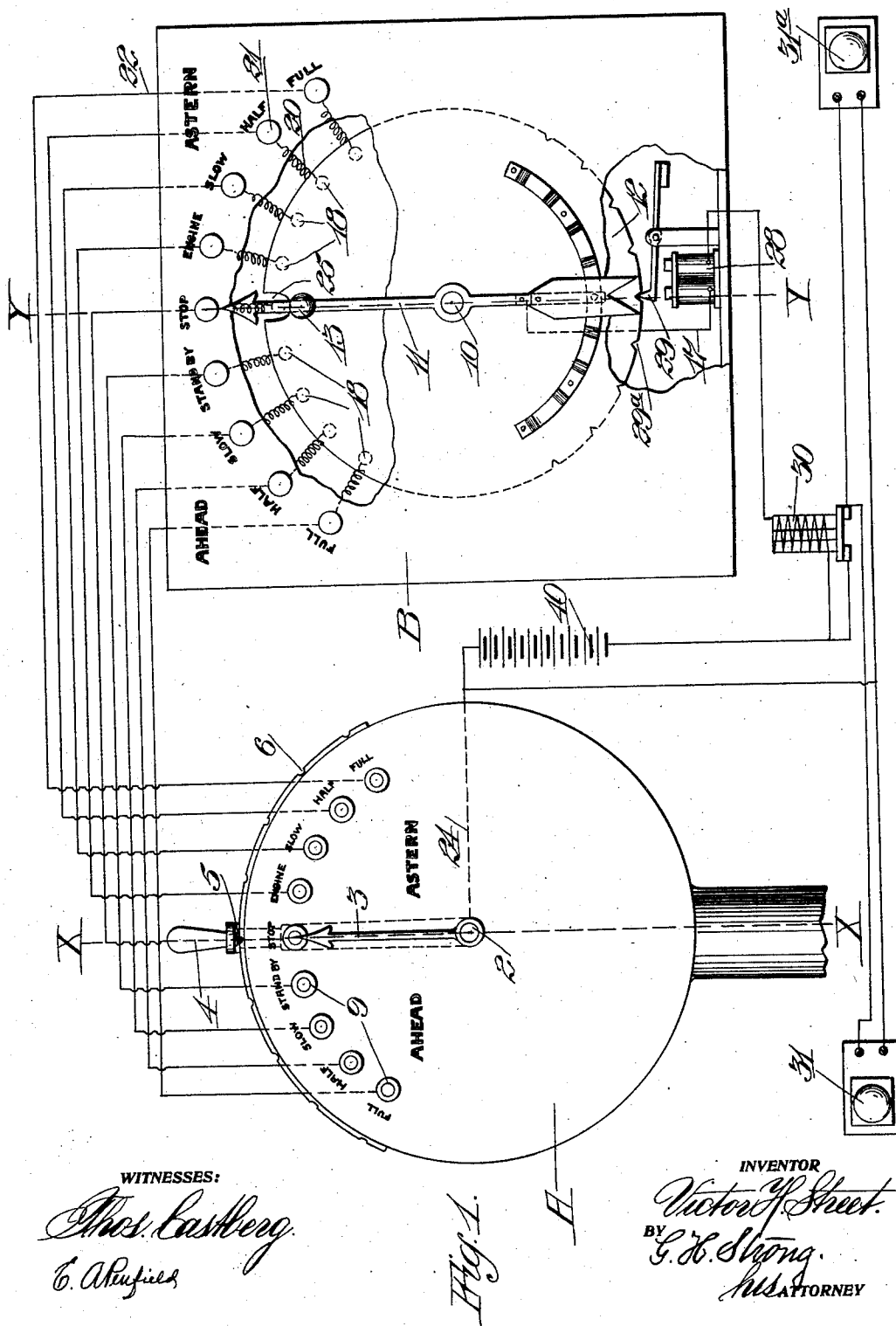


V. H. STREET.
ENGINE ROOM RETURN SIGNAL.
APPLICATION FILED MAR. 30, 1910.

1,025,488.

