

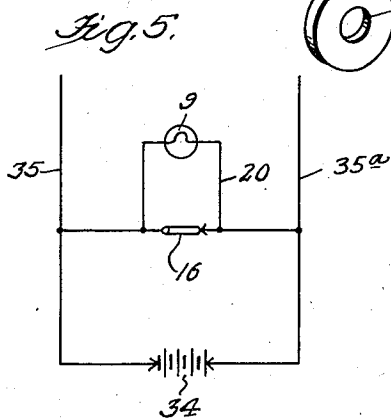
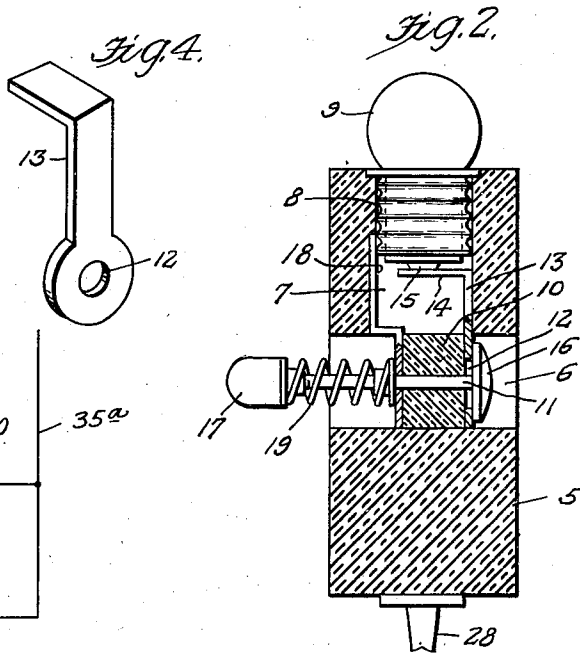
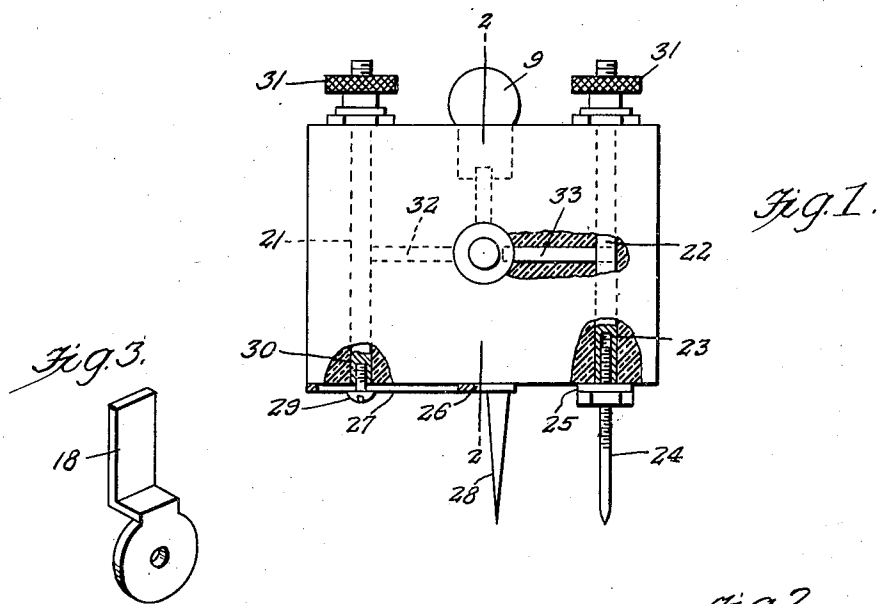
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2,163,475

BLASTING DEVICE

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UNITED STATES PATENT OFFICE

2,163,475

BLASTING DEVICE

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1 Claim. (Cl. 175-183)

This invention appertains to new and useful improvements in blasting switches and more particularly to a switch employing a light which serves to indicate when the circuit is properly functioning.

During the course of the following specification other important objects and advantages of the invention will become apparent to the reader.

In the drawing:

Figure 1 represents a side elevational view of the switch with parts broken away.

Figure 2 represents a vertical sectional view through the switch taken substantially on the line 2-2 of Figure 1.

Figure 3 is a perspective view of one of the lamp contacts.

Figure 4 represents a perspective view of the other lamp contact.

Figure 5 is a diagrammatic view showing the electrical connection in and from the switch.

Referring to the drawing wherein like numerals designate like parts, it can be seen that the switch consists of a block 5 of dielectric material having the transverse bore 6 therein and also a vertically extending bore 7. The vertically extending bore 7 has a lamp socket 8 therein for receiving a bulb 9. Numeral 10 represents a dielectric block located in the transverse bore 6 through which the stem 11 is slidable. This stem 11 extending through the large opening 12 in the lower portion of the contact strip 13, which strip 13 is provided with a laterally extending contact portion 14 for engaging the center contact 15 of the bulb 9. The stem 11 has a contact head 16 thereon which is capable of engaging the contact strip 13 when the stem 11 is in the position shown in Figure 2.

The opposite end of the stem 11 projects beyond one side of the body 5 and has a hand knob 17 thereon. Interposed between this knob 17 and the lower portion of the contact strip 13 is a coiled compressible spring 19 which serves to maintain the stem 11 urged toward the left in Figure 2 so as to maintain the contact head 16 engaged with the contact strip 13.

Rods 21-22 extend downwardly through the body 5 at opposite sides of the block 10. The lower end of the rod 22 is provided with a threaded bore 23 for receiving the upper threaded end portion of the pointed contact strip 24. A jam nut and washer 25 is provided on the pin 24 and can be jammed against the bottom of the body 5 to prevent self-adjustment of the pin 24. A strip 26 provided with a longitudinally extending slot 27 therein has a depending pointed contact prong 28. A set screw 29 extends through the slot 27 and is driven into the threaded bore 30 in the

lower end of the rod 21. The upper end of each of the rods 21-22 is threaded to accommodate a conductor binding nut 31. Extending from the rod 21 is a bus 32 which connects to the contact strip 18 while a bus strip 33 extends from the rod 22 to engage the contact strip 13.

In the use of this device, the switch is normally closed. This is the normal position of the switch elements. Current will not flow along the conductors 35-35a until this switch is opened. However, to test the battery and the switch above described, the shunt 20 with the lamp 9 therein is employed and without the conductors 35-35a connected with the explosive charge, by opening the switch 16 (see Figure 5) current will flow through this shunt and energize the lamp 9. This indicates that the switching circuit is in operation. The prongs 24-28 are then disconnected from the battery and the wires 35-35a connected with the charge and the operator then takes the device to a remote point of safety and by applying the prongs 24-28 to the usual blasting battery and pushing the button 17 so as to open the switch, the electric energy sent along the circuit including the wires 35-35a, setting off the charge. However, as long as the switch is closed the charge will not be set off and this obviously serves as a safety device.

Obviously if when the switch is opened and the light is energized and the explosive is not set off, the indication is that there is something wrong with the connection to the charge or in the conductors 35-35a.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit or scope of the invention as claimed hereinafter.

Having thus described the invention, what is claimed as new is:

A switch structure for blasting circuits comprising a body having a pair of battery engageable contact pins protruding therefrom, a lamp on the body, a pair of binding posts on the body connected with the pins, a switch mounted on the body, connections between the binding posts and opposite sides of the switch, a shunt around said switch and having the lamp therein, a slotted member carrying one of the pins, a screw disposed through the said slotted member and driven into one of the said binding posts, said screw having the said slotted member slidable thereon when the screw is unloosened with respect to its corresponding binding post.

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