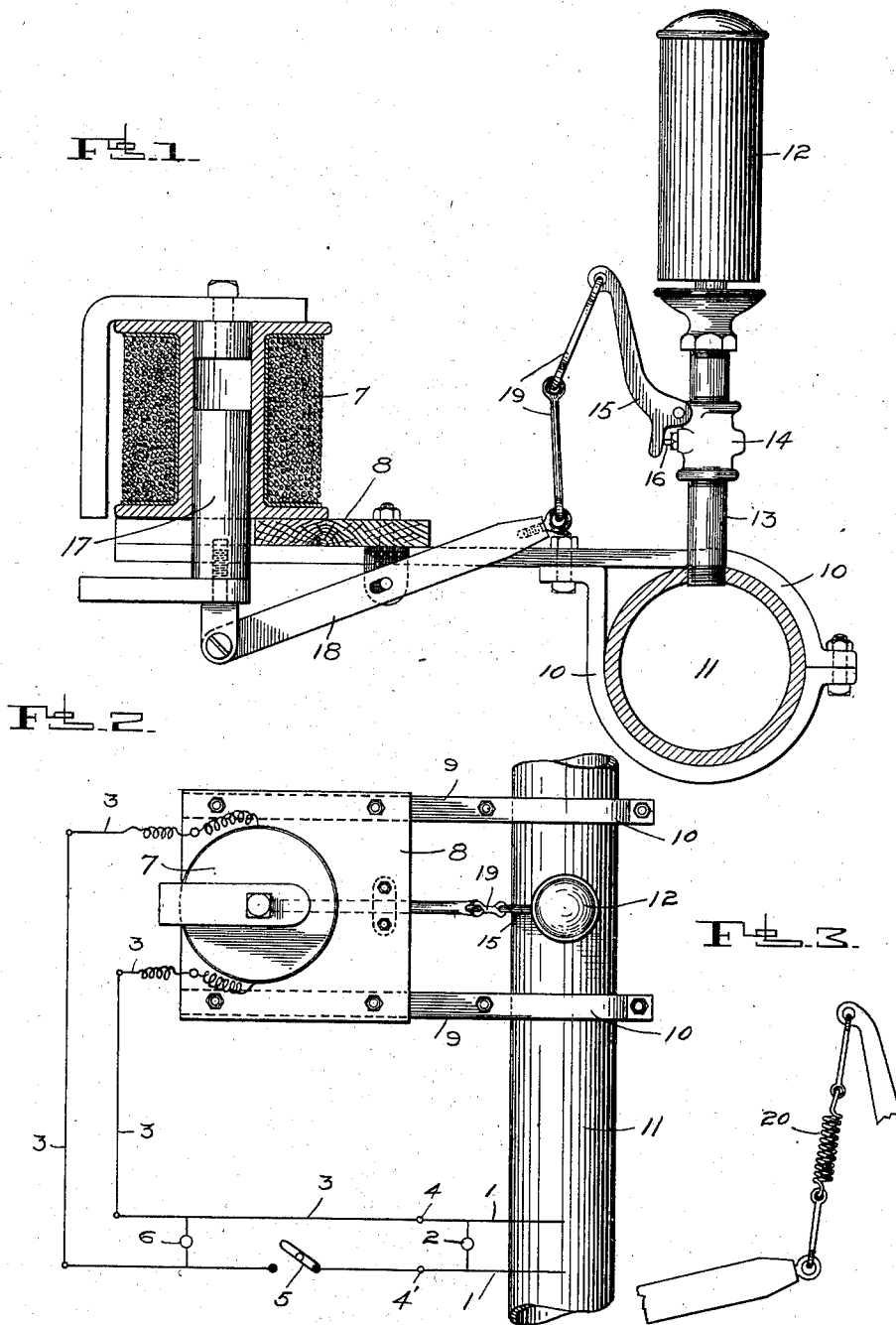


No. 752,843.

PATENTED FEB. 23, 1904.

R. B. KERNOHAN.
SIGNALING APPARATUS.
APPLICATION FILED MAY 23, 1903.

NO MODEL.



WITNESSES:

J. R. Keller
M. Hughes

INVENTOR

INVENTOR
Robert B. Kernohan
by W. E. Doolittle
Attorney.

UNITED STATES PATENT OFFICE.

ROBERT B. KERNOHAN, OF PITTSBURG, PENNSYLVANIA.

SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 752,843, dated February 23, 1904.

Application filed May 23, 1903. Serial No. 158,440. (No model.)

