(No Model.)

J. McCONAYHY & C. H. McCORMICK.

DANGER SIGNAL.

No. 590,849. Patented Sept. 28, 1897.

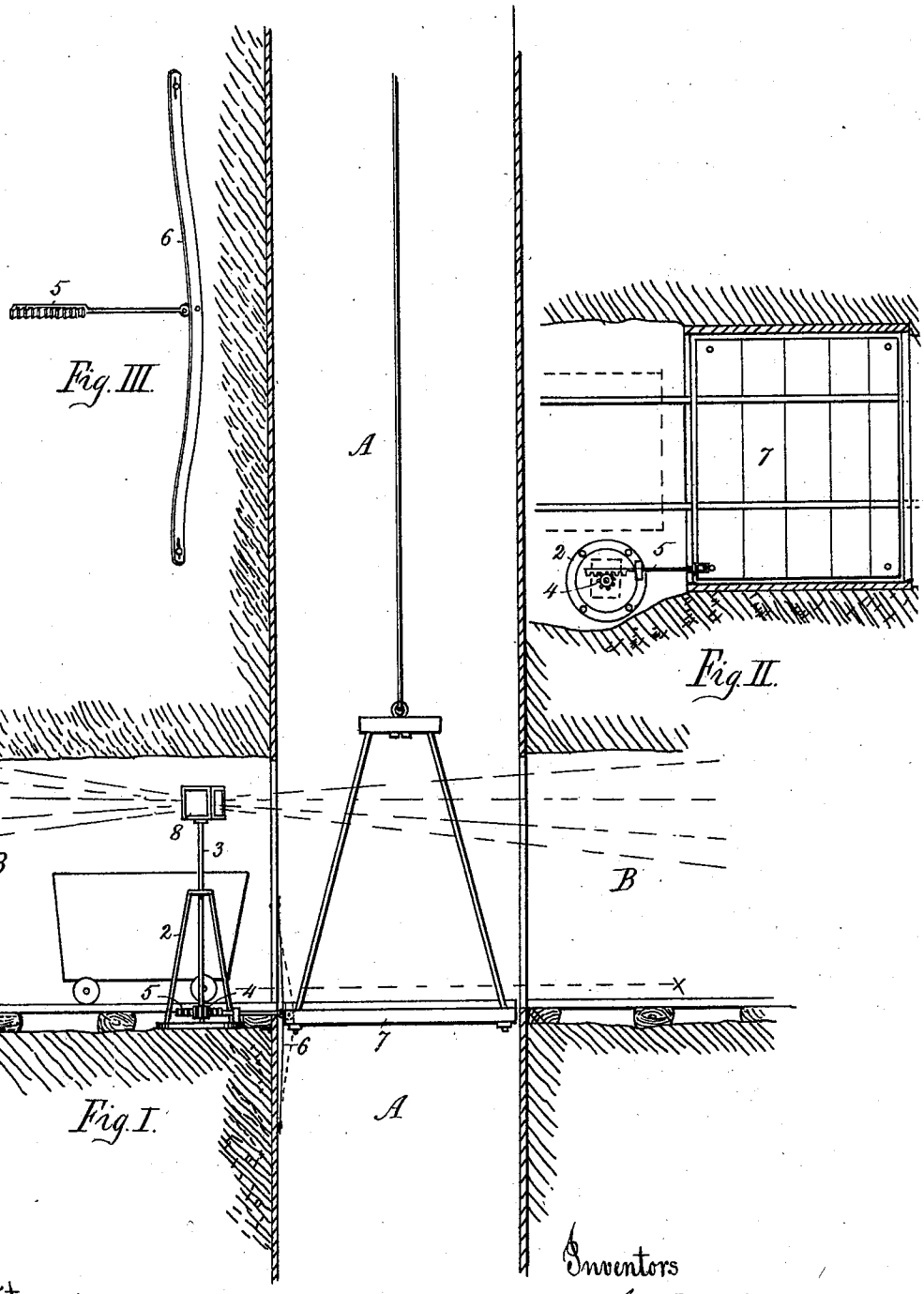


Fig. I.

Fig. III.

Fig. II.

Witnesses
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UNITED STATES PATENT OFFICE.

JAMES McCONAYHY AND CHARLES H. McCORMICK, OF VICTOR, COLORADO.

DANGER-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 590,849, dated September 28, 1897.

Application filed May 24, 1897. Serial No. 637,959. (No model.)

To all whom it may concern:

Be it known that we, JAMES MCCONAYHY and CHARLES H. MCCORMICK, citizens of the United States, residing at Victor, in the county of El Paso and State of Colorado, have invented a new and useful Improvement in Danger-Signals, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a vertical section of an elevator-shaft and an intersecting mine-level provided with our improved signal; Fig. 2, a plan section below line *x x*, Fig. 1; and Fig. 3, a detail view of the spring and rack-bar.

Our invention relates to certain improvements in danger-signals specially adapted for mines; and our object is to provide a simple, inexpensive, and reliable device designed to protect miners from one of the chief perils to which they are exposed when working in tunnels or levels which pass directly through or terminate at an elevator-shaft.

The invention consists of a signal-lantern provided on its sides with glass of contrasting colors and mounted on a vertical rotatable stem which is automatically actuated by mechanism in such a manner as to indicate at sight the locality of the cage or platform of the elevator with respect to any particular level, thereby giving timely warning and preventing disaster.

The peculiar merit of the device will be apparent by referring to the accompanying drawings, in which—

A indicates the shaft of a mine, and B a level which intersects the same. A stand 2 is located near one side of the level and has a stem 3 journaled therein. Its lower end carries a pinion 4, engaging a rack-bar 5, attached at one end to the center of a curved spring 6, which is actuated by a friction-roller attached to the platform or cage of the elevator 7 as it passes up or down the shaft. A lantern 8, having four sides, is mounted on the stem 3. Two of the opposite sides of the lantern are provided with white glass, the other two with red glass.

It will be understood that when the elevator-cage engages the spring the movement will cause the lantern to turn a quarter of a revolution.

The operation of the device is easily explained. The position of the lantern being at right angles with the level if a red light, indicating "danger," is displayed the elevator-cage is either above or below that level, and the shaft must not be approached until the white light is seen, showing that the cage is present. It will be observed that when a level extends through a shaft the signals are as plainly visible from one direction as the other.

What we claim as new is—

In a danger-signal, of the character described, the combination with the stand, the rotatable stem, the lantern, and the pinion at the lower end of said stem, of the rack-bar engaging with said pinion, the curved spring to which said rack-bar is secured and the vertically-movable elevator-cage adapted to contact with said rack-bar and actuate the same to turn the stem and lantern; substantially as specified.

In testimony that we claim the foregoing we have hereunto set our hands, this 10th day of May, 1897, in the presence of witnesses.

JAMES MCCONAYHY.
CHAS. H. MCCORMICK.

Witnesses:
L. B. DEWEY,
B. F. LOHUN.