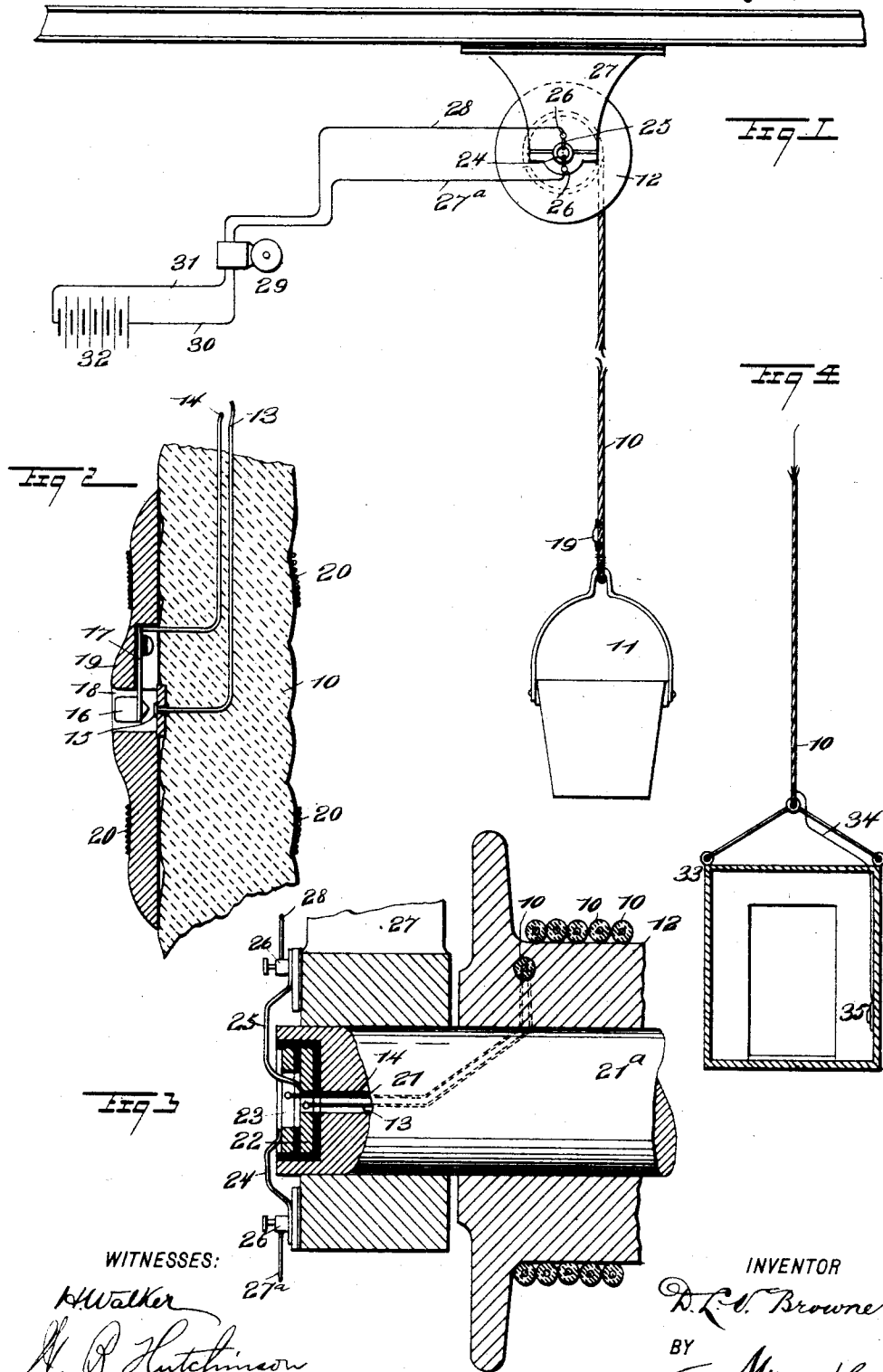


(No Model.)

D. L. V. BROWNE.
SIGNALING.

No. 542,142.

Patented July 2, 1895.



WITNESSES:

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DOUGLAS L. V. BROWNE, OF DENVER, COLORADO.

SIGNALING.

SPECIFICATION forming part of Letters Patent No. 542,142, dated July 2, 1895.

Application filed September 12, 1894. Serial No. 522,789. (No model.)

