

(No Model.)

J. W. REID.
BLASTING ROCK, &c.

No. 246,199.

Patented Aug. 23, 1881.

Fig. 1.

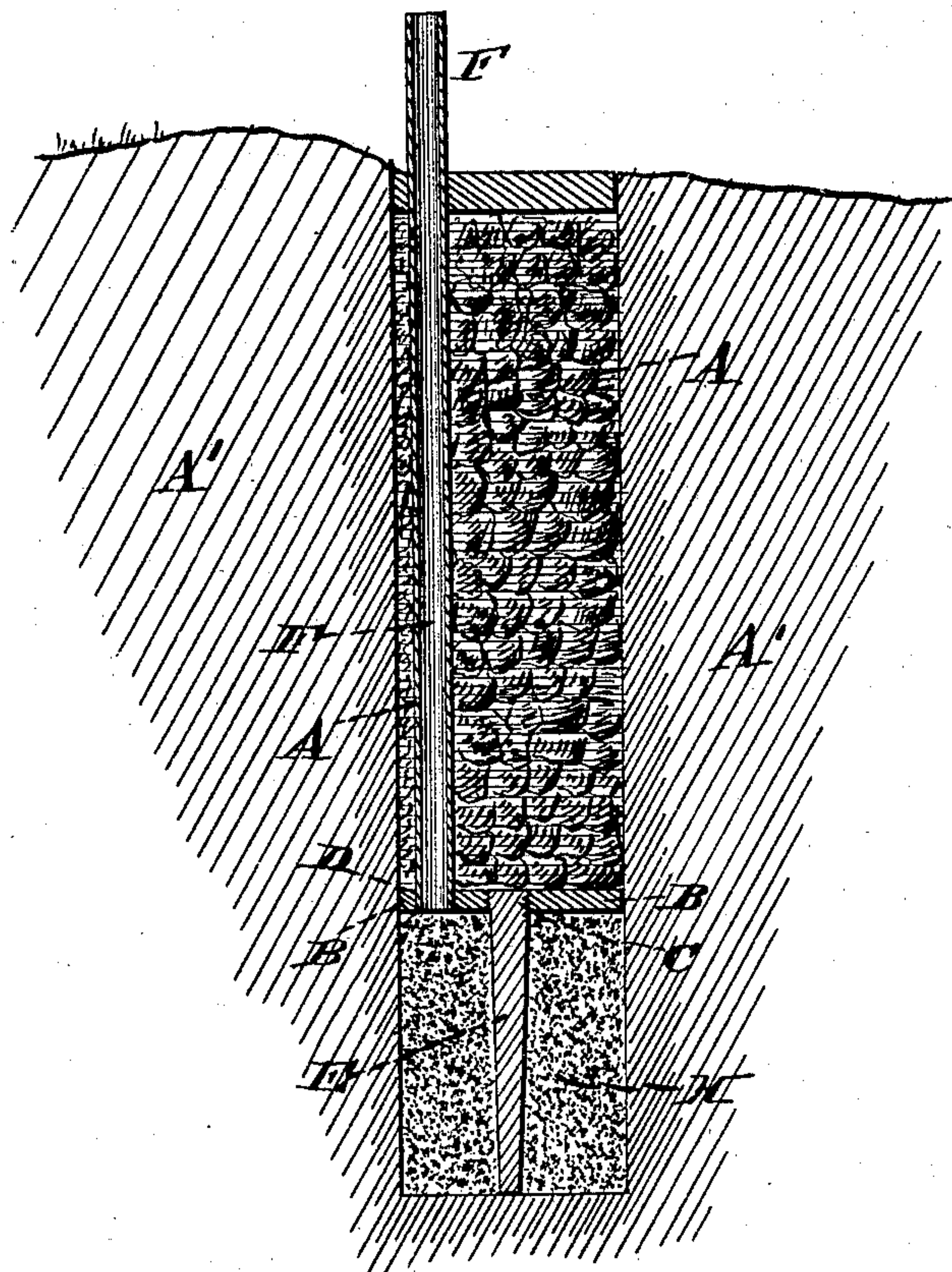
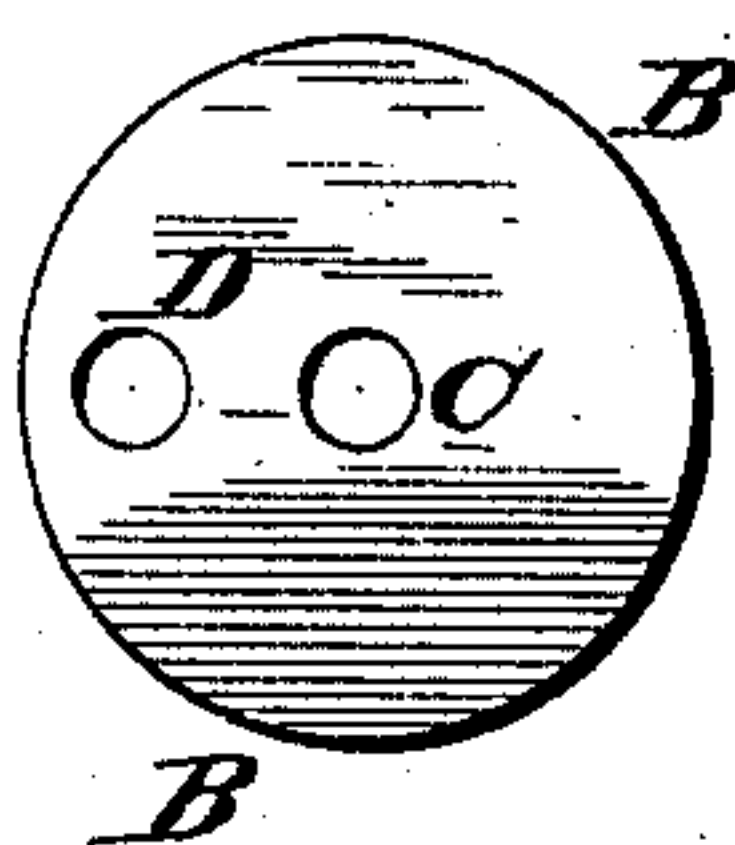


