(No Model.)

J. C. BUTTERFIELD & T. C. BATCHELOR.

DAMP PROOF CARTRIDGE CASE.

No. 415,899. Patented Nov. 26, 1889.

Fig. 1.

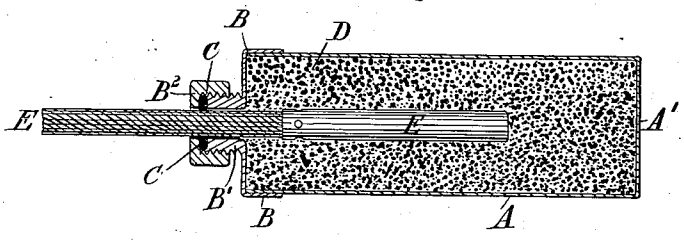
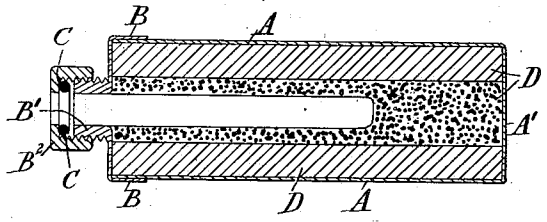


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN COPE BUTTERFIELD AND TELFORD CLARENCE BATCHELOR, OF LONDON, ENGLAND.

DAMP-PROOF CARTRIDGE-CASE.

SPECIFICATION forming part of Letters Patent No. 415,899, dated November 26, 1889.

Application filed November 10, 1888. Serial No. 290,451. (No model.) Patented in England October 22, 1888, No. 15,160; in Belgium November 3, 1888, No. 83,828; in Germany November 3, 1888, No. 13,936; in France November 6, 1888, No. 193,950; in Spain November 17, 1888, and in Canada December 1, 1888, No. 30,328.

To all whom it may concern.

Be it known that we, JOHN COPE BUTTERFIELD and TELFORD CLARENCE BATCHELOR, subjects of the Queen of Great Britain, residing at London, England, have invented certain new and useful Improvements in the Construction of Damp-Proof Cartridge-Cases, of which the following is a specification, the same having been patented in England upon an application, No. 15,160, filed October 22, 1888; in France, No. 193,950, dated November 6, 1888; in Belgium, No. 83,828, dated November 3, 1888; in Germany upon an application, No. K. B. 13,936, filed November 3, 1888; in Spain, upon an application filed November 17, 1888; and in Canada, No. 30,328, dated December 1, 1888.

This invention relates to damp-proof cartridge-cases, such as when charged may be used for mining purposes, and has for its principal object the construction of such cases preferably of metal, such as lead, lead and antimony, or lead and tin, but which may be of vulcanite or some such water-proof material.

In the accompanying drawings, Figure 1 is a longitudinal section of one form of the cartridge-case charged and ready for use. Fig. 2 is a similar view of the same partly filled and without the fuse or match.

With reference to Figs. 1 and 2, A is the main inclosing portion, which, together with the closed end A′, preferably made in part with it, is herein termed the "shell" of the cartridge, and B is the cap, which partly closes the other end of it.

B′ is a stuffing-box, preferably formed in one with the cap B, and B^2 is its gland, and C is the packing, which may be of india-rubber or the like.

D is the explosive material, which may be wholly loose, as indicated in the drawings, or by any suitable means partly compressed into a solid, which, under such construction, would preferably be, as shown in Fig. 2, in the form of a hollow cylinder, with some of the said loose explosive material contained within it.

E is the electric or other fuse and detonator, which passes through the stuffing-box and into the explosive D.

When constructing the cartridge the explosive D is introduced through the then open end of the shell A, and the cap B is afterward placed over the said end, a tight joint being made between the parts A and B by means of soldering or resin or other suitable means. The fuse or match E is then placed in position, as shown in Fig. 1, and the gland B^2 screwed farther onto the stuffing-box B, so that the packing C is pressed and clamped tightly around the said fuse, thus completing the hermetic closing of the cartridge, which is thereby rendered impervious to dampness or water.

Instead of forming the stuffing-box B′ on the cap B, we may form it on the closed end A′ and use a plain cap, as will be readily understood.

Having thus described our invention, what we claim as new is—

1. In a damp-proof cartridge, the combination, with the casing having the permanently-closed end and the cap on the opposite end, of the screw-threaded stuffing-box surrounding the fuse, the packing, and the gland for pressing the packing around the fuse, substantially as described.

2. In a cartridge, the combination, with a shell having one permanently-closed end, of a separate cap provided with a stuffing having packing, and a gland for pressing the packing around the fuse for closing in the other end, substantially as herein described, and illustrated in the accompanying drawings.

In witness whereof we have hereto set our hands in the presence of the two subscribing witnesses.

JOHN COPE BUTTERFIELD.
TELFORD CLARENCE BATCHELOR.

Witnesses:
HARRY B. BRIDGE,
PERRY R. WOODWARD.