To all whom it may concern:

Be it known that I, DOUGLAS L. V. BROWNE, of Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Signaling, of which the following is a full, clear, and exact description.

My invention relates to an improved means of signaling; and the object of my invention is to provide a very simple and positive means for signaling from the moving buckets or cages of mining or similar shafts from elevator-cars, and in fact from any apparatus or device operated by a movable rope.

A further object of my invention is to provide electrical conductors for operating signals and concealing these within a rope or cable in such a way that the operation of the cable in winding or unwinding will in nowise be interfered with and to connect the said conductors with circuit-closing mechanism and with electrically-operated signals in such a way that the signals may be instantly operated without regard to the position of the rope or cable.

Another object of my invention is to arrange the signal system in such a manner that it will be always sure to act, to make good electrical contact, and never get out of repair.

To these ends my invention consists of a means of signaling, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken elevation of my improved cable as applied to a bucket and winding-drum, and the view shows also the electrical connections of the signal and rope. Fig. 2 is an enlarged detail sectional view showing a convenient arrangement of a push-button to close the circuit through the conductors of the rope. Fig. 3 is an enlarged detail sectional view showing the connections between the rope, the winding-drum, and the signal-wires; and Fig. 4 is a detail sectional view showing the application of my improved rope and conductors to an elevator-car.

The rope 10 may be of any usual make and of any ordinary material, and it is shown in Fig. 1 applied to a bucket 11 and winding-

drum 12; but so far as my invention is concerned it may be used in connection with any movable article. The rope is provided with insulated electrical conductors 13 and 14, which extend longitudinally through it, and these, being flexible wires, do not interfere with the operation of the rope, and as they are inclosed in the rope they are not likely to be disarranged. These conductors, near one end of the rope and at a point within reach of the bucket 11 or other article to which the rope is secured, are brought to the surface of the rope, as shown in Fig. 2, one terminating in a contact 15, which is arranged opposite the push-button 16, and the other being secured to the spring 17 of the push-button, which spring and push-button move in a recess 18 in the escutcheon-plate 19, which is fastened by wires 20 or other suitable devices to the rope 10. Where the rope connects with the drum 12, it is run through one side of the drum in the usual way, as shown in Fig. 3, and the conductors 13 and 14 are run through a bore 21 of the drum-shaft 21^a, and are secured, respectively, to contact-rings 22 and 23, which are insulated from each other and are fastened in a recess at the end of the shaft 21^a, as shown clearly in Fig. 3. These contact-rings make contact with brushes 24 and 25, which are held in binding-posts 26 on a bracket 27, which supports the shaft 21^a; but it will be understood that the brushes may be held in any rigid support near the shaft.

The binding-posts carry wires 27^a and 28, connecting with an electric bell 29 or with any other well-known signaling device, and this connects, by wires 31 and 30, with a battery 32. It will be seen, then, that whether the drum and its shaft are turning or are stationary, the brushes will always make contact with the rings 22 and 23, and as these are connected the circuit may be at any time closed through the signal by simply pushing the push-button 16 against the contact 15. In this connection it will be understood that any ordinary push-button may be used.

In some cases the winding-drum 12 turns loose on its shaft, and in such cases it will of course be understood that the rings 22 and 23 and their connections are applied to the drum itself instead of to the shaft.

It will be understood that the winding mechanism and the apparatus connected with the rope form no part of my invention, and that the conductors 13 and 14 may be held in
5 or on the rope in any convenient way and connected in any suitable manner with the signal and source of electricity without departing from the principle of my invention.

In Fig. 4 I have shown the rope connected
10 with an elevator-car 33, and in such a case the conductors are preferably held in a single insulator in the ordinary and well-known manner, and the cable 34, formed of the combined wires, is carried into the car and con-
15 nected with a push-button 35, so that the circuit may be closed at any time.

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

20 The combination with the hoisting drum

and its supports or bearings, of a hoisting cable having two insulated conducting cables concealed therein with their upper ends extending through one end of the drum, two
25 insulated apertured plates or rings mounted side by side in said end and connected with the respective wires, a brush extending at its free end through the aperture in the outer plate or ring into engagement with the inner
30 plate or ring, a second brush engaging the outer plate or ring, circuit wires connected to the respective brushes and including an alarm or signal, and a circuit closing device for the opposite ends of the conducting wires, substantially as described.

DOUGLAS L. V. BROWNE.

Witnesses:

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