

A. P. FORD.
MINER'S ELECTRIC SAFETY LAMP.
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1,406,359.

Patented Feb. 14, 1922.

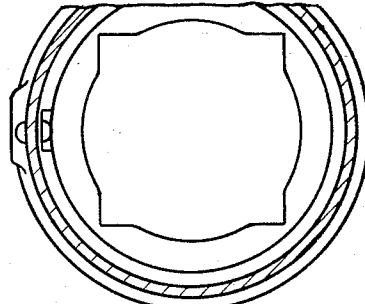
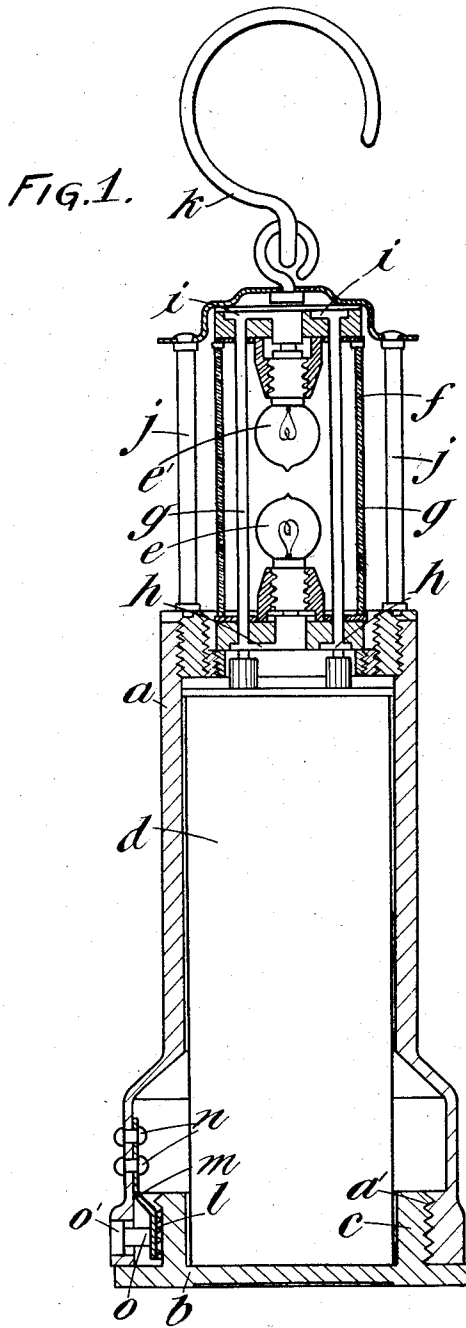


Fig. 2.

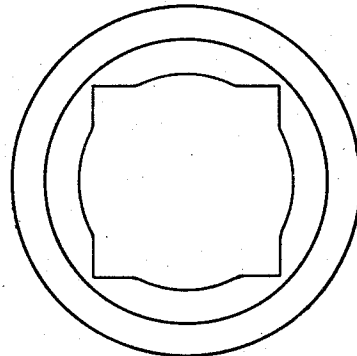


Fig. 4.

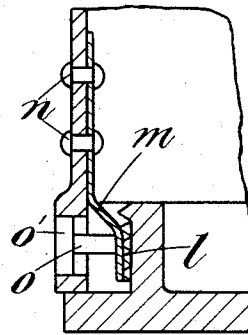


Fig. 5.



Fig. 3. INVENTOR
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UNITED STATES PATENT OFFICE.

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MINER'S ELECTRIC SAFETY LAMP.

1,406,359.

Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed March 10, 1921. Serial No. 451,245.

To all whom it may concern:

Be it known that I, ARTHUR POYNTON FORD, a subject of the King of Great Britain and Ireland, and a resident of Stoke-upon-Trent, county of Stafford, England, have invented a certain new and useful Improvement in Miners' Electric Safety Lamps, of which the following is a specification.

This invention relates to miners' electric safety lamps, and has for its object to provide a lamp of this kind having two bulbs, both in parallel circuit with the accumulator, so that should one bulb burn out the other will continue to burn, and which lamp may be so locked that, when locked, it is absolutely fool-proof.