Patented May 7, 1912.

2 SHEETS—SHEET 1.



WITNESSES:

Thos. Eastberg
C. A. Ruffield

INVENTOR

Victor H. Street
BY *G. H. Strong*
his ATTORNEY

V. H. STREET.
ENGINE ROOM RETURN SIGNAL.
APPLICATION FILED MAR. 30, 1910.

1,025,488.

Patented May 7, 1912.

2 SHEETS—SHEET 2.

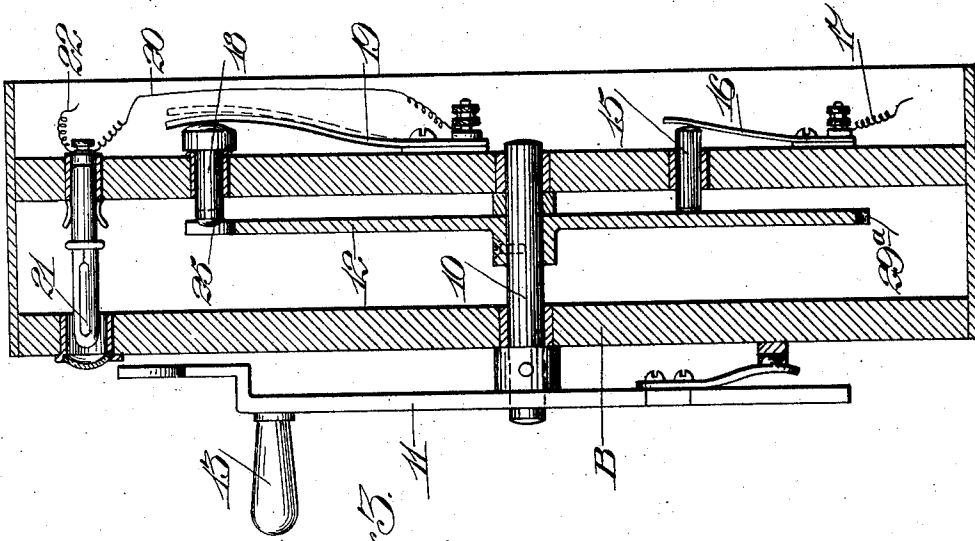


Fig. 3.

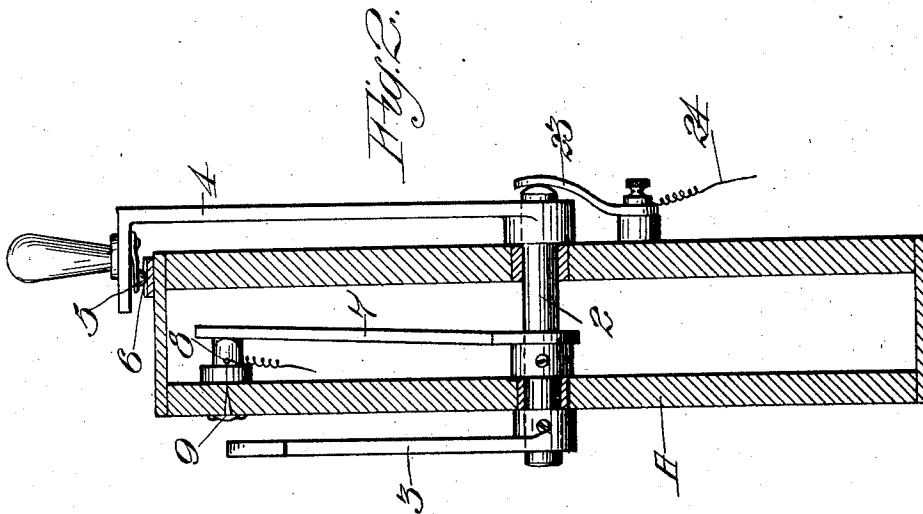


Fig. 2.

