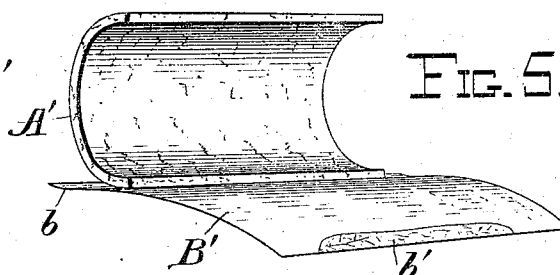
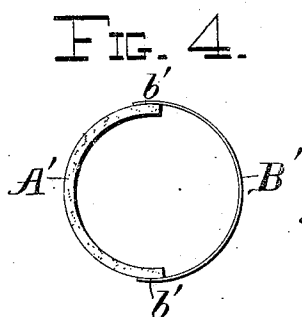
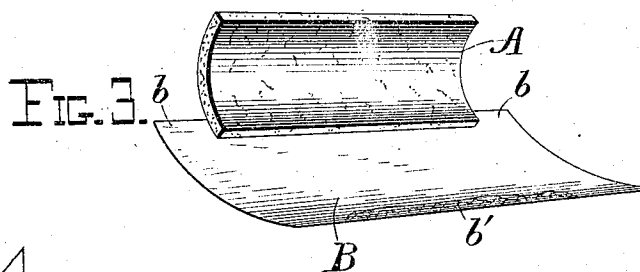
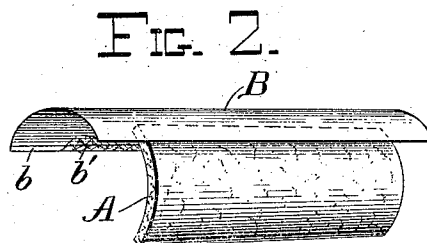
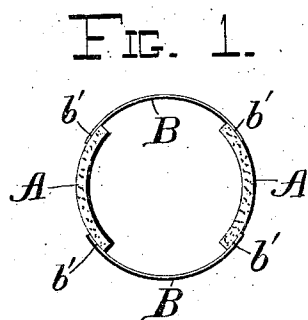


(No Model.)

R. H. ELLIOTT & J. B. CARRINGTON.
CARTRIDGE CASE FOR CHARGING BLAST HOLES.

No. 542,154.

Patented July 2, 1895.



Witnesses
Wey C. Bowen.
Maurice Simons.

Inventors:
Robert H. Elliott &
John B. Carrington
By *Whitman & Wilkinson.*
Attorneys.

UNITED STATES PATENT OFFICE

ROBERT H. ELLIOTT, OF BIRMINGHAM, AND JOHN B. CARRINGTON, OF JASPER ALABAMA, ASSIGNORS TO THE ALABAMA BLASTING AND MINING COMPANY, OF ALABAMA.

CARTRIDGE-CASE FOR CHARGING BLAST-HOLES.

SPECIFICATION forming part of Letters Patent No. 542 154, dated July 2, 1895.

Application filed March 11, 1895. Serial No. 541,332 (No model)

To all whom it may concern:

Be it known that we, ROBERT H. ELLIOTT, residing at Birmingham, in the county of Jefferson, and JOHN B. CARRINGTON, residing at Jasper, in the county of Walker, State of Alabama, citizens of the United States, have invented certain new and useful Improvements in Cartridge-Cases for Loading Blasting-Holes with Explosives; and we 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 appertains to make and use the same.

Our invention relates to improvements in means for placing the explosive material in the proper position in the bore-hole, and it consists in providing a friable cartridge adapted to contain the explosive material, which cartridge is pushed down to the desired position in the bore-hole and is there crushed, and the contents of the said cartridge are distributed accurately in place. Paper, flannel, or cloth cartridge-cases are ordinarily used for this purpose; but these bend under the blows of the rammer and do not break up readily, thus preventing that loose disposition of the explosive material which is desirable in blasting.

In blasting in coal, soft rock, or loose material powder of such an inferior grade or so large a grain is used that where several of the flannel, cloth, or paper cartridges, as ordinarily constructed, are used, the simultaneous explosion of the several charges, which is necessary to produce the greatest effect, is not obtained.

In practice we provide a cartridge-case for the explosive material, made partly of flexible material and partly of friable material, such as a compound cartridge-case made of friable clay and of paper or like material.

While we specifically refer to clay and paper, any suitable friable material may be used in place of the clay, and cloth or like material may be used as a substitute for the paper.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure represents an end view of one of our improved cartridge-cases. Figs. 2 and 3 represent perspective views of the parts composing the cartridge-case shown in Fig. 1. Fig. 4 represents an end view of a modified form of cartridge-case, and Fig. 5 represents a perspective view of the same before being completed.

Referring particularly to Figs. 1 to 3, the cartridge-case is made up of two staves A, forming part of a circumference of a cylinder, which staves are connected together by the strips B of paper, cloth, or like material, which strips are glued to the staves A, as at b'. The ends of these strips are made to project beyond the ends of the staves A, as at b, so that they may be bent over to form the completed and closed end of the cartridge-case.

In the form of device shown in Figs. 4 and 5 there is but one stave A', which is preferably approximately semicylindrical in shape, the opposite side of the cylinder being closed in by the strip B', which is glued to the stave A', and is provided with projecting ends, as has been already described with reference to Figs. 1 to 3.

In any of the herein-described forms of cartridge-case the explosive material is inserted into the cartridge-case and the ends thereof are closed. The completed cartridge is then shoved down to the desired point in the bore-holes, and the friable material is crushed, causing the contents of the cartridge to be released in the bore-hole at any point desired. These contents are then fired in the ordinary way.

It will thus be seen that the explosive material may be readily and conveniently carried to the desired point and then may be released in order to be employed in the most effective way.

The advantages of the herein-described construction will readily suggest themselves to any practical mind.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. A cartridge case for use in conveying

explosive material, which consists partly of a friable material, and partly of a flexible material, substantially as described.

2. A cartridge case for conveying explosive
5 material, which consists partly of friable clay, and partly of a flexible material, substantially as described.

3. A cartridge case for conveying explosive material, which consists partly of a friable

material, and partly of paper, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT H. ELLIOTT.
JOHN B. CARRINGTON.

Witnesses:

W. G. ROBINSON,
H. C. KENNARD.