

No. 645,849.

Patented Mar. 20, 1900.

J. A. FUSZNER.
BLASTING FUSE.

(Application filed Oct. 30, 1899.)

(No Model.)

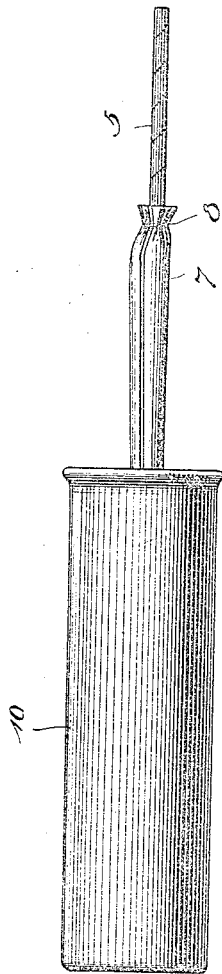


Fig. 1.

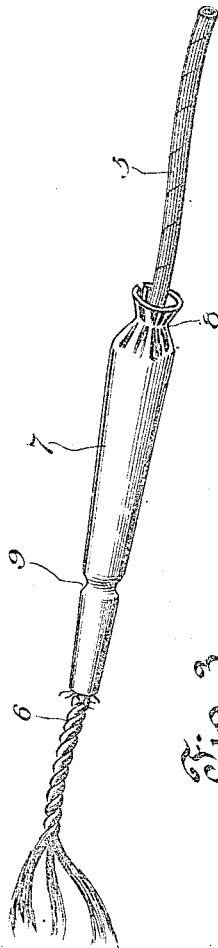


Fig. 2.

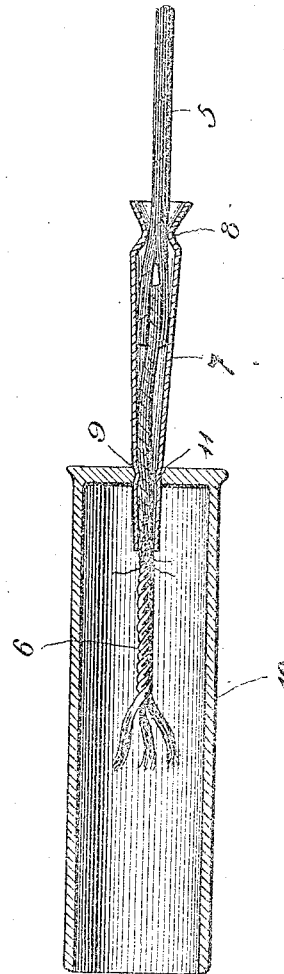


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN A. FUSZNER, OF MANCHESTER, MISSOURI.

BLASTING-FUSE.

SPECIFICATION forming part of Letters Patent No. 645,849, dated March 20, 1900:

Application filed October 30, 1899. Serial No. 735,302. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. FUSZNER, a citizen of the United States, residing at Manchester, in the county of St. Louis and State of Missouri, have invented a new and useful Blasting-Fuse, of which the following is a specification.

This invention relates to fuses in general, and more particularly to that class employed for blasting purposes; and it has for its object particularly to provide a fuse which may be employed with safety in deep blasting, due to the fact that it may be readily regulated as to the time of ignition of a shot.

A further object of the invention is to provide means for protecting the susceptible portions of the fuse against moisture due to splashing, &c.

In the drawings forming a portion of this invention, and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is a side elevation showing the fuse having its protector in place. Fig. 2 is a central vertical section of Fig. 1, the fuse proper being shown in elevation to illustrate the connection of the sections thereof. Fig. 3 is a perspective view showing the complete fuse with the protector removed.

Referring now to the drawings, in constructing a fuse in accordance with this invention it is made of two sections 5 and 6, of which section 5 is of ordinary waterproof fuse material, while the section 6 is formed from the common cotton fuse. In treating the cotton section preparatory to its combination with the waterproof section its lower portion has its threads separated or disassembled to permit removal of the powder, and the wrapping-threads of this lower portion are cut away. One end of the waterproof fuse-section is then split centrally and longitudinally for a distance of one or two inches, more or less, as may be desired, care being taken to prevent spilling of the powder. Between the bifurcations of the waterproof fuse thus formed the undisturbed end of the cotton fuse is inserted, after which the parts of this bifurcated end are squeezed and compressed to firmly engage with the cotton fuse. A substantially-conical metallic casing 7 is then

formed, and which casing has its enlarged end-crimped inwardly to contract it, as shown at 8, and through this contracted end and into the casing are passed the connected sections of the fuse, the untwisted portion of the cotton fuse passing outwardly through the opposite end of the casing. This portion 8 is then further crimped to form a tighter seal between the engaging surfaces, and the opposite end of the casing is crimped, as shown at 9, to contract it upon the cotton section below the place of joinder of the two sections of the fuse. When the parts have been thus assembled, they are ready for use under ordinary circumstances, the waterproof section of the fuse being inserted in the hole containing the shot and the protruding portion of the cotton section being ignited at the proper time. In order to vary the length of time consumed by the cotton wick in burning, the strands thereof are twisted or plaited in the form of a rope, the twisted portion or plaited portion consuming a longer time in burning than the unplaited or untwisted portion. Thus by plaiting or twisting a short part of the wick the blast may be made at a short time after the wick is ignited, and by twisting or plaiting a longer portion a longer time will intervene between the ignition and the blast.

When this fuse is used in damp localities where it is liable to be splashed with mud or water, there is employed a protecting-casing 10, which is cylindrical in form and has an open upper end, while the bottom is closed, except for a central perforation 11, through which the cotton fuse and the adjacent ends of the casing 7 are passed inwardly until the crimped portion 9 engages with the walls of the perforation 11. The waterproof fuse is then put in place and the cotton fuse is ignited and is protected by the cylindrical casing.

From the above explanation it will be seen that there is provided a fuse which may be easily regulated as to its time of burning and which will combine all the advantages of both the cotton and the waterproof fuse and also that by the employment of the protector all splashing of the cotton wick is prevented. Furthermore, the casing 7 is of spring metal, so that it may be compressed in its passage

into the perforation 11 and will then expand to form a yieldable lock between the casing 7 and the protector 10.

What is claimed is—

- 5 1. In a time-fuse, the combination with a waterproof section having one end split, of a second fuse-section disposed with one end in the split, of the first section, said second section including a plurality of strands adapted
10 to be twisted and untwisted, and a casing inclosing the connected portions of the fuse-sections and tightly encircling the second section to prevent untwisting thereof within the casing.
- 15 2. In a time-fuse, the combination with a waterproof fuse having one end split, of a cotton fuse-section having one end disposed

in the split of the waterproof section, said cotton fuse-section comprising a plurality of strands adapted to be twisted to form a rope 20 and to be untwisted, said cotton fuse-section being twisted at its connected end, and a casing inclosing the connected portions of the fuse-sections, said casing tightly encircling the cotton fuse-section to prevent untwisting 25 thereof within the casing.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN A. FUSZNER.

Witnesses:

GEO. A. FUSZNER,
FRANK X. FUSZNER.