

J. L. HALL.
TELLTALE FOR SHIPS' RUNNING LIGHTS.
APPLICATION FILED JULY 30, 1901.

NO MODEL.

Fig. 1.

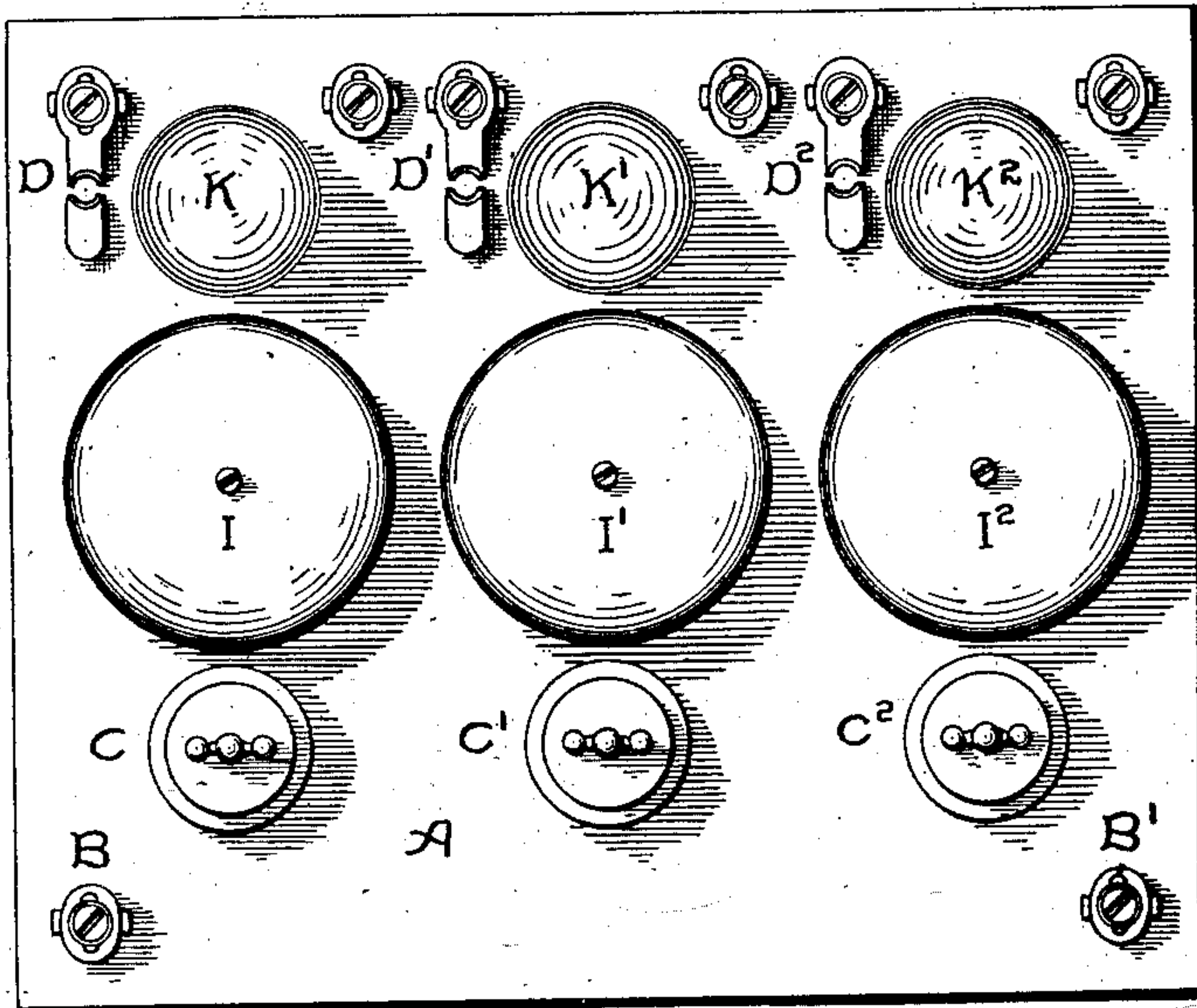


Fig. 2.