Fig. 2.



WITNESSES

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Jesse W. Reid
INVENTOR,
By his Attorneys, *Louis Bagges & Co.*

UNITED STATES PATENT OFFICE.

JESSE W. REID, OF HOLLAND'S STORE, SOUTH CAROLINA, ASSIGNOR OF
ONE-HALF TO A. M. HOLLAND, OF SAME PLACE.

BLASTING ROCK, &c.

SPECIFICATION forming part of Letters Patent No. 246,199, dated August 23, 1881.

Application filed June 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, JESSE W. REID, of Holland's Store, in the county of Anderson and State of South Carolina, have invented certain new and useful Improvements in Blasting; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a sectional view illustrating my invention, and Fig. 2 is a plan or top view of the circular disk which forms the roof or top of the powder-chamber.

Similar letters of reference indicate corresponding parts in both the figures.

The object of my invention is twofold, viz: first, to avoid the danger incident to blasting operations, especially the operation of "tamping" the blast-hole after the cartridge or explosive charge has been inserted; and, secondly, to increase the efficiency or effect of the charge, and thereby avoid waste of the explosive material.

To these ends my invention consists in the improvements hereinafter more fully set forth, and particularly pointed out in the claim.

In the annexed drawings, A' represents, in vertical section, a portion of the rock to be blasted. A is the blast-hole, which may be of any suitable depth and diameter, according to circumstances. Into the bottom of this hole or bore I insert a plug consisting of a circular disk, B, made preferably of cast-iron, which is provided with a central post or support, E. The parts B E may be cast in one piece, if desired; or, to reduce bulk and facilitate transportation, they may be made in two separate parts, as shown in the drawings, in which case I provide the circular disk B with a central screw-threaded eye, C, into which is screwed the upper threaded end of post E. The lower end of this post may be cut off with a file to regulate the depth and capacity of the powder-chamber H.

Near the circumference of the disk B is an aperture, D, for the insertion of the fuse-pipe F, which may be a common gas-pipe cut to the

requisite length; or it may be of tin or lead, in which case I insert an iron rod through its entire length, to prevent flattening or collapsing while the hole is being tamped, after which the rod or core is, of course, again withdrawn. In tamping the blast-hole the bar used for the purpose should have a longitudinal groove at one side to make room for the fuse-tube F, through which the powder or other explosive is (by the aid of a funnel) poured into the chamber underneath disk B. By inserting a wire through the tube into chamber H the powder may be stirred occasionally during the operation of filling, so as to fill the chamber regularly and evenly; and when filled the wire is withdrawn and a fuse inserted in its place, when the rock is ready for blasting.

From the foregoing it will be seen that the blast-hole is tamped prior to the insertion of the explosive charge. Consequently there can be no danger of explosion during the operation of tamping, and steel or iron rods may be used with perfect safety. This secures a better, more compact, and more careful tamping, as the workmen need apprehend no danger. Again, as the explosive charge is not compacted or otherwise affected by the tamping, its explosive energy will be greater and ignition of the entire charge instantaneous, which is not the case where the powder is closely packed, and by leaving chamber H not quite filled the energy of the explosion will reach its maximum force or power before the rock is rent asunder, and thus operate with greater effect than where the development of the explosive energy is gradual by the gradual ignition of a closely-packed charge.

I am aware that it is not new in blasting to make the hole which receives the charge of two different diameters, the smaller or bottom one to receive the powder, while the enlarged upper portion of the hole receives the wadding, which is supported upon a centrally-perforated disk resting upon the annular ledge or shoulder formed by the reduced bottom part of the blast-hole; but this not only requires two drills of different diameters in boring the hole, but the narrow annular ledge or shoulder is apt to break and give way during the operation of tamping the wadding, unless the hole is drilled

in rock of a hard and firm nature, which, as is well known, is not always the case in blasting operations; nor do I claim, in the operation of blasting, the partial filling of the blast-hole with powder by means of the devices shown and described in Letters Patent No. 47,925, granted to G. C. Bunsen on the 30th day of May, 1865; but

What I claim, and desire to secure by Letters Patent of the United States, is—
The combination of the tamping-plug, com-

posed of the circular disk B, having central post, E, and aperture D, and fuse-pipe F, fitting permanently in said aperture D, as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JESSE WALTON REID.

Witnesses:

TALLEY WHITAKER,
TOMUS FLEMING.