

No. 829,595.

PATENTED AUG. 28, 1906.

D. McEACHERN.
BLASTING CAP.

APPLICATION FILED DEC. 20, 1905.

Fig. 1.

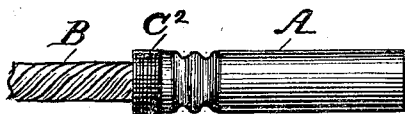


Fig. 2.

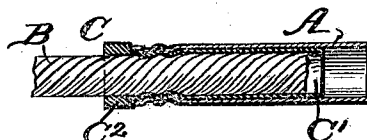


Fig. 3.



Fig. 4.

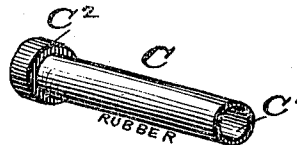
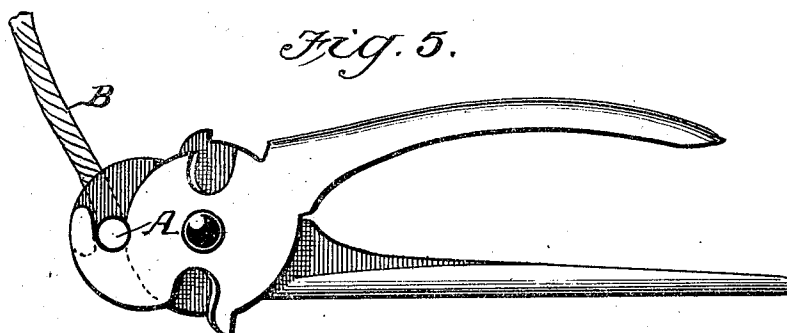


Fig. 5.



WITNESSES:
Jos. A. Ryan
Perry B. Turpin

INVENTOR
Dougald McEachern
BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

DOUGALD McEACHERN, OF ERIE, CANADA, ASSIGNOR OF ONE-HALF TO
JAMES L. KANE, OF MARBLE, WASHINGTON.

BLASTING-CAP.

No. 829,595.

Specification of Letters Patent.

Patented Aug. 23, 1906.

Application filed December 20, 1905. Serial No. 292,867.

To all whom it may concern:

Be it known that I, DOUGALD McEACHERN, a subject of the King of Great Britain, and a resident of Erie, in the Province of British Columbia and Dominion of Canada, have made certain new and useful Improvements in Blasting-Caps, of which the following is a specification.

My invention is an improvement in blasting-caps, and has for an object to provide a novel construction of cap whereby to prevent the passage of water to the explosive within the cap; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side view of a cap and fuse provided with my invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a longitudinal section of the cap and plug before application to the fuse. Fig. 4 is a detail perspective view of the plug, and Fig. 5 is a side elevation showing the crimping-tool.

In the use of blasting-caps much inconvenience results from the passage of water to the explosive within the cap, it being found that the crimping of the cap in the usual manner is not always effective in preventing such passage of the water. By my invention I provide, in connection with the ordinary cap A and the ordinary fuse B, a plug C of suitable material—such, for instance, as rubber—which forms a lining for the cap and is made sufficiently thin to permit the crimping-tool to operate upon it to produce the desired packing action without requiring so much pressure of the crimping-tool as to fracture or otherwise affect the continuity of the powder-filling within the fuse. In some instances when the crimping is forcibly effected the powder in the fuse will be broken, so that the flash will not extend to the end of the fuse and ignite the explosive within the cap. It becomes important, therefore, to make the tubular portion C' of the plug C thin in practice, so that it can be readily operated upon without too much pressure; but when made so thin and fitted within the cap there is a tendency on the part of the tubular portion C' to roll up at its outer end by the friction of the fuse in inserting the same, and this is objectionable, as it tends to prevent the proper insertion of the fuse. I therefore

provide my plug at its outer end with an outwardly-projecting annular flange C², which abuts the open end of the cap A and by its thickness prevents the rolling up of the outer end of the lining-plug and also forms a stop to limit the insertion of the plug, as will be understood from Figs. 1 and 2 of the drawings.

It will be noticed that the cap may be of the ordinary form, and as these caps are usually supplied in different sizes the improved plugs will also be made in different sizes and will be fitted in their respective caps, so that the caps as placed on the market will be supplied with the lining-plugs ready for application to the ends of the fuses. Thus avoid any change from the cap in common use, which is adapted to be treated by the crimping-tool D, such as shown in Fig. 5 of the drawings.

In use the plug is fitted in the cap, the latter being properly charged, after which the fuse end is inserted within the plug close to the explosive charge. After this the cap is crimped one, two, or more times by the use of the tool shown in Fig. 5, as is usual in this class of devices.

As before suggested, the tubular body of the plug is made comparatively thin, so it will not occupy any considerable space within the cap and also so it may be readily crimped to secure the water-tight packing of the fuse within the cap. At the same time the outwardly-projecting annular flange C² at the outer end of the plug operates as a stop to limit the insertion of the plug into the cap and also as a means for preventing the rolling up of the outer end of the tubular body by the friction of the fuse in inserting the latter, and in addition this flange forms a convenient portion to be grasped by the hand in inserting the plug within the cap.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A blasting-cap provided with a lining consisting of a plug having a thin tubular body inserted within the cap, and thickened at its outer end forming an outwardly-projecting annular flange at the outer end of said tubular body and abutting the open end of the cap and adapted to limit the insertion of the plug in the cap, and to prevent the rolling up of the outer end of the

plug by the friction of the fuse in inserting the latter, substantially as set forth.

2. The combination of the cap, the lining-plug having a thin tubular body portion fitting within the cap, and an outwardly-projecting thickened annular flange at the outer end of said body portion and abutting the open end of the cap and forming a stop to limit the insertion of the plug, and also operating to prevent the rolling of the plug by the friction of the inserted fuse, and the fuse inserted in said plug, the cap and tubular

body portion of the plug being crimped to form a water-tight joint, all substantially as and for the purposes set forth.

3. A fuse-cap having a lining-plug for blasting-caps consisting of a thin tubular body portion open at both ends and thickened at its outer end providing an outwardly-projecting annular flange.

DOUGALD McEACHERN.

Witnesses:

SOLON C. KEMON,

JOS. A. RYAN.