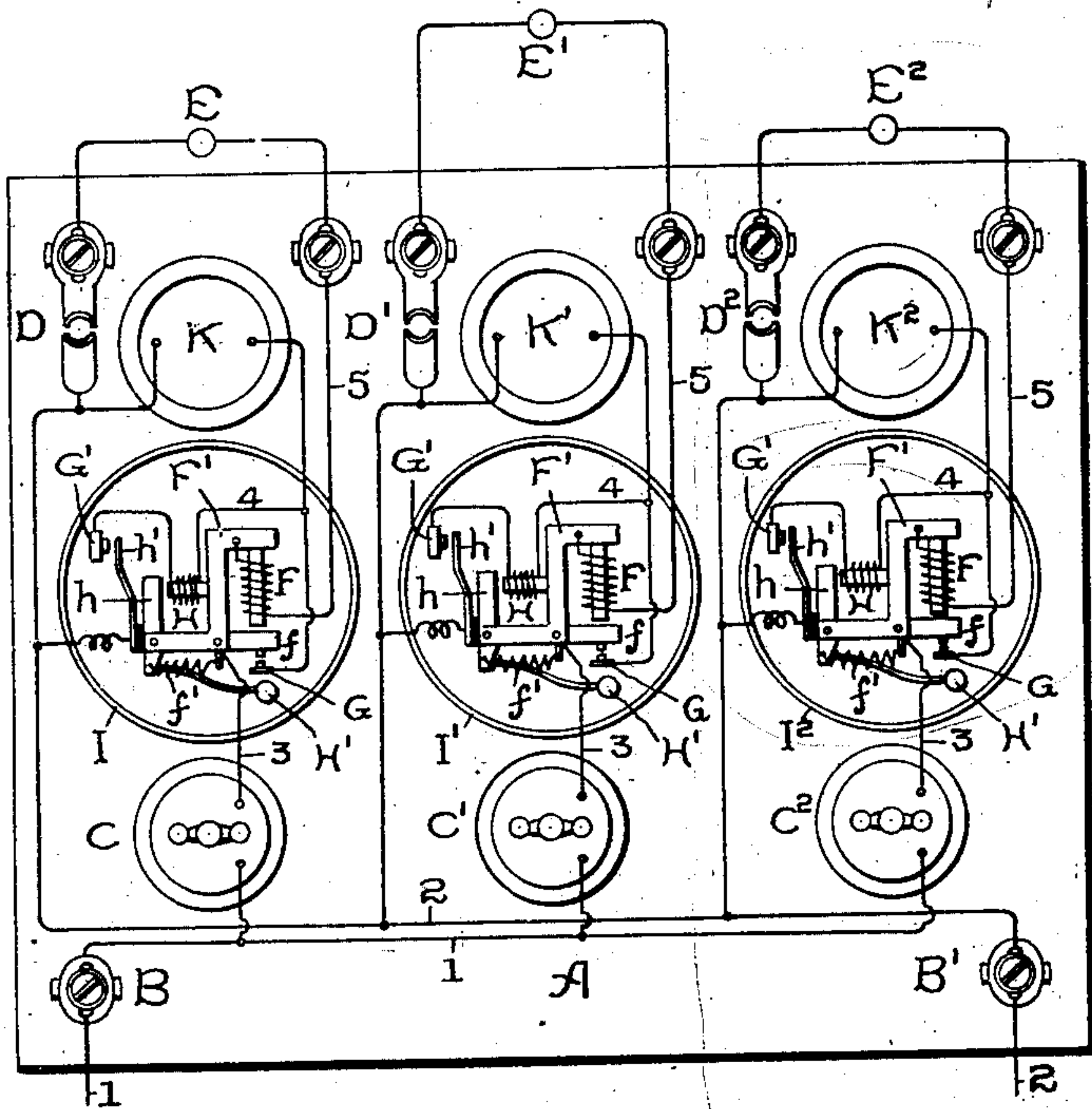
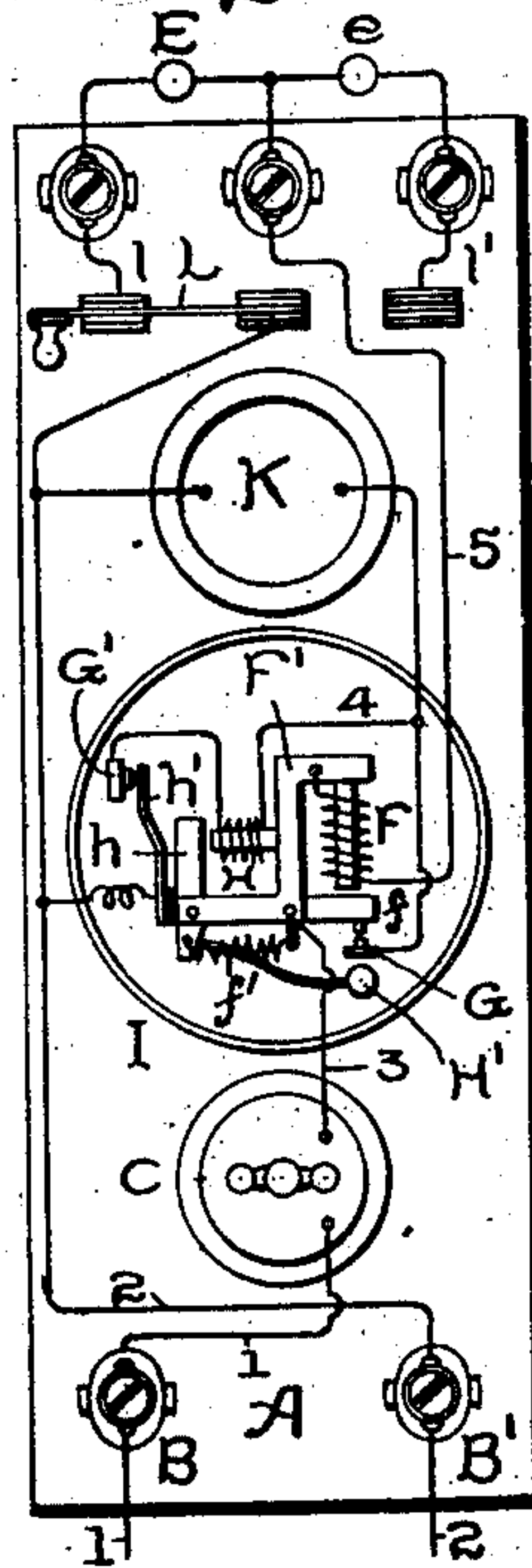


