

(No Model.)

A. PALLÉ.
BLASTING CARTRIDGE.

No. 424,685.

Patented Apr. 1, 1890.

Fig. 1.

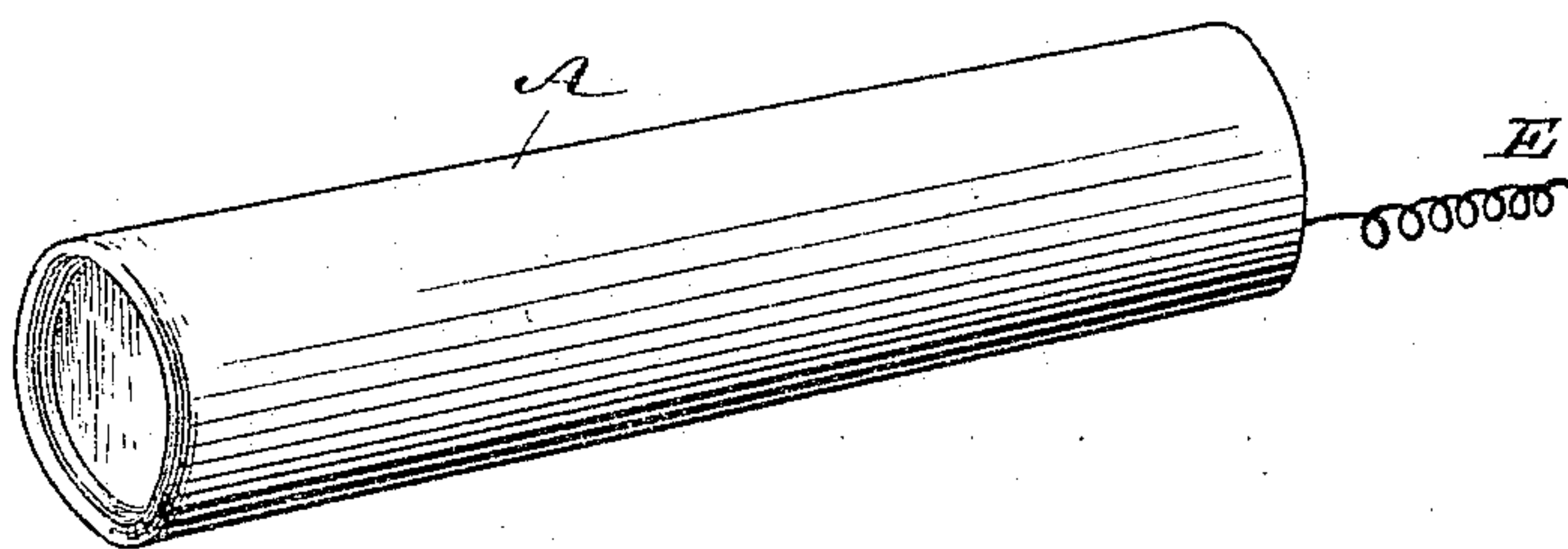


Fig. 2.

