

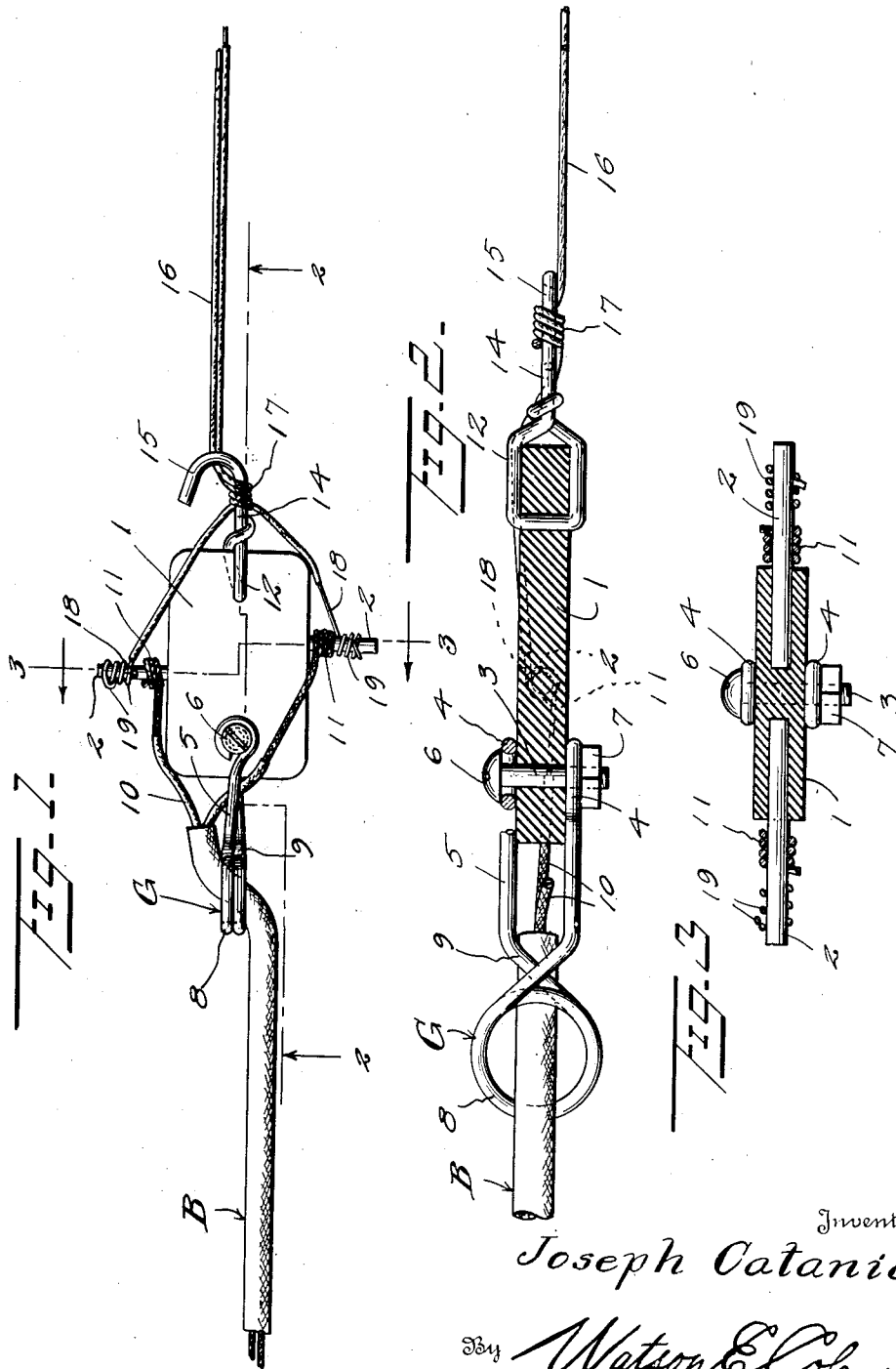
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SAFETY BLASTING COUPLER

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## SAFETY BLASTING COUPLER

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3 Claims. (Cl. 174—88)

This invention relates to a safety blasting coupler, and it is an object of the invention to provide a device of this kind particularly adapted for use in coal mines and which serves to provide means to substantially eliminate liability of the blasting cable or cap wires having a short.

