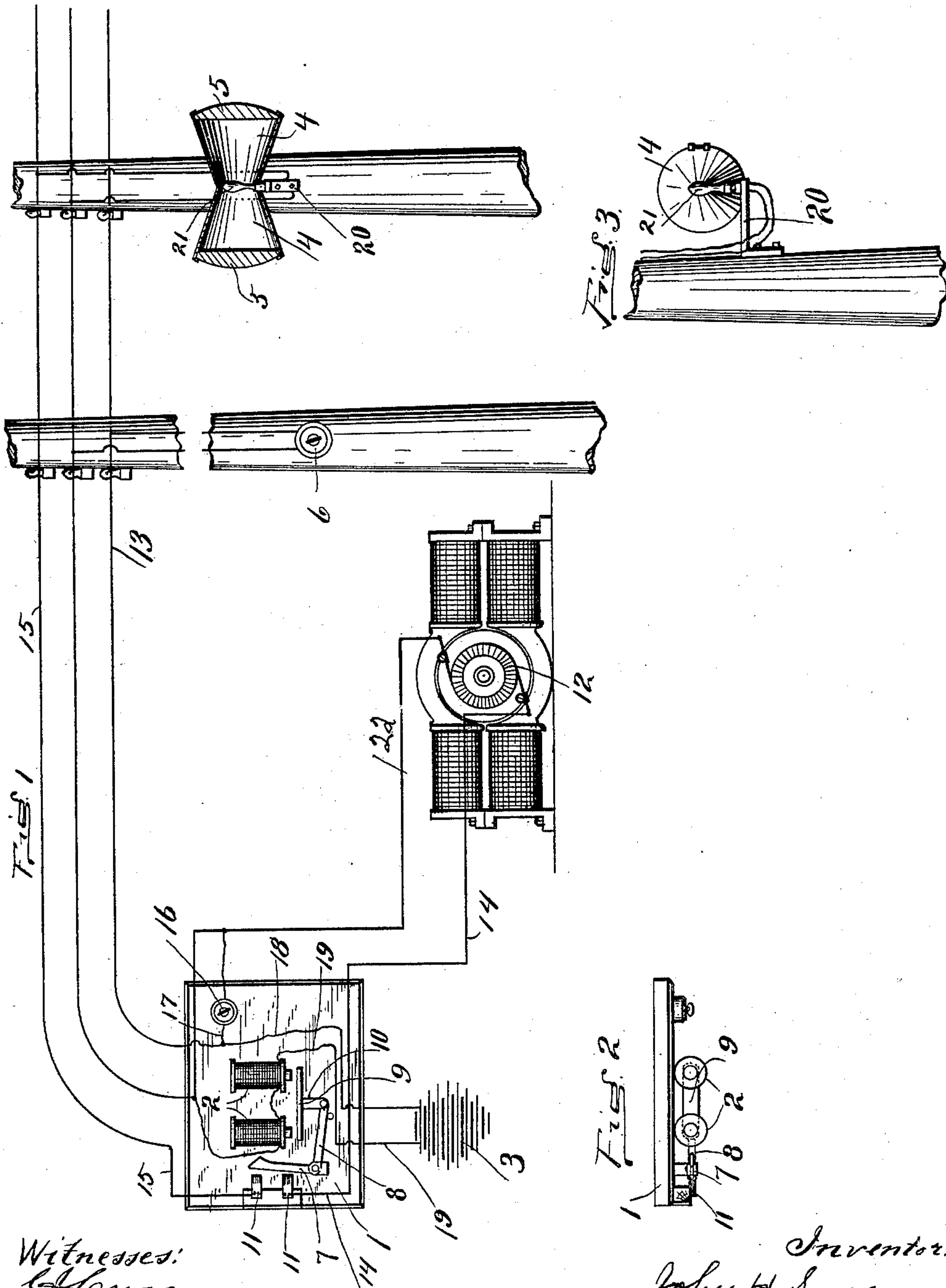


No. 652,333.

Patented June 26, 1900.

J. H. SANOR.
ELECTRIC SIGNAL.
(Application filed Oct. 19, 1899.,

(No Model.)



Witnesses:
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JOHN H. SANOR, OF CANTON, OHIO.

ELECTRIC SIGNAL.

SPECIFICATION forming part of Letters Patent No. 652,333, dated June 26, 1900.

Application filed October 19, 1899. Serial No. 734,145. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. SANOR, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Electric Signals; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a view showing the different parts of the signal properly connected and arranged. Fig. 2 is top view of the switch and magnet-frame. Fig. 3 is a view showing an end view of the signal-light case.

Similar numerals represent corresponding parts in all the figures of the drawings.

The present invention has relation to electric signals designed for use in electric street-railways and steam-railways or other places wherein a signal may be required; and it consists in the novel construction and arrangement hereinafter described, and particularly pointed out in the claim.

