Aug. 26, 1941. T. E. BARTON 2,253,549

BLASTING FUSE ANCHOR

Filed July 25, 1938

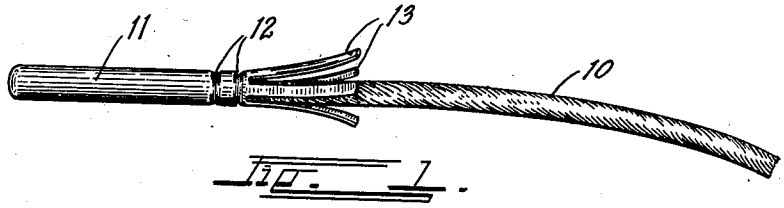



Fig. 1.

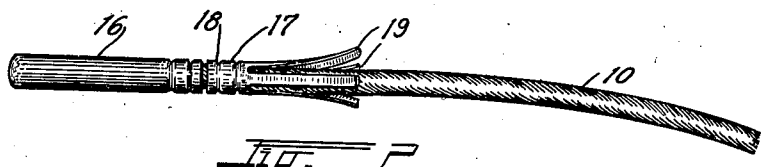



Fig. 2.

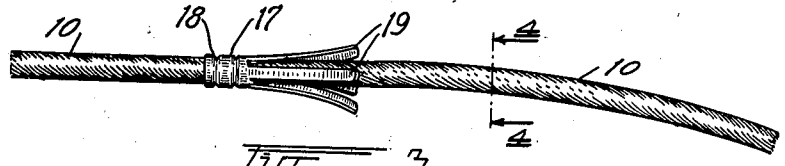



Fig. 3.

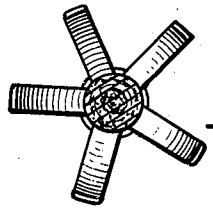


Fig. 4

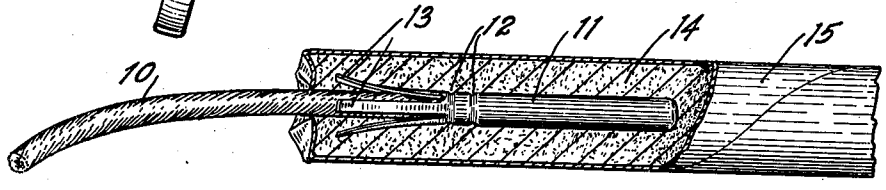



Fig. 5.

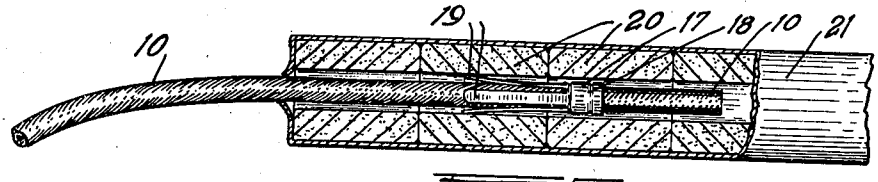



Fig. 6.

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# UNITED STATES PATENT OFFICE

2,253,549

## BLASTING FUSE ANCHOR

Thomas E. Barton, Littleton, Colo.

Application July 25, 1938, Serial No. 221,137

1 Claim. (Cl. 102—6)

This invention relates to a blasting fuse anchor, that is, a device for anchoring a detonator or the firing extremity of a blasting fuse in an explosive charge.

At present, dynamite is primed by unwrapping one extremity of the cartridge, inserting the capped fuse, and then tieing the wrapper about the fuse to hold the cap or detonator in place. Powder cartridges are similarly primed by tieing the firing extremity of the fuse in the cartridge wrapper. If electric blasting caps are used with dynamite cartridges, holes are punched through the cartridge and the ignition wires are laced through the holes to hold the cap in place in the cartridge.

The principal object of this invention is to provide automatic means for holding the fuse, cap, or wires in place which eliminate unwrapping the cartridge, tieing the fuse, or lacing the wires and yet which will provide a positive and secure anchor for the fuse or detonator.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part thereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 illustrates the invention combined as an integral part of the usual fuse cap.

Fig. 2 illustrates the invention as an independent member used in combination with a fuse cap.

Fig. 3 illustrates the invention as applied to a fuse without the cap.

Fig. 4 is an end view of the anchor member taken on the line 4—4, Fig. 3.

Fig. 5 illustrates the combined cap and anchor in place in a dynamite stick.

Fig. 6 illustrates the anchor in place in a pellet powder cartridge.

In the drawing a typical blasting fuse is designated by the numeral 10 and a typical blasting cap by the numeral 16. The invention may be constructed, as illustrated, either as an independent device or as a part of the usual detonating blasting cap.

In Fig. 1 the combined form is illustrated. In this form, the detonating cap, illustrated at 11, is formed with a relatively long skirt portion which is slit at a plurality of places to form a series of resilient, projecting, locking tongues or fangs 13 about the fuse 10. The cap is crimped to the fuse in the usual manner, as shown at 12. When forced into dynamite cartridges such as indicated at 14 in Fig. 5, the fangs 13 expand therein to resist withdrawal of the fuse.

Dynamite cartridges are wrapped in a relatively stiff, water-proof paper covering 15 which is folded inwardly at the extremities of the stick. The cap can be easily forced through the inwardly folded extremity of the wrapper and the latter will cooperate with the fangs 13 to prevent withdrawal of the cap and fuse.

In Fig. 2, the improved anchor is illustrated as an independent member used in combination with the usual blasting cap 16. This form of the device consists of a tubular sleeve 17 which may be crimped to the fuse, as shown at 18, by one of the usual cap crimpers or otherwise secured thereon. The sleeve 17 is formed with a series of locking fangs or tongues 19 similar to the previously described form. The independent form is inserted in the cartridge similarly to the combination form previously described. The independent form can also be used, however, with powder charges which do not require a detonating cap. In such a use, the sleeve 17 is crimped to the fuse, as shown in Fig. 3, and the extremity of the fuse is forced into the powder cartridge where the fangs 19 expand to resist withdrawal thereof. It can also be used with loose powder poured in the drill hole since the fangs will prevent withdrawal of the fuse through the powder, tamping and wadding in the hole. It has also been found valuable for use with the cored powder or pellet powder cartridges, such as illustrated at 20 in Fig. 6. The latter cartridge consists of a string of pressed powder cakes having a central passage or core and wrapped in a wrapper 21. To prime the cartridge the fuse is pushed through the end wrapping into the core of the cakes 20 where the fangs 16 expand to engage the walls thereof and hinder withdrawal.

While the invention has been described as particularly applicable to blasting fuses, it is desired to be understood that in cases where electric blasting caps or squibs are used, the improved anchor can be applied to the ignition wires adjacent the cap similarly to its application to the fuse 10 in Fig. 2.

If the sleeve member be formed of a diameter to snugly engage the fuse the latter can be forced through the sleeve and the latter will remain in position without the necessity for crimping. If made of metal a non-ferrous, non-spark-produc-

ing metal should be used. Hard copper has been found very satisfactory.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claim, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

An integral self-anchoring blasting cap for fuses consisting of: a tubular metallic member closed at one extremity and open at the other; detonating material in the closed end of said member; said member having a circumferential constriction spaced a substantial portion of the length of the member from the open end to bear upon a fuse; said member having a plurality of spaced apart slits extending from the open end to a location adjacent the said constriction providing a plurality of fangs flared outwardly whereby to maintain the cap and associated fuse within a blasting charge.

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