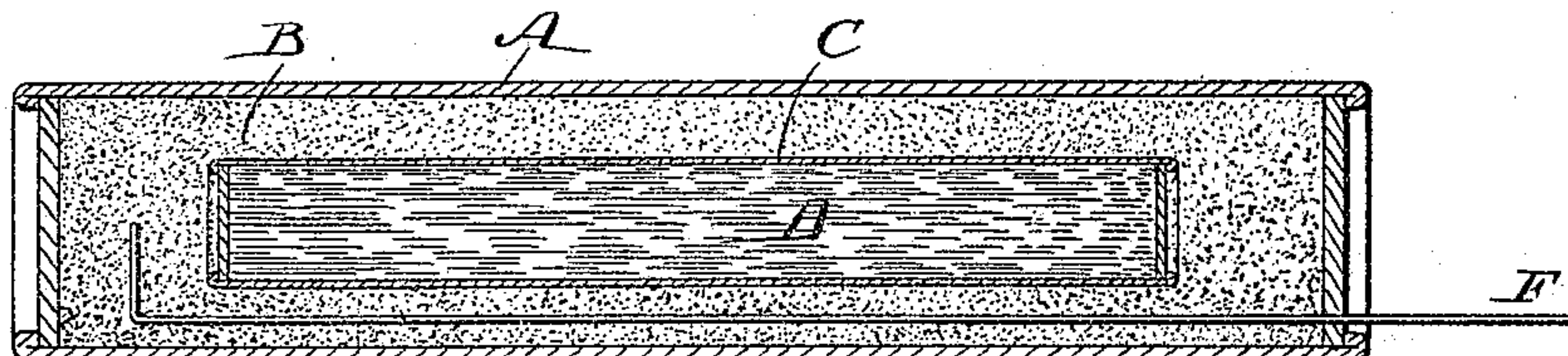
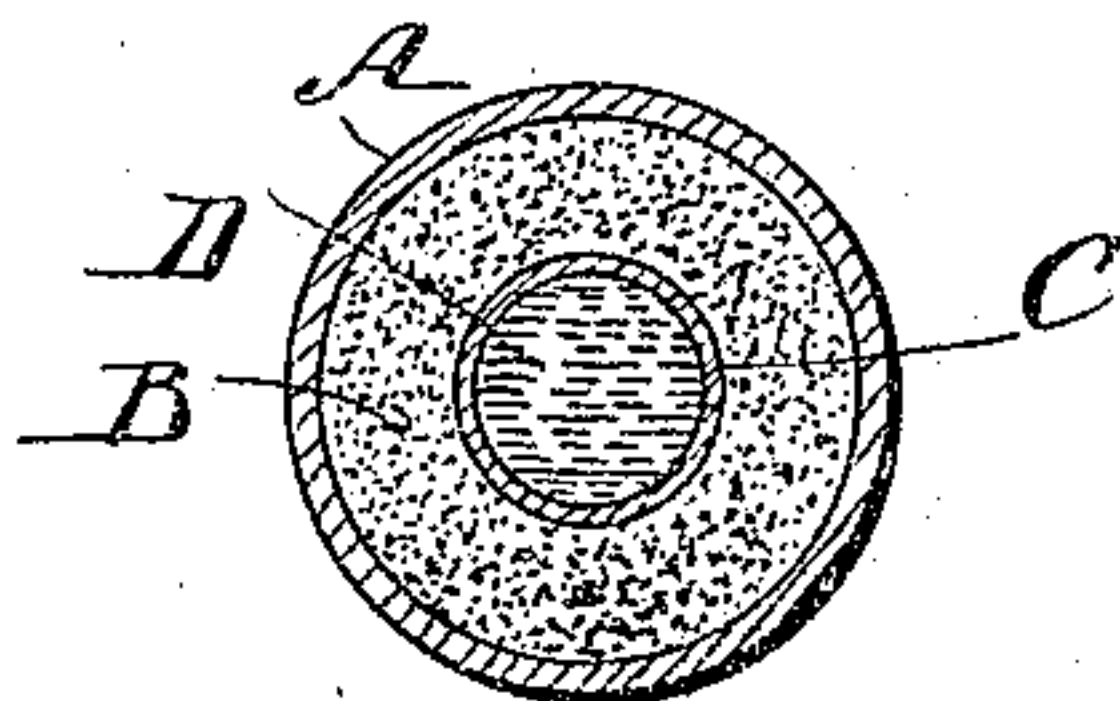


Fig. 3.



WITNESSES:

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BLASTING-CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 424,685, dated April 1, 1890.

Application filed March 29, 1889. Serial No. 305,234. (No model.)

To all whom it may concern:

Be it known that I, ALBERT PALLÉ, of Paris, France, have invented a new and Improved Blasting-Cartridge, of which the following is
5 a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

10 Figure 1 is a perspective view of my new cartridge. Fig. 2 is a longitudinal sectional elevation of the same; and Fig. 3 is a transverse sectional view.

15 The invention will first be described in connection with the drawings, and then pointed out in the claims.

A represents a shell of paper or other suitable material, charged with a slow explosive B, and within the material B in shell A is the
20 inner shell or tube C, of lead or tin, and this is charged with glycerine or other matter D, which becomes explosive when mixed by ignition with the slow explosive B, described below.

25 The slow explosive B used in the shell A is composed of nitrate of potash or soda, forty-five parts; sawdust or other earthy matter, fifteen parts; camphor, three parts; and flour of sulphur, fifteen parts.

30 The cartridge may be provided with an electric wire E, or with a fuse F, for exploding the cartridge after it is placed and rammed.

By constructing the cartridge as described,

the same may be handled without danger of explosion, and, when placed for blasting, the
35 hole may be strongly rammed with impunity, and when ignited the explosion of the two charges will be in succession, a heavy following a light explosion, which renders the cartridge much more effective than as if the
40 whole charge were exploded at once.

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

1. The cartridge herein shown and described, 45 consisting in a shell containing a slow-burning explosive, another shell inclosed within the slow-burning explosive and containing a substance non-explosive by itself, but which will unite with the slow-burning explosive
50 when the latter is ignited and form a rapid explosive, substantially as set forth.

2. The cartridge shown and described, the same consisting in a paper shell A, containing a slow explosive B, and the inner metallic
55 shell C, of tin or lead, embedded in explosive B, and containing glycerine or other mere matter D, not explosive by itself, but which will unite with the slow-burning explosive, when the latter is ignited, and form a rapid
60 explosive, substantially as set forth.

ALBERT PALLÉ.

Witnesses:

JACOB HOFFMANN,
JULES MARCELLIS.