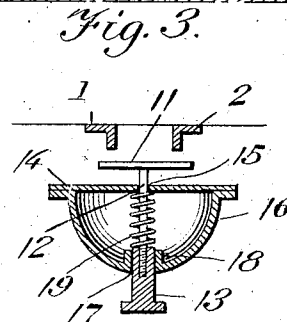
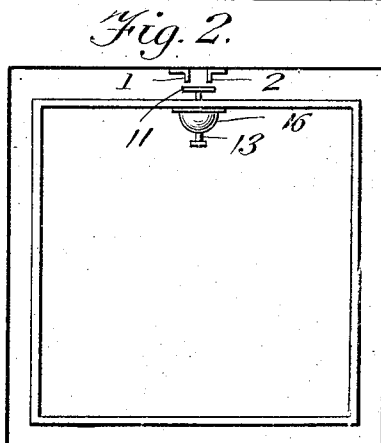
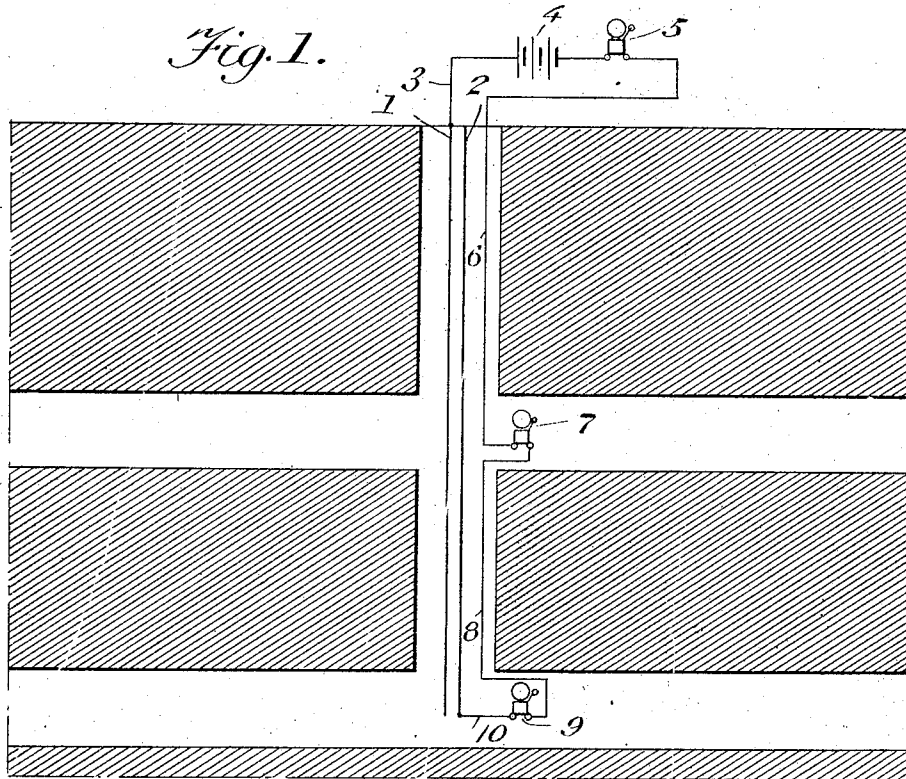


J. A. SCHELLENGER.
ELECTRIC SAFETY SIGNAL DEVICE.
APPLICATION FILED MAY 26, 1911.

1,063,741.

Patented June 3, 1913.



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UNITED STATES PATENT OFFICE.

JOSEPH A. SCHELLENGER, OF HARRISBURG, ILLINOIS.

ELECTRIC SAFETY SIGNAL DEVICE.

1,063,741.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed May 26, 1911. Serial No. 629,642.

To all whom it may concern:

Be it known that I, JOSEPH A. SCHELLENGER, a citizen of the United States, residing at Harrisburg, in the county of Saline and State of Illinois, have invented new and useful Improvements in Electric Safety Signal Devices, of which the following is a specification.

The invention relates to improvements in electrical signal systems for mine shafts, elevators, or the like, and has for an object to provide a simple signal system wherein, the cost of installation and maintenance is reduced to a minimum, the necessity of constant electrical contact between the car and the bus-bars is eliminated, and the possible chance of disarrangement of the parts is practically obliterated.

With the above, and other objects in view which will appear as the description progresses, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawings the system is illustrated as preferably applied, and in which drawings,

Figure 1 is a vertical view of a mine shaft with the system arranged therein. Fig. 2 is a top plan view of the mine shaft and cage disclosing the relation of the coaxing parts. Fig. 3 is a cross-sectional view of the circuit closer in detail.

Reference being had to the several views of the drawing, wherein like numerals indicate similar parts, two conductors designated by the numerals 1 and 2 and preferably comprising substantially L-shaped angle bars, are secured to and parallel with one of the walls of the shaft. From the upper end of the conductor 1 a connection 3 is led to a battery 4, comprising a sufficient number of cells in series, and to the bell or other signal device 5, preferably located in the engine room. An insulated connection 6 leads from the bell 5 to the bell 7, located on the first level of the mine, and a connection 8 from the bell 7 to the bell 9 located on the second or lower level. The remaining post of the bell 9 is connected to the conductor 2 by the connections 10.

The circuit closing means, to be mounted on the cage, comprises a substantially T-shaped member, consisting of a contact bar 11 adapted to span the two conductors in its

operative position and formed with a push rod 12 intermediate its ends and at right angles to its axis, the free end of the push rod being threaded to receive the hand grip 13. A suitable housing, consisting of a base plate 14 formed centrally with an opening 15 adapted to receive the push rod 12, and a casing 16 also provided with an opening 17 and a tubular extension 18 projecting inwardly from the opening. A coiled spring 19 is placed on the push rod 12 after it has been inserted in the opening 15 in the base plate 14 and the hand grip 13 is then inserted in the tubular opening 17 of the casing 16 and attached to the push rod thereby placing the spring under tension between the base and the inner face of the grip, the diameter of the latter being greater than that of the push rod.

From the foregoing it will be seen that with the system applied, as illustrated, the usual constant sliding contacts or suspended cable connections between the cage and the signal circuit is dispensed with, an equal resistance in the circuit is maintained by reason of the simple arrangement of the wiring, one end of the signal circuit being connected at the top of the shaft to the conductor 1 and the other end to the lower end of the conductor 2. When it is desired to signal engineers in the engine room or the workmen at any of the levels, the operator pushes inwardly upon the grip against the tension of the spring thereby forcing the contact bar 11 outward from the side of the cage and into contact with the conductors thus completing the circuit throughout the system. As soon as the grip is released the spring returns the contact bar to its inoperative position.

Having thus described the invention, what I claim as new is:—

In a signal system for mine shafts, the combination with the shaft and a cage slidable therein, of a pair of rigid conductors secured to one wall of the shaft adjacent the path of travel of the cage and spaced apart, an electric circuit and a source of energy therein, said rigid conductors forming overlapped terminals of the circuit and having connections with the circuit at relatively opposite ends, a plurality of signal devices connected in series in the circuit and adapted to be arranged at the various levels in the

mine and adjacent the cage hoist, means carried by said cage and operable to bridge the said rigid conductors in the movement of the cage whereby the signal devices may be
5 operated, and means for holding the last-named means out of contact with the rigid conductors.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH A. SCHELLENGER.

Witnesses:

JOSEPH H. PIERSON,
MARION S. WHITLEY.

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