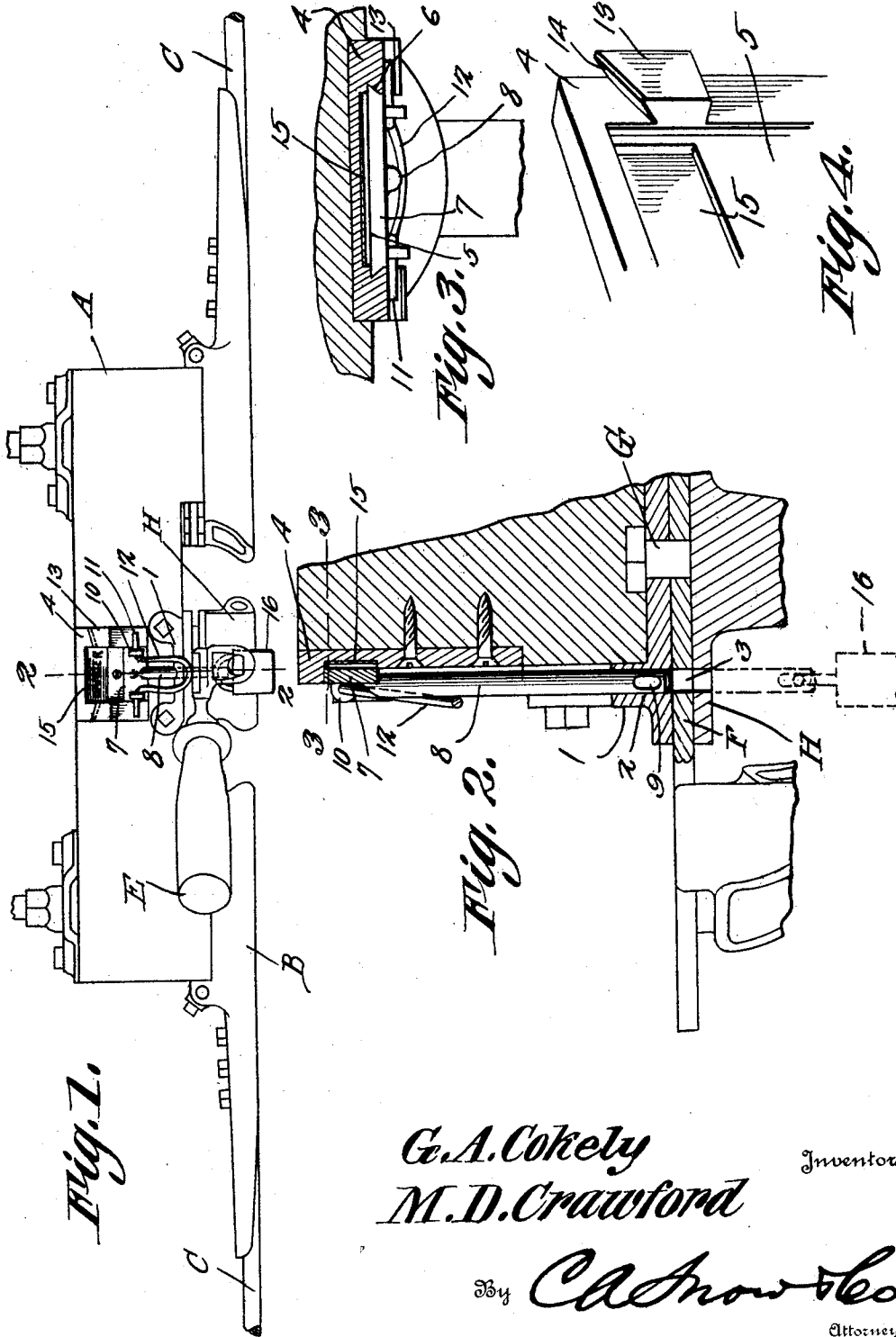


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SWITCH LOCK.

APPLICATION FILED JULY 29, 1921.

1,396,095.

Patented Nov. 8, 1921.



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# UNITED STATES PATENT OFFICE.

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## SWITCH-LOCK.

1,396,095.

Specification of Letters Patent.

Patented Nov. 8, 1921.

Application filed July 29, 1921. Serial No. 488,326.

*To all whom it may concern:*

Be it known that we, GEORGE A. COKELY and MICHAEL D. CRAWFORD, citizens of the United States, residing at Garrett, in the county of Somerset, State of Pennsylvania, have invented a new and useful Switch-Lock, of which the following is a specification.

This invention relates to a switch lock especially designed for use in connection with overhead trolleys such as used in mines.

