(No Model.)

R. J. BOLT.

BLASTING PLUG.

No. 456,978. Patented Aug. 4, 1891.

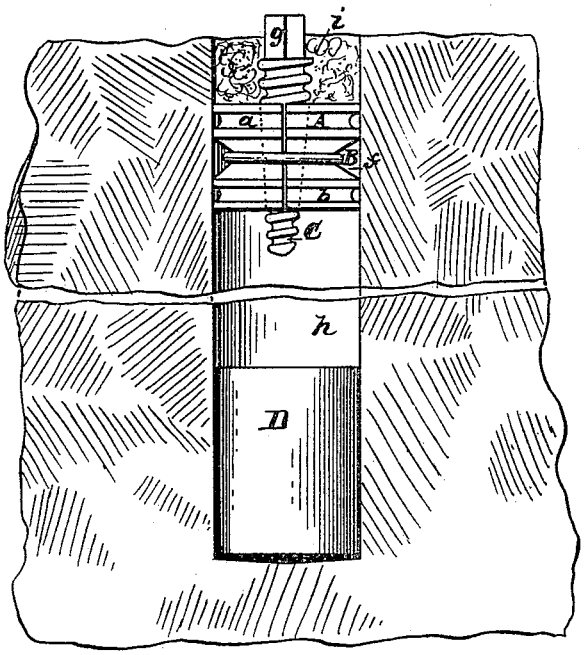

Fig. 1.

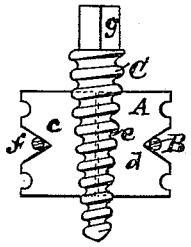

Fig. 2.

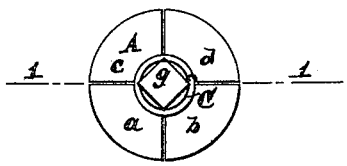

Fig. 3.

Witnesses;
Thomas W. Hobday.
J. N. Severance

Inventor;
Reuben J. Bolt,
per Edw. Dummer, Atty.

UNITED STATES PATENT OFFICE.

REUBEN J. BOLT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO FRANCES E. HOLLIDAY, OF SAME PLACE.

BLASTING-PLUG.

SPECIFICATION forming part of Letters Patent No. 456,978, dated August 4, 1891.

Application filed October 15, 1890. Serial No. 368,214. (No model.) Patented in Canada April 28, 1886, No. 23,924.

To all whom it may concern:

Be it known that I, REUBEN J. BOLT, a subject of the Queen of Great Britain, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Blasting-Plug, (for which I have obtained a patent in Canada, No. 23,924, dated April 28, 1886,) of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is a plug which may be readily secured at a suitable position in the hole made in a rock for blasting, to take the place of the usual tamping above the charge or cartridge, whereby time and explosive material may be saved, the invention consisting in the devices to form the plug, as hereinafter set forth, and specifically pointed out in the claims.

In the drawings, Figure 1 shows a side view of a plug embodying my invention, and illustrates the manner of applying the same. Fig. 2 is a vertical section taken on line 1 1 in Fig. 3. Fig. 3 is a plan view of the plug.

The body A of the plug is in the general form of a cylinder cut radially and longitudinally into several parts, preferably four, *a b c d*, as shown in the drawings, such cylinder having a central longitudinal hole, preferably tapering, in which there is a screw-thread *e*. These parts of the plug are held together temporarily for convenience in handling by an elastic band B, which may be stretched around the plug and be held in place by means of a circumferential groove *f*. A tapering screw C is formed to screw into the hole in the body of the plug, the head *g* of the screw being preferably so formed that a wrench may be readily applied thereto.

The plug having been, when the parts *a*, *b*, *c*, and *d* are closed up and the screw sufficiently withdrawn, inserted a sufficient distance in the hole in a rock, the screw is turned so as to expand the plug and cause the circumference of the parts *a*, *b*, *c*, and *d* thereof to press against the wall of the hole. Thus the plug, as a whole, will be held firmly in suitable position. Between the plug and the charge or cartridge D there may be an air-space *h*. A short space above the plug is filled with suitable material *i*, which, being pressed down, will effectually close any outlet on account of the interstices between the parts of the plug. This plug may be economically made of cast-iron, and I have found that by the use of the plug and on account of the closed air-space *h*, which may thus be formed, as shown and specified, a smaller charge or cartridge may be employed than with the ordinary tamping and yet greater effect be produced. Much time is also saved, since the plug may be inserted much more quickly than the ordinary tamping can be done.

I claim as my invention—

1. The combination of several solid parts corresponding to the segments of a cylinder, with a tapering screw, said parts being provided with an interior thread, to form an expansible blasting-plug, substantially as set forth.

2. In combination with several segments and a screw to form an expansible blasting-plug, an elastic band to temporarily hold the parts of the plug in suitable relative position, said segments being provided with an interior thread, substantially as specified.

REUBEN J. BOLT.

Witnesses:
GEORGE HOLLIDAY,
EDW. DUMMER.