1 is a battery.

2 is a wire leading from the contact C to and through the bell H and the battery H^1 to the ground circuit 3 connected to the telegraph device. It might be advisable to connect this wire direct to spindle which carries pointer A^3 in telegraph A, but this might not be necessary in all cases. If pointer A^3 is already grounded through metallic contact, it will only be necessary to run wire 2 to ground after passing bell H and battery H^1.

4 is a wire leading from the contact E to the terminal post A^5.

6 is a wire leading from the contact D to the terminal post A^7.

I is a removable contact, secured to the plunger rod G and comprising an insulating sleeve I^1, insulating washers I^2 and I^3 between which extends the metallic contact sleeve I^4.

I^5 and I^6 are metallic washers held against the washers I^2 and I^3 by the lock nuts I^7 and I^8 threaded on to the plunger rod G.

It will be understood that the contact sleeve I^4 is always in contact with the contact finger C and is carried alternately into contact with the contact fingers D and E according to the position in which the way shaft is set.

All wires leading from box 5 to telegraph A and to bell etc. should be carried through conduits. The bottom of box 5 is made detachable to allow placing core inside.

In the position shown in the drawing, the way shaft is set in the ahead position. Should, however, the telegraph indicator be set to indicate the astern position, the circuit will be closed, through stationary contact finger C, through the wire 2 and bell H to the battery H^1, and from the battery H^1 to the ground contact 3, indicating pointer A^3, contact plate A^6, wire 6, contact finger D and movable contact sleeve I^4. By this means the bell H is rung, thereby warning the engineer that the way shaft is set in the wrong position and does not correspond to the position indicated by the telegraph indicator.

When the way shaft is set to the astern position, the movable contact 14 will be carried inwardly in the core B^2 so as to electrically connect the fingers C and E.

If when the way shaft is in this position the telegraph indicator indicates ahead, a circuit will be closed through contact fingers C, through wire 2, bell H, to the battery H^1, and from the battery H^1 through the ground contact 3, indicating pointer A^3, contact plate A^4, wire 4, contact finger E to and through the movable contact I^4. In this position of the way shaft, the bell H is also rung, indicating that the way shaft is wrongly set. Of course, if the way shaft is rightly set, the circuit through the bell is kept open, and therefore the bell does not ring.

From this description it will be seen that I have devised a very simple device, whereby the engineer will be immediately warned if a mistake is made in setting the way shaft, such audible signal immediately calling his attention to the telegraph indicator, thereby enabling him to immediately rectify his error.

While I have shown the indicating finger A^1 adapted for uses as a contact, it is obvious that if desired a separate contact might be provided.

In turbines a way shaft would not be employed, but in such case the movable contact would be connected to the corresponding part of the engine controlling means.

What I claim as my invention is:—

1. An automatic ship's telegraph alarm of the class described comprising a dial, indicating ahead and astern positions, a pair of contacts thereon, one located at the astern position and one at the ahead position, an indicating pointer on said dial, such pointer being adapted to act as a contact, a casing consisting of lateral and top sides, such top side having an orifice therethrough, a cover adapted to be secured to the bottom of said casing and having an orifice located in the center thereof, an insulating member extending on and around the inner face of such casing, contact fingers located in such casing, a movable contact designed to engage with such contact fingers, a bell, a battery, circuit wires connecting the bell and battery to the contact fingers and to the said dial, contact plates and means of operating the movable contact in such casing, as and for the purpose specified.

2. An automatic ship's telegraph alarm of the class described comprising a dial indicating ahead and astern positions, a pair of contacts thereon, one located at the astern position and one at the ahead position, an indicating pointer on said dial, such pointer being adapted to act as a contact, a casing consisting of lateral and top sides, such top side having an orifice therethrough, a cover adapted to be secured to the bottom of said casing and having an orifice located in the center thereof, an insulating member extending on and around the inner face of such casing, an insulating core in said case having an orifice through its longitudinal axis and radially extending apertures extending from its inner to its outer periphery, means for securing such core in position, contact fingers designed to operate in said apertures, a movable core having a metallic contact on and extending around its

outer periphery, means of securing such contact in position, a plunger rod connected at one end to said removable core, circuit wires connecting the said contact fingers to a bell, a battery and the said dial, contact plates and means of operating the said plunger rod, as and for the purpose specified.

3. An automatic ship's telegraph alarm of the class described comprising a dial indicating ahead and astern positions, a pair of contacts thereon, one located at the astern position and one at the ahead position, an indicating pointer on said dial, such pointer being adapted to act as a contact, a casing consisting of lateral and top sides, such top side having an orifice therethrough, a cover adapted to be secured to the bottom of said casing and having an orifice located in the center thereof, an insulating member extending on and around the inner face, an insulating core in said casing having an orifice through its longitudinal axis and radially extending apertures connecting its inner and its outer periphery, means of securing such core in position consisting of screws designed to pass through the casing and engage with the said insulating member and insulating core, contact fingers designed to operate in the said apertures, a movable core having metallic contact on and extending around its outer periphery, means of securing such contact in position, a plunger rod connected at one end to the said removable core, circuit wires connecting the said fingers, a bell, a battery and the said dial, contact plates and means for operating the plunger rod, as and for the purpose specified.

4. An automatic ship's telegraph alarm of the class described comprising a dial indicating ahead and astern positions, a pair of contacts thereon, one located at the astern position and one at the ahead position, an indicating pointer in said dial, such pointer being adapted to act as a contact, a casing consisting of lateral and top sides, such top side having an orifice therethrough, a cover adapted to be secured to the bottom of said casing and having an orifice located in the center thereof, an insulating member on and extending around the inner face of such casing, an insulating core in said casing having an orifice through its longitudinal axis and radially extending apertures connecting its inner and its outer periphery, screws designed to engage with the casing and the said insulating core, contact fingers designed to operate in the said apertures, a movable core having a metallic contact on and extending around its outer periphery, means of securing such contact in position, a plunger rod pivotally attached at one end to the said removable core, a gland secured to the bottom cover of casing, a connecting rod pivotally attached at one end to the way shaft and at the other end to the said plunger rod, circuit wires connecting the said contact fingers, a bell, a battery and the said dial, and means of adjusting the contact with the movable core, as and for the purpose specified.

5. An automatic ship's telegraph alarm of the class described comprising a dial indicating ahead and astern positions, a pair of contacts thereon, one located at the astern position and one at the ahead position, an indicating pointer in said dial, such pointer being adapted to act as a contact, a casing consisting of lateral and top sides, such top side having an orifice therethrough, a cover adapted to be secured to the bottom of said casing and having an orifice located in the center thereof, an insulating member on and extending around the inner face of such casing, an insulating core in said casing having an orifice through its longitudinal axis and radially extending apertures connecting its inner and its outer periphery, screws designed to engage with the casing and the said insulating core, contact fingers designed to operate in the said apertures, a movable core having a metallic contact on and extending around its outer periphery, means of securing such contact in position, a plunger rod connected at one end to the said removable core, a gland secured to the bottom cover of casing, a connecting rod pivotally attached at one end to the way shaft and at the other end to the said plunger rod, circuit wires connecting the said contact fingers, a bell, a battery and the said dial, contact plates and means of adjusting the movable contact consisting of a turn buckle located in the center of the said connecting rod and adapted to extend or shorten such connecting rod, as and for the purpose specified.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JAMES AUGUSTUS SULLIVAN.

Witnesses:
WM. CLUORESBY,
E. V. FINLAND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."