R. W. LIGHTBURN.

DANGER SIGNAL FOR MINES.

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Fig. 1.

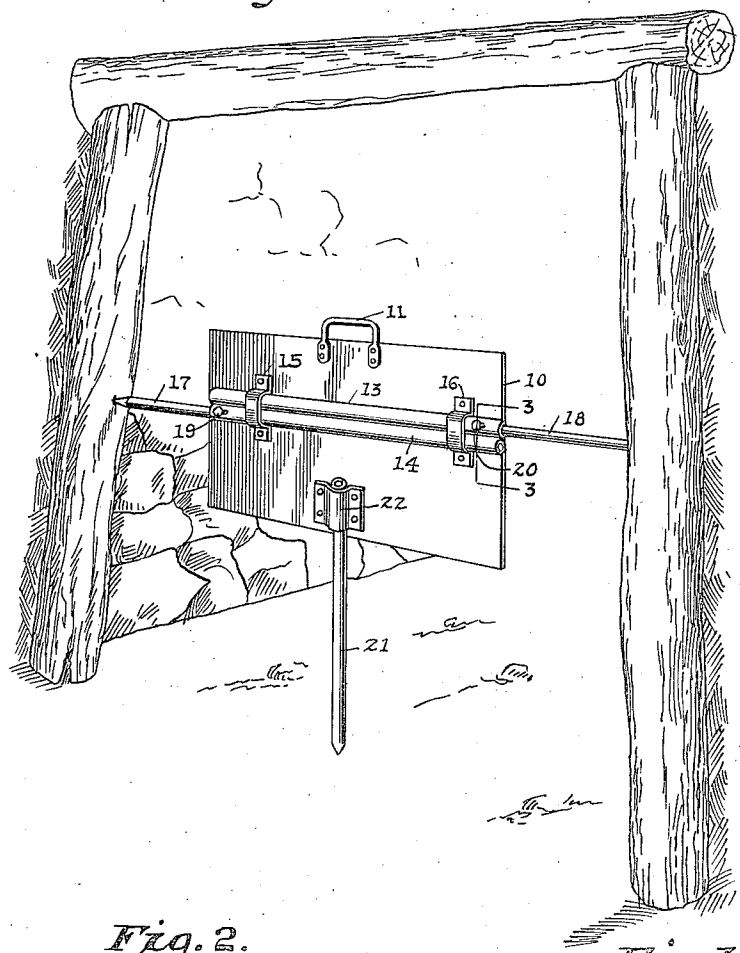


Fig. 2.

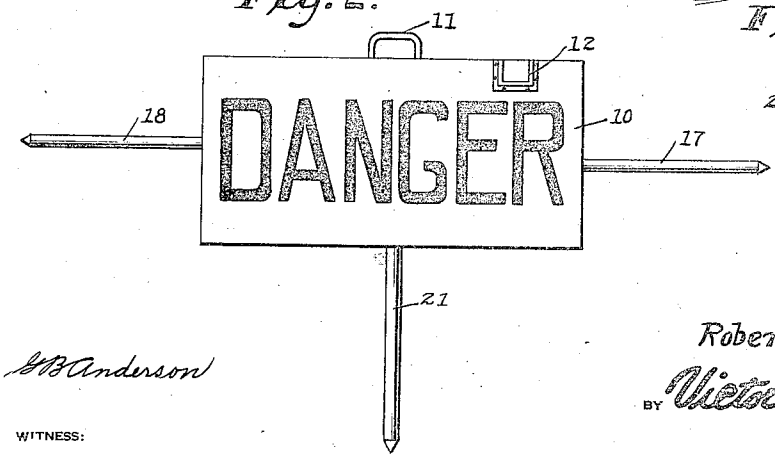
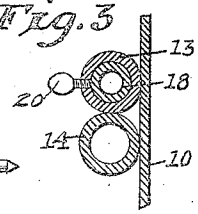


Fig. 3



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UNITED STATES PATENT OFFICE.

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DANGER SIGNAL FOR MINES.

Application filed April 17, 1922. Serial No. 553,503.