The object of the present invention is to provide a signal that will indicate "danger" along the line of road.

In the accompanying drawings, 1 represents a plate or frame which is designed to be located at the office or other fixed place, such as street-car barns or stations, and, as shown, it is provided with the magnets 2, which magnets are connected to the ordinary battery 3, which battery is to be located near the plate or frame 1. The arrangement and location of the plate or frame 1 and the battery 3, together with the magnets 2, are to be substantially the same as that in common use for telegraphing.

The current produced by the battery 3 is solely for the purpose of operating the armature by means of the magnets 2.

At points along the railway-track are located signals, which signals may be connected to the poles supporting the different wires or they may be located upon other objects, inasmuch as it is immaterial as to the location of the lights, except that they must be located so as to be exposed to view.

For the purpose of producing a signal-light

that will show in either direction the frame or housing 4 is formed as shown, and as shown it consists of two frustums joined together at their smaller ends and the light placed at the meeting-point of the two frustums. At the outer ends of the frustums or casing 4 are located the lenses 5; but it is not absolutely necessary to locate the lenses 5 at the extreme outer ends of the frustum, but they may be located at any point between the outer ends and the joined ends of the frame proper, as the same object can be accomplished without reference to the particular location of the lenses.

At intervals along the railway-track are located switches 6, which switches may be connected to the poles or other objects and at points where they can be easily reached.

The switches 7 should be set switches—that is to say, when contact is made to close the current the switch will remain closed till opened, otherwise the signal-lights would be extinguished when the switches are open, and hence the necessity of providing what is known as a "set" switch, as an ordinary push-button would not produce a continuous signal-light.

To the plate or frame 1 is pivotally attached the switch 7, which switch is provided with the lever 8, to which lever is connected the armature 9, preferably by means of short bar 10.

To the frame or plate 1 are connected the clips 11, said clips being spaced one from the other, and when the switch 7 is in the position illustrated in the drawings the current from the dynamo 12 will be cut off, thereby cutting the current leading to the signal-lights.

When it is desired to close the current from the dynamo to the signal-lights, a switch such as 6 is closed, said switch 6 being commonly known as a "field-switch" or "line-switch," at which time the current is carried to the magnets 2 by means of the wire 13, thereby lifting the armature 9 and bringing the switch 7 into contact with the clips 11, thereby closing the current between the dynamo 12 and the signal-lights, the current being carried to the signal-lights by the wires 14 and 15, and when the switches 6 are opened the wire 15 will become dead by reason of the clips 11 be-

ing spaced one from the other, said clips being attached in a fixed position by any well-known non-conducting material.

For the purpose of providing a means for operating the signal-lights at the office or station or other place than along the line a set switch 16 is provided, which set switch is so located that when it is closed a current will be carried to the magnets 2 over the wires 17, 18, and 19, thereby causing the switch 7 to become engaged with the clips 11 by reason of the armature 9 being operated upon by the magnets 2.

It will be understood that by my peculiar arrangement I am enabled to operate signal-lights at very little expense, and at the same time said signal-lights can be operated at any point along the road or from the home office, barn, or stations, and at the same time by proper signals the location of cars can be determined.

For the purpose of providing a proper return the wire 19 is provided, which wire is a common return-wire.

The signal-frame 4 is properly supported by the bracket 20, which bracket is attached to any fixed object, preferably a pole.

It will be understood that different-colored lights may be placed in the housings 4—such colors as are commonly used for train purposes—and by my peculiar arrangement different-colored lights may be produced by providing different-colored bulbs, thereby leaving the lenses clear and without color, by which arrangement the cost in producing different-colored lights is reduced, and at the same time the color of the light can be changed as different conditions may require, and for the purpose of providing a means for easily detaching and attaching different bulbs 21 the lenses 5 should be hinged, so that they can be turned out of the way to give access to the interior housings 4.

For the purpose of insuring the disconnection of the switch 7 from the clips 11 when the battery-current is cut out the armature 10 should be of such a weight that it will drop automatically, moving with it the switch 7, so as to bring said switch into the position shown in the drawings, thereby cutting out the current from the dynamo to the signal-lights.

It will be understood that the ordinary return-wire 22 is to be employed, said return-wire being properly connected to the dynamo in the usual manner.

The object and purpose of the above-described invention is not to produce a single signal-light, but to simultaneously light all of the signals within a given block or circuit, thereby instantaneously giving notice throughout the entire length of the circuit or block.

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

In an electric signal of the class described, the combination of a series of frames or housings formed of frustums and the frustums connected at their smaller ends, a light located at the meeting-point of the frustums, lenses connected to the frustums, field-switches located at intervals along the path of circuit, magnets located at one end of the circuit, an armature to engage the magnets, a switch to engage spaced clips and said clips normally insulated one from the other, and one return-wire for the battery and dynamo-wires, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN H. SANOR.

Witnesses:

J. A. JEFFERS,
F. W. BOND.