

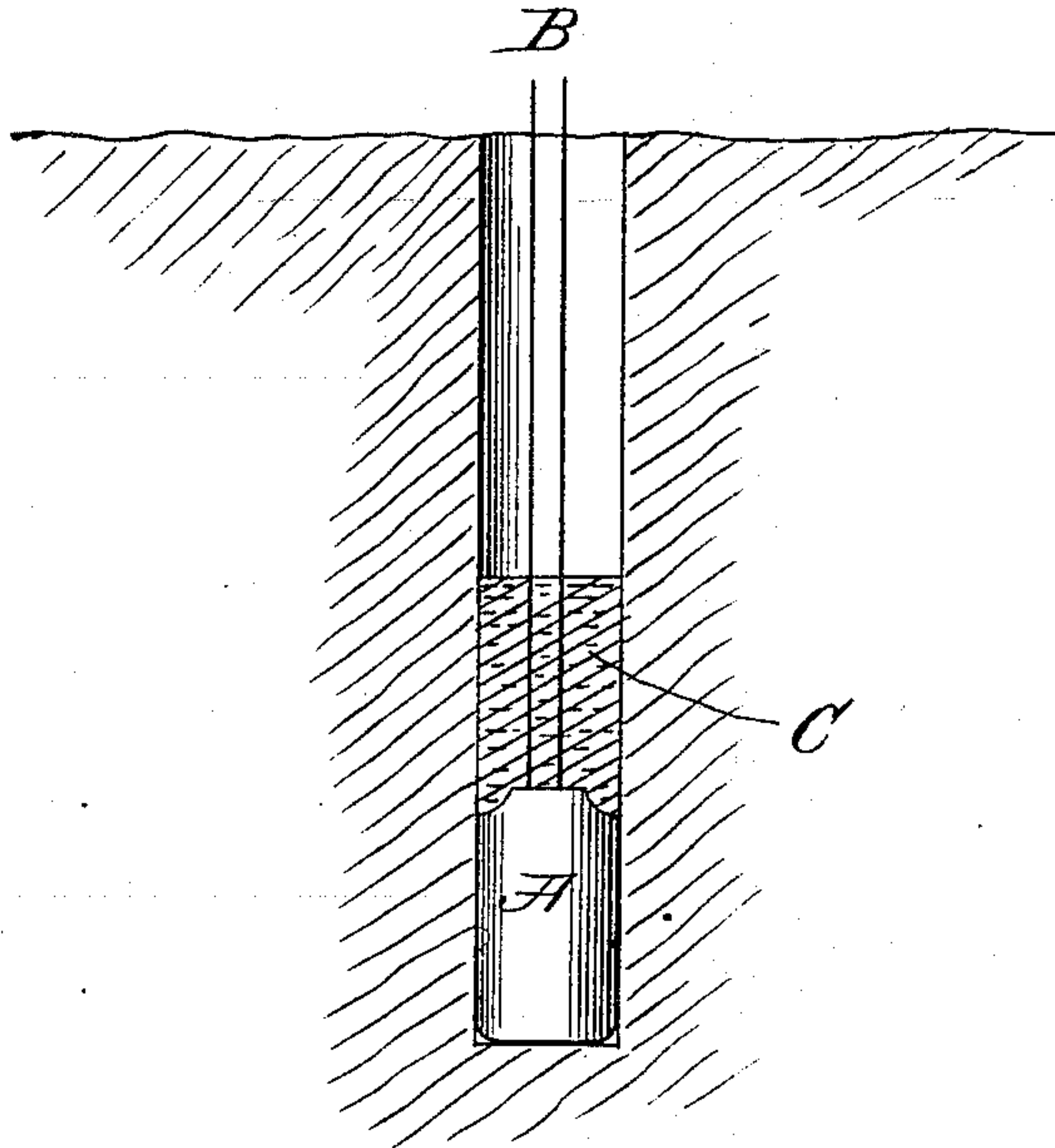
(No Model.)

H. E. DENNETT.

SELF SETTING TAMP FOR BLASTING.

No. 282,061.

Patented July 31, 1883.



Attest:

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UNITED STATES PATENT OFFICE.

HERBERT E. DENNETT, OF SOMERVILLE, MASSACHUSETTS.

SELF-SETTING TAMP FOR BLASTING.

SPECIFICATION forming part of Letters Patent No. 282,061, dated July 31, 1883.

Application filed June 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, HERBERT E. DENNETT, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Self-Setting Safety-Tamps; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improved method of tamping explosives for blasting purposes. The usual manner of confining explosives by tamping clay, powdered rock, brick, or other substances upon the charge to be exploded is not only attended with a liability of the displacement of the cap, fuse, or electric wire, but also involves a greater or less degree of danger from premature explosion and consequent loss of life. In the use of nitro-glycerine and its products, for this reason, there is seldom any attempt to confine the explosive effects of the charge by tamping, it being deemed too hazardous. Usually a quantity of this explosive, in the form of a cartridge or otherwise, is placed in the receptacle provided to receive it, and a quantity of sand, or clay, or water is placed upon it. As none of these have any resisting-power beyond their specific gravity, they are of but little use, being too easily thrown out by the explosion. In the employment of highly-explosive materials for blasting, the danger attending the tamping of such explosives will be avoided by using a tamp composed of substances that will assume a firm "set" after being introduced into the cavity above or in proximity to the charge.

To this end my invention consists of a self-setting tamp composed of sand, calcined plaster-of-paris, and water, which is employed in the form of a thick batter or in a partially-fluid condition, so as to fill the cavity and become firmly set therein without danger of displacing the cap, fuse, or electric wire, or of inducing a premature discharge of the explosive.

In carrying my invention into effect I take about equal parts of common plasterer's sand and common calcined plaster-of-paris, and mix with water to the consistency of a thick batter, and, having previously placed the cartridge or other quantity of explosive in its receptacle, where it is to be exploded, and made all the usual arrangements as to fuse, cap, or wire and battery, I pour the batter of sand and plaster-of-paris in upon the charge, thus filling up the cavity. This batter will quickly set or harden, and is then ready for the discharge of the explosive material confined by it. Where a fuse is to be used it should be of the waterproof sort.

If calcined plaster-of-paris is not at hand, any setting cement or hardening plastic will answer. In the absence of sand, a thin batter of clay may be substituted and combined with a suitable proportion of calcined plaster-of-paris.

If desired, plaster-of-paris can be used alone when moistened to a batter with water for the purpose, or other setting cement may be used together with sand, earth, clay, pulverized rock, &c.; but I prefer the substances and proportions as above stated.

Nitro-glycerine has over ten times the explosive power of gunpowder, and when confined by my improved safety-tamp its employment will greatly reduce the cost of blasting, besides obviating the ordinary danger to life, limb, and property.

My invention is illustrated in the annexed drawing, in which A represents a blasting-cartridge; B, the electric wires, and C the self-setting cement for tamping the charge.

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

The herein-described method of tamping explosives for blasting purposes, which consists in confining the charge with a self-setting cement, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HERBERT ENOS DENNETT.

Witnesses:

EUGENE B. HAGAR,
CHAS. L. FARNSWORTH.