In carrying the present invention into effect, the lamp is locked by means of a steel bolt or rivet passed through a hole formed in the outer casing or body of the lamp and acting against the loose end of a flat spring secured by one end to the inner side of the wall of the lamp. The spring is thus forced into a recessed portion of a screw-threaded base screwed into the lower open end of the lamp body, and securely locks the lamp, which can then only be opened by the application of a magnet to the head of the locking bolt or rivet, the latter then being capable of being withdrawn sufficiently to permit of the spring being forced out of the recess by the unscrewing of the base from the lamp body. The two bulbs above mentioned are fitted in a glass cylinder and means are provided for carrying the current to the bulbs.

The lamp constructed in accordance with this invention is illustrated in the accompanying drawing, in which:—

Figure 1 is a sectional elevation of the lamp complete.

Figure 2 is a sectional plan of the lamp body and locking device.

Figure 3 in elevation, shows the base of the lamp separately, said base being formed with an interrupted peripheral thread.

Figure 4 is a plan of same; and

Figure 5 is a fragmentary sectional view of the locking part of the lamp.

In the drawings aforesaid, *a* indicates the lamp body, *b* is the base plate formed with an upwardly projecting neck portion *c* externally screw-threaded to adapt it to screw into the lower end of the body *a* correspondingly screw-threaded internally for its reception (see *a'* Figure 1). An accumulator

d is fitted within the body *a* of the lamp, and *e*, *e'* are two bulbs fitted within a glass cylinder *f*, mounted on the upper part of the lamp body *a*.

Brass rods *g* are screwed into the top contacts *i* and plugged into two contacts *h* at the bottom by which means current is carried to the top bulb *e'*.

Wire pillars or rods *j* are fixed at the upper end of the lamps body *a* and support a cover to which a suspending hook or handle *k* is connected.

The locking device provided, in accordance with this invention, whereby the lamp when assembled and locked is rendered positively fool-proof, is of a very simple form and its operation is as follows:—

A portion *l* of the screwed periphery *c* of the lamp base has the thread interrupted (see particularly Figure 3) and thus presents a groove or recess in which fits a spring plate *m* secured at one end to the inside of the lamp body *a* by rivets or the like *n*. The lower end of said spring *m* is held securely in the slot *l* by a steel bolt or rivet *o* which passes through the wall of the body *a* of the lamp and has its head *o'* just below the outer circumference of said body *a*. The latter is formed with a countersink or socket for the head *o'* of the bolt or rivet, thereby allowing of a bolt or rivet of sufficient length being used.

Said bolt or rivet *o* can only be withdrawn by using an electro or permanent magnet of sufficient power to effect its withdrawal to the required extent to permit the spring *m* to be forced out of the groove *l* when the bolt *b* is unscrewed from the body *a* of the lamp.

I claim:—

1. A lamp of the class described including a tubular battery holding casing, a detachable base plate carried at one end of the casing, an illuminating unit detachably engaging with the other end thereto, said illuminating unit including separate, oppositely and axially spaced lamp-carrying members, lamps fitted to said lamp-carrying members, and conductor elements between said members for connecting the lamps in parallel.

2. A lamp of the class described including a tubular casing having a relatively enlarged base portion provided with interior threads adjacent its open end, a base plate having threads for engaging with said interior threads of the casing and a portion of

said threads on the base being cut away, a magnetically operated lock for said base plate including a spring adapted to fit in said cut away portion of the threads of the
5 base plate, a member carried by the spring and slidable radially through an opening in the casing whereby its exposed head portion may be engaged by a magnet.

10 3. A lamp of the class described including a tubular casing having interior threads at opposite ends thereof, a plate engaging with threads at one end of the casing, a battery having contacts and arranged within

the casing, an illuminating unit engaging with the threads at the opposite ends of the 15 casing, said illuminating unit including oppositely arranged lamp-carrying elements, lamps fitted therein, and conductor rods extending between said lamp-carrying members and engaging at their lower ends with 20 the contacts of the battery.

In testimony whereof I have affixed my signature hereto this 11th day of February, 1921.

ARTHUR POYNTON FORD.