To all whom it may concern:

Be it known that I, ROBERT B. KERNOHAN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Signaling Apparatus, of which the following is a specification.

The object of the present invention is to provide a new and improved electric signaling apparatus; and to this end my invention consists of a new and improved signaling apparatus and in the construction and combination of parts, all as fully hereinafter described and claimed.

In the accompanying drawings, which illustrate an application of said invention, Figure 1 is a part-elevation view and a part-sectional view of a portion of a signaling apparatus constructed in accordance with my invention; Fig. 2, a diagrammatic plan view, and Fig. 3 a detail view, of a modified form of connection with the whistle-operating lever.

Referring to the drawings, 1 represents the main-line wires forming the main circuit, and 2 an electric lamp suitably connected up with the main circuit and arranged to be lighted while an electric current is passing through the main-line wires. The wires 3 of the auxiliary circuit are joined to the main-line wires at the points 4, and 5 is a switch. A lamp 6 in the auxiliary circuit is provided and, as will be noted, is only lighted during the time the main circuit is in electrical communication with the auxiliary circuit, which communication is effected by the switch 5, operated in the usual manner and by any suitable means.

7 is an electromagnet, which may be of any preferred form. This magnet is carried on a shelf 8, which shelf is supported by arms 9 of clamps 10. Clamps 10 are secured at any desirable points along a fluid-pressure main 11.

A whistle 12 of any preferred construction is connected with the main 11 by means of a pipe 13, and interposed between pipe 13 and the whistle is a valve 14 for controlling the passage of fluid from the main to the whistle. The whistle is provided with an arm 15, adapted to press upon valve-stem 16 of valve 14 to permit the passage of fluid through said valve.

Magnet 7 for operating the whistle has a vertically-movable core 17 connected with the operating-arm 15 of the whistle by lever 18 and jointed rods 19, as shown by Fig. 1. Lever 18 may be connected with arm 15, as shown by the form of Fig. 3. In this form I employ a spring 20, placed between the rods 19. It is essential in order to produce the best results that there should be a certain amount of lost motion between the lever 18 and the whistle-operating arm 15, and in both Fig. 1 and Fig. 3 I have shown such a construction. The circuit through the signal-operating magnet 7 is completed when the main circuit is connected up with the auxiliary circuit by the switch 5. When such circuit is completed, the movable core 17 of magnet 7 will raise one end of lever 18 and exert a pull on rods 19, thereby causing arm 15 to move the valve to such a position as to permit fluid to pass to the whistle. At the same time the whistle is operated a signal-light appears in lamp 6. The whistle will be sounded and the lamp 6 lighted until the circuit is broken by the switch 5.

What I claim is—

1. In a signaling apparatus, the combination, with a main electric circuit, an auxiliary circuit, and a fluid-pressure main, of a whistle in communication with the fluid-main, an electromagnet, a take-up connection between the electromagnet and whistle, and a switch for making and breaking connection between the main and auxiliary circuits, substantially as set forth.

2. In a signaling apparatus, the combination, with a main electric circuit, an auxiliary circuit, a supply of elastic fluid under pressure, a whistle, a valve for controlling the fluid from the elastic-fluid supply to the whistle, an electromagnet and a lamp in the auxiliary circuit, take-up means connecting the electromagnet and whistle, and a switch for making and breaking connection between the main and auxiliary circuits, substantially as set forth.

3. In a signaling apparatus, the combination, with a main electric circuit having a lamp suitably connected in said circuit to indicate when said circuit is completed, an aux-

iliary circuit, a supply of elastic fluid under pressure, a whistle, a valve for controlling the passage of fluid from the elastic-fluid supply to the whistle, an electromagnet in the
5 auxiliary circuit, take-up means connecting the magnet and the whistle, a lamp in the auxiliary circuit which is lighted when the whistle is operated, and a switch for making and breaking connection between the main and
10 auxiliary circuits, substantially as set forth.

4. In a signaling apparatus, the combination with a main electric circuit, an auxiliary circuit, and a fluid-pressure supply, of a whistle in communication with the fluid-supply,
15 an electromagnet having a movable core in

the auxiliary circuit, a take-up connection between the electromagnet and whistle whereby the core is allowed an initial movement before the whistle-operating lever is moved, and a switch for making and breaking connection between the main and auxiliary circuits, substantially as set forth. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT B. KERNOHAN.

Witnesses:

MARGARET HUGHES,
W. G. DOOLITTLE.