It is also an object of the invention to provide a device of this kind whereby the blasting cable and the cap wires are readily connected and in a manner whereby the cap wires or the cable will not pull loose.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved safety blasting coupler whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein—

Figure 1 is a view in top plan of a coupler constructed in accordance with an embodiment of my invention and with the terminals of a blasting cable and the terminals of the cap wires connected thereto;

Figure 2 is an enlarged sectional view taken substantially on the line 2—2 of Figure 1 with certain of the parts in elevation;

Figure 3 is a transverse sectional view taken substantially on the line 3—3 of Figure 1 with parts in elevation.

As disclosed in the accompanying drawing, 1 denotes a plate of desired configuration and dimensions and which is formed from a suitable fibre or other material non-conductive of electricity. As particularly illustrated in Figure 1, this plate 1 is oblong in plan and secured to the opposite side edge faces of the plate 1 and extending outwardly and laterally therefrom in opposite directions are the posts 2 of copper or other material conductive of electricity. As illustrated in Figure 1 of the drawing, these posts 2 are offset one with respect to the other in a direction lengthwise of the plate 1.

One end portion of the plate 1 at its transverse center has disposed therethrough a bolt 3 which is also directed through the eyes 4 provided at the outer or free extremities of the spaced shank arms 5 whereby the cable guide G is securely held to the plate 1 yet capable of

having such rocking or swinging movement as may be required. The bolt 3 is provided at one end with a head 6 for holding engagement with one of the eyes 4 while the second eye 4 has co-acting therewith a holding member 7 threading upon the free end portion of the bolt 3.

The shank arms 5 constitute a continuation of the guide member G which comprises a coil 8 of a metal stand of desired gauge and, as particularly illustrated in Figure 2, the inner portions 9 of the shank arms 5 are crossed.

As is clearly illustrated in Figure 1, an end portion of the blasting cable B is threaded through the guide member G and the bared extremities of the conductors wires 10 comprised in the cable B are wrapped around the posts 2 as indicated at 11. It is to be noted that the axis of the guide member G is substantially parallel to the adjacent end edge of the plate 1 or, in other words, the guide member G occupies a plane substantially at right angles to the planes of the flattened side faces of the plate 1.

The end portion of the plate 1 remote from the bolt 3 has looped therethrough, as at 12, substantially the transverse center of the plate 1 an end portion of an elongated shank 14 provided at its outer end with an inwardly facing hook member 15. The usual cap wires 16 are passed through the hook member 15 and wrapped, as at 17, around the shank 14. The adjacent extremities of the wires 16 are bared, as at 18, and said bared end portions are tightly wrapped around the posts 2, as at 19.

In view of the foregoing it is believed to be readily apparent that with the use of my improved coupler the wires 10 of the cable B and the cap wires 16 are effectively coupled and in a manner whereby they will not be readily pulled apart. It is also believed to be apparent that my improved coupler operates effectually to prevent a short and to otherwise materially facilitate the desired electrical hookup in connection with a blasting operation and more particularly within a mine.

From the foregoing description it is thought to be obvious that a safety blasting coupler constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and forma-

tion of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. A coupler of the class described comprising an elongated plate of a material non-conductive of electricity, outwardly directed posts carried by opposed side edge faces of said plate, said posts being of a material conductive of electricity and being offset one with respect to the other in a direction lengthwise of the plate, and holding members secured to the opposite end portions of the plate and substantially at the transverse center thereof and extending outwardly beyond the opposite ends of the plate, one of said holding members including in its outer portion an eye through which a blasting cable is to be inserted, the holding member at the opposite end of the plate having its outer extremity formed to provide an inwardly facing hook member.

2. A coupler of the class described comprising a plate of a material non-conductive of elec-

tricity, oppositely directed posts conductive of electricity carried by the plate, and holding members carried by the opposite end portions of the plate, one of said holding members including an eye through which an end portion of a blasting cable is to be inserted, and means for pivotally connecting said last named member to the plate.

3. A coupler of the class described comprising a plate of a material non-conductive of electricity, oppositely directed posts conductive of electricity carried by the plate, and holding members carried by the opposite end portions of the plate, one of said holding members including spaced shank arms, and a coil at the outer ends of the arms to provide an eye through which an end portion of a blasting cable is to be inserted, said arms and coil being comprised in a single length of material, the shank arms straddling an end portion of the plate, and means for pivotally connecting said end portions of the shank arms to the plate.

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