Fig. 3.



Witnesses:

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by *Albert G. Davis*
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UNITED STATES PATENT OFFICE.

JOHN L. HALL, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

TELLTALE FOR SHIPS' RUNNING-LIGHTS.

SPECIFICATION forming part of Letters Patent No. 729,159, dated May 26, 1903.

Application filed July 30, 1901. Serial No. 70,270. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. HALL, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Telltales for Ships' Running-Lights, of which the following is a specification.

This invention relates to electric lighting; and its object is to indicate at some central point the fact that one or more distantly-located electric lights have gone out.

The invention is of especial value in its application to the signal-lights of vessels and will therefore be described in that connection.

Government and insurance regulations require all vessels to display certain signal-lights between sunset and sunrise. It is generally known that there are three signal-lights aboard ship—the green starboard-side light, the red port-side light, and the white masthead-light. If a vessel is provided with an electric-lighting plant, incandescent lamps may be used for the signal-lanterns or running-lights. Electricity is peculiarly adapted to the illumination of signal-lanterns, since it furnishes a ready means of providing an indicator or telltale which will both visibly and audibly indicate when the lamps are accidentally extinguished. This telltale can be located in the pilot-house, and thus inform the helmsman of any disaster to his signal-lights, upon which depends the safety of his vessel from collision and the collection of insurance in case she is run down.

It is desirable that the audible signal, which is usually a trembler-bell or buzzer, shall emit as loud a sound as possible, since the pilot-house is in an exposed position and the noise of the wind in a gale would overpower any but a most pronounced sound inside the house. Moreover, it is desirable that the telltale-lights burn at full brilliancy, as their light is somewhat dimmed by the colored bulbs used to designate the green and red side lights.

