T. H. WALTON.

Blasting-Fuse.

No. 45,774. Patented Jan. 3, 1865.

Fig. 2.

Fig. 1.

Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS H. WALTON, OF ASHLAND, PENNSYLVANIA.

IMPROVED BLASTING-FUSE.

Specification forming part of Letters Patent No. **45,774**, dated January 3, 1865.

To all whom it may concern:

Be it known that I, THOMAS H. WALTON, of Ashland, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Safety Blasting-Fuses; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a piece of blasting-fuse constructed after my invention, and ready for use Fig. 2 is a transverse section of the same.

Similar letters of reference indicate like parts.

My fuse is intended for use by miners and others in blasting coal, rock, ore, and in other similar uses, and is intended as a substitute for the metal-barrel fuse, the flexible fuse, and other kinds. I make it by plowing a narrow groove, B, in a strip of wood, A, which may be round, or of any other form, and of any desirable length and dimensions. The groove may be of any suitable shape. I place a train of powder, common fuse, or any of their substitutes at the bottom of the groove, and cover and protect it by laying over it in the groove any water-proof material, such as oakum, tarred cord, pitch, or any other suitable material, or any combination of such materials. One end, C, of the fuse is to be inserted in or otherwise connected to the cartridge, and the other end is to be supplied with a slow-match, D, which is secured in the groove B, as shown in Fig. 1. The slow-match D projects from the fuse a sufficient distance for safe operation.

When a blast is to be fired in any wet situation, my fuse is to be inserted in a water-proof cartridge in such a manner as to make the joint water-tight. The cartridge and fuse are then placed in the drilled hole and tamped in the usual manner. The fuse is to be of such a length as to leave one end outside of the hole—to wit, the end provided with the slow-match D. The slow-match should be of the kind used in fire-works, which will hold fire and burn through any "strangled" position, for the match will be, as pyrotechnists term it, "strangled," in the interior of the fuse. A fuse constructed in this way may be used with safety and certainty up to the length of, say, fifteen feet, more or less. It will be much cheaper than the safety-fuse made of flexible materials, the use of which is almost abandoned in this country, on account of its liability to cut and nip or strangle while the hole is being tamped, and thereby made useless for blasting in coal, and in similar situations. It will also be cheaper than the iron blasting-barrel now much used in coal-mines, which costs vastly more than my fuse. My fuse will not be liable to ignite the charge prematurely, as an iron needle does; and while it is water-proof, it will still not be liable to be cut or to collapse or strangle where the least care is used in tamping. The fuse may furthermore be coated with any water and weather proof substance over its whole surface, in addition to the covering of the powder in its groove.

The fuse thus constructed may be properly called a "safety blasting-squib."

Having thus described my invention in the construction of safety-fuse for blasting, what I claim as new, and desire to secure by Letters Patent, is—

The safety blasting-fuse, constructed substantially as above set forth.

THOMAS H. WALTON.

Witnesses:

HENRY S. BONER,
A. N. RAUB.