WITNESSES:

Thos. Lashberg
Chas. Pinfield

INVENTOR

Victor H. Street
BY *E. H. Strong*
his ATTORNEY.

UNITED STATES PATENT OFFICE.

VICTOR H. STREET, OF BERKELEY, CALIFORNIA.

ENGINE-ROOM RETURN-SIGNAL.

1,025,488.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed March 30, 1910. Serial No. 552,361.

To all whom it may concern:

Be it known that I, VICTOR H. STREET, a citizen of Canada, residing at Berkeley, in the county of Alameda and State of California, have invented new and useful Improvements in Engine-Room Return-Signals, of which the following is a specification.

This invention relates to a signal apparatus, and particularly pertains to an electrically operated signal device for engine rooms and the like.

It is the object of this invention to provide a signal system which is especially applicable to use on steamships and other vessels, and is designed for the purpose of transmitting instructions from the pilot to the engineer. It is also adapted for use in any other situation where it is desired to signal an engineer from a remote point, such as on railroad trains, and in manufacturing plants.

Another object is to provide means in a signal apparatus of the above description, by which the sender, or person transmitting the message, will be informed of its proper delivery, and in which means are provided for insuring that the signal and its answer will be given correctly.

A further object is to provide means for automatically locking the device when the proper answer to a signal has been given, in such manner as to hold or retain the signal indicator in a fixed position, and prevent its being tampered with or moved to show any other signal than the one just received. This arrangement enables the determining of the responsible person in the event accident results from incorrect signaling or from improper response.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a front elevation of the invention with parts broken away, showing the electrical connections in diagram. Fig. 2 is a cross section of the sending device on the line $x-x$ of Fig. 1. Fig. 3 is a cross

section of the receiving and answering device on the line $y-y$ of Fig. 1.

In the embodiment of my invention as shown in the drawings, I employ a signal-sending apparatus, represented at A, and a receiving and answering device B, both of which are shown in Fig. 1. The sending apparatus A is designed to be located in the pilot-house of a steamship or other vessel convenient to the post of the pilot, while the receiving and answering device B is located in the engine-room within easy access of the engineer, so that when a signal is transmitted by the pilot, the engineer can readily receive and reply to same, as later described. The sending apparatus A is constructed as shown in Fig. 2, in which 2 is a revoluble shaft mounted in and extending through a case of any suitable form or construction, the face of which forms a dial over which an indicator 3 mounted on the shaft 2 is caused to travel when the shaft 2 is rotated. This is accomplished by means of a hand-lever 4 which is mounted on the shaft 2, and extends at right angles thereto beyond the outer edge of the case A. A spring detent 5 on the lever 4 is adapted to engage notches in a segment 6 so as to temporarily retain the lever 4 and its connections in any desired position. Mounted on the shaft 2, within the case A, is a spring-conducting arm 7 which is disposed in parallel relation to the lever 4 and the indicator 3, and is designed to be thrown into electrical connection with contact posts 8 so as to complete an electrical circuit as later described.

The contact posts 8 may be arranged a slight distance apart on an arc of a circle, and may be of any desired number. The dial of the case A is suitably marked on its face to indicate the position of the contact posts 8 on its back, in this case buttons 9 being employed for that purpose.

By this construction the operator may determine the position of the conductor arm 7 by means of the arrow 3, and by moving the lever 4 from side to side may throw the connector arm 7 into contact with any contact post 8 desired, the detent 5 dropping into a

groove on the segment 6, corresponding to the selected contact so as to retain the arm 7 and post 8 in close frictional engagement.