My invention aims to impress the full line voltage upon both the bell and the lamp in the telltale, and thereby derive from each the best results possible. To this end I place the telltale bell and lamp in parallel with

each other and with the signal-light and in a normally open circuit, which is closed automatically when the signal-light circuit breaks, preferably by an electromagnet in said signal-light circuit dropping its armature, which serves as a switch to cut in the telltale apparatus and shunt the electromagnet.

In the accompanying drawings, Figure 1 is a front elevation of a telltale-board equipped for three signal-lights. Fig. 2 is a diagram of the circuits thereof. Fig. 3 is a diagram of one unit of such a system with connections for a spare running-light.

The board A is made of slate or other insulating material and carries binding-posts B B' for the line-wires 1 2. Snap-switches C C' C² are connected in parallel with one side of the line at 1, and plug-switches D D' D² are similarly connected with the other side, 2, of the line. A signal-lamp E, E', or E² is connected with each pair of snap and plug switches, so that by closing both switches the lamp can be lighted. Between each snap-switch and its lamp is an electromagnet F, whose pivoted armature *f* when released by the breaking of the signal-light circuit makes contact with a back-stop G, being preferably positively actuated by a spring *f'*. The contact G is connected by a wire 4 with the helix H of a trembler-bell I I' I², whose vibrator *h* is connected with line 2. A convenient construction of these parts is shown in the drawings. The frame F' carries two cores, on one of which is the coil F and on the other coil H. Adjacent to each core is an armature *f h*, pivoted to the frame F' and connected by a common tension-spring *f'*. The contact G is under the armature *f*, while the armature *h* carries an insulated flat spring *h'*, which makes intermittent contact with a stationary contact G', connected with the helix H. The wire 3, leading from the snap-switch, is connected with the frame F', to which also is connected one terminal of the helix F. The armature *h* carries the hammer H' of the bell. A telltale-lamp K K' K² is connected in shunt around the helix H and its vibrator.

In the modification shown in Fig. 3 two signal-lamps E *e* are connected in parallel with the wire 5, leading from the coil F. The other terminals of the lamps are connected

with the contacts l l' of a double-throw switch L.

The operation of my device is as follows:

The snap and plug switches being closed, the signal-lamps light up, and so long as they burn properly the telltale is quiescent; but if a signal-lamp filament gives out or a lead gets broken, causing a failure of current in the corresponding electromagnet F, the armature f drops, closing the circuit through the telltale bell and lamp and shunting the coil F. Being in parallel, the bell or lamp each receives the full line voltage, and consequently the bell sounds loudly and the lamp burns with full candle-power, both giving warning of the failure of the corresponding signal-light.

If the system shown in Fig. 3 is used, the pilot can immediately cut in the spare signal-lamp e by simply throwing over the switch L.

The apparatus may be tested at any time by removing the plug-switch in Figs. 1 and 2 or opening the switch L in Fig. 3, when, if in order, the telltale bell and lamp will operate.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. Means for indicating the extinguishment of an electric lamp, consisting of an audible and a visual electric signal, connected in parallel, a switch for closing the circuit through them, and an electromagnet in circuit with the lamp and controlling said switch.

2. Means for indicating the extinguishment

of an electric signal-lantern, consisting of an audible electric signal and a lamp connected in parallel, an electromagnet in circuit with the lantern, an armature for said electromagnet connected with the line, and a contact adjacent to said armature connected with the audible signal and the lamp, whereby when the lantern-circuit breaks the armature will close the circuit through the audible signal and the lamp and shunt said electromagnet.

3. The combination with an electric signal-light, of a normally open indicating-circuit in parallel therewith, electric indicating devices connected in parallel in said circuit, an electromagnet in series with the signal-lamp, and a switch in the indicating-circuit controlled by said electromagnet.

4. In a telltale for running-lights, a frame carrying two cores, a helix on each core, a pivoted armature for each core, a spring connecting said armatures, a stationary contact adjacent to each of said armatures, and connected with the helix on one of said cores, and a spring-contact on the armature for that core.

In witness whereof I have hereunto set my hand this 29th day of July, 1901.

JOHN L. HALL.

Witnesses:

BENJAMIN B. HULL,
MARGARET E. WOOLLEY.