(No Model.)

G. A. SCHNEEBELI.

BLASTING CARTRIDGE.

No. 273,399. Patented Mar. 6, 1883.

Fig. 1.

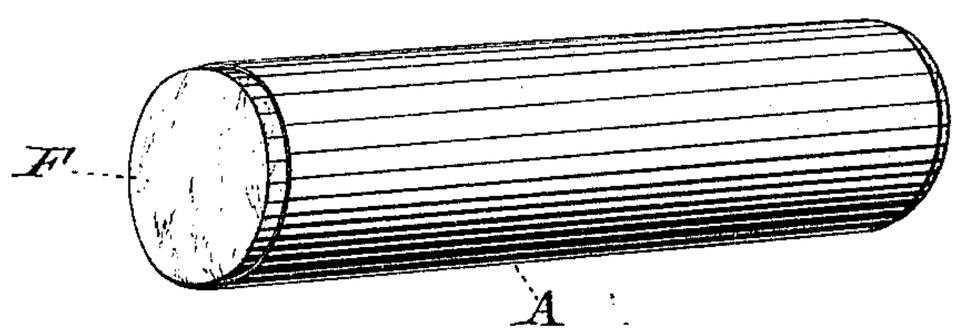
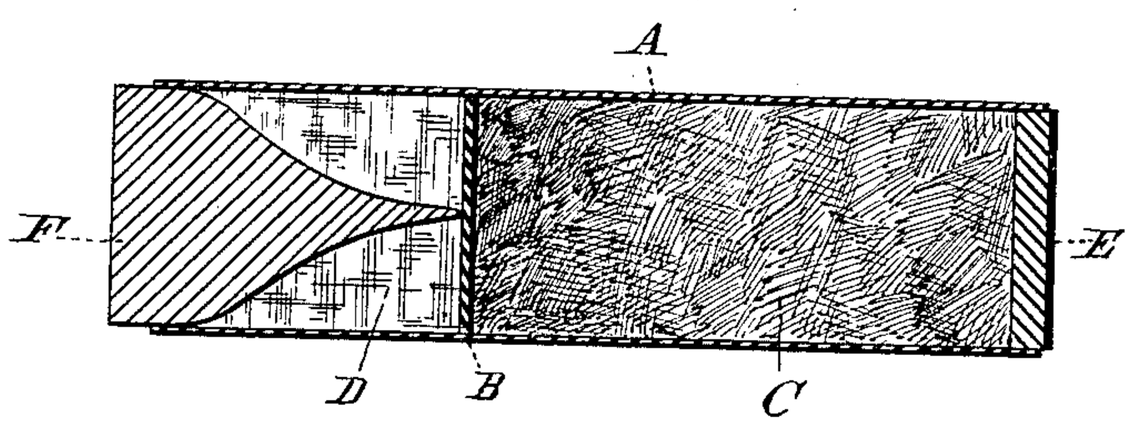


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

GUSTAV A. SCHNEEBELI, OF NEW PHILADELPHIA, OHIO.

BLASTING-CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 273,399, dated March 6, 1883.

Application filed November 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV A. SCHNEEBELI, of New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Blasting-Cartridges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to blasting-cartridges, and more especially to that class of blasting-cartridges known as "safety-cartridges;" and it consists of parts and combinations of parts more fully hereinafter described.

In the drawings, Figure 1 is an isometric view of a cartridge constructed according to my invention. Fig. 2 is a sectional view of the same.

A represents a cylindrical shell for a cartridge of any desired size.

B is a partition dividing the shell A into two compartments, C and D.

E and F are plugs fitting their respective ends of the shell A.

The cartridge is constructed as follows, to wit: The shell A is made of any suitable water-proof material, preferably of oiled paper. The partition B may be, and usually is, made of pasteboard; but almost any light material—such as wood—would answer. The partition need not be very strong, for it has only to separate the materials in the chambers C and D; but the partition and its connection with the shell A should be made water-proof. The larger chamber, C, is filled with a package of compressed unslaked lime, made of a size that will admit of its being easily placed in the chamber C. The plug E, made of wood or any other suitable material, is then placed in the tube at the end of the chamber C, hermetically closing it, so as to protect the lime from the air and keep it from slaking until it is wanted for blasting. The smaller chamber, D, may be left vacant until the cartridge is wanted for blasting, and is then filled with water or any slaking agent, and the tube at the end of the chamber D closed with the stopper or plug F. The plug F is usually made of wood, but may be made of any suitable material, but is preferably made with a long tapering end, the point of which would merely reach the partition B when the plug is in position.

The operation of my invention is as follows: These cartridges herein described are placed in holes or cavities for blasting in the same manner that cartridges of blasting-powder or dynamite would be placed. The holes or cavities are then filled with suitable filling and tamped firmly. It is essential that the partition B should be punctured or broken in the process of tamping, and to insure this it would be better to fill slightly over the cartridge at first and tamp vigorously, then fill and tamp the hole full, as in ordinary blasting. The pressure on the cartridge caused by the tamping, if made upon the plug E, will force said plug E and the package of lime in chamber C against the partition B and break it loose from its connection with the shell A. If the said pressure is made upon the jointed plug F, it will drive plug F against and puncture the partition B. In either case, the partition B being broken, the water or slaking agent in the chamber D is brought in contact with the lime in the chamber C, whereby the great force produced by the expansion of the lime in the slaking process forces apart the body of rock or coal or other substance that is desired to be separated. When the holes for blasting are not horizontal it would be well to so place the cartridge that the end containing the water or slaking agent would be uppermost, so that when the partition B is broken, as heretofore described, the water or slaking agent would more readily come in contact with the lime.

My invention may be embodied in a variety of forms, containing numerous contrivances; but the essential novelty of said invention consists of a cartridge containing unslaked lime and water or other slaking agent in such a manner that they are brought in contact only after the cartridge is placed for blasting and then at the option of the operator.

Some of the advantages derived from the use of these cartridges are as follows, to wit: They are not dangerous in any sense. They are not explosive; hence will not explode gases or so-called "fire-damps." The workmen may with safety stand upon the rock, coal, or other

body while it is being rent, and may, if they choose, assist with wedges or other tools in the rending. The use of these cartridges will not produce or cause combustion, smoke, dust, or disagreeable odor.

What I claim is—

1. In a safety blasting-cartridge, the combination, with an inclosed chamber containing unslaked lime, of an adjacent chamber separated therefrom by an easily-breakable partition adapted to contain water or other slaking agents, and a pointed plug closing the outer end of said slaking-agent chamber, and having its tip adjacent to said partition, said plug being capable of moving inwardly, so that its point will come in contact with and break said partition, substantially as described.

2. The blasting-cartridge herein described, consisting of the cylinder A, divided into two chambers, C and D, separated by a breakable partition, B, the former containing unslaked lime and the latter a slaking agent, the plug E, closing the outer end of the lime-chamber, and the plug F, closing the outer end of the slaking-agent chamber, and having the inwardly-projecting point, said plug being capable of moving inwardly, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 26th day of October, A. D. 1882.

GUSTAV ADOLF SCHNEEBELI.

Witnesses:
GEO. W. KING,
C. H. DORER.