To all whom it may concern:

Be it known that I, ROBERT W. LIGHTBURN, a citizen of the United States, residing at Gans, in the county of Fayette and State of Pennsylvania, have invented new and useful Improvements in Danger Signals for Mines, of which the following is a specification.

The object of this invention is to provide a signal to be placed at the entrance of a dangerous portion of a mine, by the fire-boss, in making his rounds, the signal including supporting elements permitting it to be so positioned that it will act as an obstruction, in a sense, and prevent easy access to that portion of the mine which has been found unsafe.

A further object is to provide a signal comprising a metallic or other plate carrying a suitable warning, and adjustable members of particular construction, which will retain the device in position under different conditions.

A further object is to provide a device which may include a metallic plate, a supporting leg, a hanger, and extensible arms adapted to engage the upright timbers or walls of the entrance to that portion of the mine from which it is desired to bar the workmen or miners.

A further object is to provide a device of this kind with a small case, or receptacle, for cards on which the fire boss may indicate the cause of the trouble, adding any other data desired.

With the foregoing and other objects in view, the invention consists in the novel construction and arrangement of elements described and claimed, it being understood that modifications may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings, Figure 1 is a perspective view of the device in operative position, and showing the rear thereof; Figure 2 is a front elevation, and Figure 3 is a section on line 3—3 of Figure 1.

The metallic plate 10 may be of any suitable size, a plate 36 inches long and 18 inches high being considered of about the correct proportions. The upper edge has connected therewith a hanger or handle 11, by means of which the device may be readily suspended, when desired, and by means of which it may be manipulated when the adjustable arms described below are employed.

The warning usually consists of the word "Danger," painted in a conspicuous manner, and mounted on the plate is a case or receptacle 12 for receiving cards on which the fire-boss may state the cause of the trouble.

Connected with the plate 10 are a plurality of sections of pipe 13 and 14, one and one-quarter inch pipe being suitable for the purpose, and metallic straps 15 and 16 affording the necessary securing means.

Extensible arms 17 and 18 of one inch pipe are received by elements 13 and 14, and are secured in any desired position by means of screws 19 and 20. Arms 17 and 18 are designed for engaging the upright timbers at the entrance of a mine chamber, or some portion of the wall, and sufficient provision is made for adjustment, so that the device may be employed in an entrance or passageway of any size where the warning is likely to be posted.

A leg 21 may be mounted centrally and vertically of the plate 10 and act as an additional supporting member, or may act independently as a supporting member. A socket 22 is securely connected with the lower portion of the plate 10, and serves to mount the leg 21.

It may be added that the cards placed in the receptacle provided for that purpose by the fire-boss, are intended for the mine foreman or his assistant. The device so constructed constitutes not only a warning, but also an obstruction which cannot be passed without due notification to any one making the attempt. The fire-boss has a limited time for making his rounds, and is unable to provide a suitable barrier, or even a suitable warning, unless provision is made in advance. If he fails to complete his rounds in time for the miners to enter, the consequences may be serious, and in any event warnings not properly erected, or not sufficiently conspicuous, are of little value.

Having thus described the invention, I claim:

1. In a device of the class described, a plate member, tubular elements secured to the plate and positioned parallel therewith, arms slidable with reference to the tubular elements and movable in opposite directions, and means for securing the arms.

2. A device of the class described, comprising a plate member, arms slidable with reference thereto, in opposite directions and adapted to engage supporting elements, and

means projecting from the plate at an angle with reference to the arms and constituting a supporting element.

3. In a device of the class described, a plate, tubular members secured to the plate in parallel relation, arms slidable in the tubular members, means for securing the arms in an adjusted position, and devices extending from the plate in opposite directions and acting at times as supporting elements.

4. In a device of the class described, a plate, tubular members secured to the plate in parallel relation, arms slidable in the tubular members, means for securing the arms in an adjusted position, and devices extending from the plate in opposite directions and acting at times as supporting elements, one of said devices last named constituting a leg and the other constituting a hanger.

In testimony whereof I affix my signature.

ROBERT W. LIGHTBURN.