The mining laws of most States require that before workmen are permitted to handle electric wires, the said wires be cut out of the circuit so that danger of electrocution is eliminated. Switches for this purpose have been used but have been objectionable for the reason that by accident or mistake they have been shifted so as to close the circuit with the result that persons working on the wires supposed to be cut out have been killed or injured.

One of the objects of the present invention is to provide such a switch with a lock whereby it becomes impossible to place the wire or wires in circuit by accident, it first being necessary to unlock the switch and then to shift it.

Another object is to provide a switch having a danger signal combined with the lock so that when the switch is locked this signal will be displayed to warn against the unlocking and closing of the switch.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a side elevation of switch having the present improvements combined therewith.

Fig. 2 is an enlarged section on line 2—2, Fig. 1, only a portion of the switch being illustrated.

Fig. 3 is a section on line 3—3, Fig. 2.

Fig. 4 is a perspective view of a portion of the guide plate of the lock.

Referring to the figures by characters of reference A designates the body or block of a switch of ordinary type to which are connected terminals B to which the wires C are connected. The shiftable member of the switch has been indicated at D and includes a handle E, and a plate F, this plate being mounted to swing about a pivot G. These parts all constitute an old type of switch which, however, has been objectionable because the handle E is likely to be swung accidentally so as to move the circuit closer H against the terminals B so as thus to bridge the space between the terminals and close the circuit between the wires C.

The improvement provided for preventing movement of the switch accidentally when opened, includes a bracket 1 having an opening 2 extending downwardly therethrough and adapted, when the switch is open, to register with an opening 3 formed within the plate F and in the circuit closer H. Attached to one side of the body A is a guide plate 4 having a recess 5 in the outer face thereof, the side walls of which are undercut as shown at 6 in Fig. 3 so as to engage and guide the beveled sides of a slide 7 mounted in the recess 5. This slide has a bolt 8 secured to the outer face thereof and adapted to work within the opening 2, there being an opening 9 in the lower end portion of the bolt. Ears 10 are extended outwardly from the slide 7, and are slidably and pivotally engaged by oppositely extending fingers 11 extending from the side members of a spring bail 12.

Extending outwardly from the sides of the plate 4 near the top thereof are lugs 13, the upper faces of which are inclined downwardly and inwardly and are also extended upwardly and laterally as shown at 14 in Fig. 4. A recess 15 may be formed in the back face of the recess 5 near the upper end thereof and can contain a danger signal such, for example, as the word "Danger" displayed on a printed label or enameled on the plate 4.

Under normal conditions the slide 7 is raised so as to cover the danger signal and the ends of the fingers 11 rest on the inclined faces of the lugs 13. As the bail 12 is of spring metal it will press the ends of the fingers against the faces 14 and thus hold the slide 7 raised to its uppermost position as shown in Fig. 2. When it is desired

to lock the switch in open position said switch is shifted away from the terminals B as shown in Fig. 1 and this will bring the opening 3 into register with the opening 2. The sides of the bail 12 are then pressed toward each other to withdraw the fingers 11 from above the lugs 13. Slide 7 and bolt 8 can then be moved downwardly and the bolt will enter and pass below the opening 3 after which a suitable lock, such as a padlock 16 can be secured in the opening 9. Thus workmen can handle the wire without fear of accident. When the job is completed the padlock can be removed, the sides of the bail 12 pressed toward each other and the bolt raised until the fingers are brought above the lugs 13 whereupon the bail can be released and the fingers will spring into engagement with the faces 14 and thus support the bolt.

What is claimed is:—

1. The combination with a switch including terminals and a member mounted to swing into and out of contact with the terminals, said member including an apertured plate, of a bolt, a slide connected thereto, means for guiding the slide, to direct the bolt into the opening in the movable member of the switch.
2. The combination with a switch including terminals and a member mounted to swing into and out of contact with the terminals, said member including an apertured plate, of a bolt, a slide connected thereto,

means for guiding the slide, to direct the bolt into the opening in the movable member of the switch, and a lock for engaging the bolt to prevent its withdrawal from the opening.

3. The combination with a switch including terminals and a movable member mounted therebetween and having an opening therein, of a guide, a slide mounted therein, a bolt carried by the slide, supporting lugs, spring members detachably engaging the lugs to support the slide and bolt in elevated positions, said bolt being shiftable into the opening, when released from the lugs, to fasten the movable member against shifting.

4. The combination with a switch including spaced terminals and a movable member therebetween having an opening, of a guide having a danger indicator, a slide mounted on the guide, a bolt movable therewith, supporting lugs upon the guide, spring means cooperating with the lugs and upon the slide for detachably supporting said slide in elevated position to conceal the danger indicator, said slide when released being movable downwardly to direct the bolt into the opening in the movable member of the switch.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures.

GEORGE ALOYSIUS COKELY.  
MICHAEL DAVID CRAWFORD.