The signal-receiving device B is constructed as shown in Fig. 3, in which B represents a casing of any suitable construction. 10 is a revoluble shaft mounted in the casing B which is provided with an indicator or pointer 11 on its outer end, and it carries a contact disk 12 inside the casing B. The pointer 11 has a handle 13 mounted thereon by which the shaft 10 and disk 12 may be rotated. This contact disk or plate may be of any desired character other than a disk, and has an electrical conducting surface with which slidable spring-pressed pins 15 guided through suitable supports in the casing are adapted to contact. These pins are normally acted upon by springs 16, and the springs are connected by wires 17 with a magnet 28 which acts upon an armature pawl 29 to disengage it when an electric current is passing. This pawl is adapted to engage notches 29^a formed in the periphery of a disk, diametrically opposite the pins 18 which indicate the engine-room signal such as "stop," "slow," "half speed," "full speed," etc. This pawl normally engages the notches by gravitation, and thus locks the parts in position, but whenever the current is transmitted through the parts and the magnet 28, this pawl being pivoted and in the form of an armature, is attracted by the magnet and the disk is released. The periphery of the disk has a groove or notch formed in it as shown at 25, and when in position opposite either of the pins 18, the pin being pressed will drop into this notch, and not form any contact with the conducting surface of the plate, therefore the electric current will be arrested, and the pawl being released drops into its notch and holds the parts in an inoperative position.

The operation of the device will then be as follows: From an inoperative position, as above described, a signal may be sent from the pilot-house by moving the indicator arm 3 to the desired signal, which corresponds with the signal in the engine-room. Connection through the arm 7 and button 8 will complete a circuit through a wire 24 and the battery 40, and thence from selected button 8, through a wire 22, to a connected light 21, thence through a wire 20 to a corresponding pin or button 18 in the engine-room, thence through the disk 12, thence through the pin or button 15, the spring 16, wire 17, the magnet 28, to actuate the armature pawl 29, and release the disk, thence the relay 30 which closes the circuit for the bell or other audible signal 31 and 31^a; one being located in the pilot-house and the other in the engine-room, and thence back to the battery. Thus both will have a simultaneous signal to show that the con-

nection is made. The audible and visible signals will then continue until the engineer moves his indicator to the signal which has been given which moves the notch or gap 25 in the disk 12 to register with the same pin or button 18 in the pilot-house, which is then in position to break the circuit and stop the signals. Thus this apparatus signals until the correct position is arrived at and then the signals cease. Any change in the signals repeats this operation. Electric lights may be located at each station and within the electrical circuit so as to be exposed and extinguished in unison with the operation of the other signals.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a signal apparatus, similarly indexed sending and receiving dials, electrical contacts on the sending dial, lamps on the receiving dial, connections therebetween, indicators mounted for independent manual rotation one on each dial, a circuit closer movable in conjunction with the indicator on the sending dial, a source of electricity connected to the closer, a conductor, movable with the indicator of the receiving dial, having a peripheral gap, and notches, an armature, a pawl connected thereby and engageable with said notches, an electro-magnet for operating the armature, yieldable pins normally in contact with said conductor, one of which is adapted to enter the gap in the conductor when the receiving indicator is brought into register with an energized lamp and electrical connections between the lamps and the pins and the conductor and the source of current.

2. In a signal apparatus, similarly indexed sending and receiving dials, electrical contacts on the sending dial, lamps on the receiving dial, connections therebetween, indicators mounted for independent manual rotation one on each dial, a circuit closer movable in conjunction with the indicator on the sending dial, a source of electricity connected to the closer, a conductor, movable with the indicator of the receiving dial, having a peripheral gap, and notches, yieldable pins normally in contact with said conductor, one of which is adapted to enter the gap in the conductor when the receiving indicator is brought into register with an energized lamp, and electrical connections between the lamps and the pins and the conductor and the source of current, a pawl adapted to enter the notches of the conductor to lock same, and a releasing magnet therefor.

3. A signal system including a series of marked contacts, a series of marked lamps, and intermediate connections, a movable circuit closer engageable with said contacts, a source of electricity and connection through

the circuit closer, a rotatable plate within the circuit, having peripheral notches, an armature pawl normally engaging one of said notches by gravitation, and an electromagnet in the circuit acting to disengage the pawl, and allow the plate to be turned.
In testimony whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

VICTOR H. STREET.

Witnesses:

G. H. STRONG,

RAYMOND A. LEONARD.

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