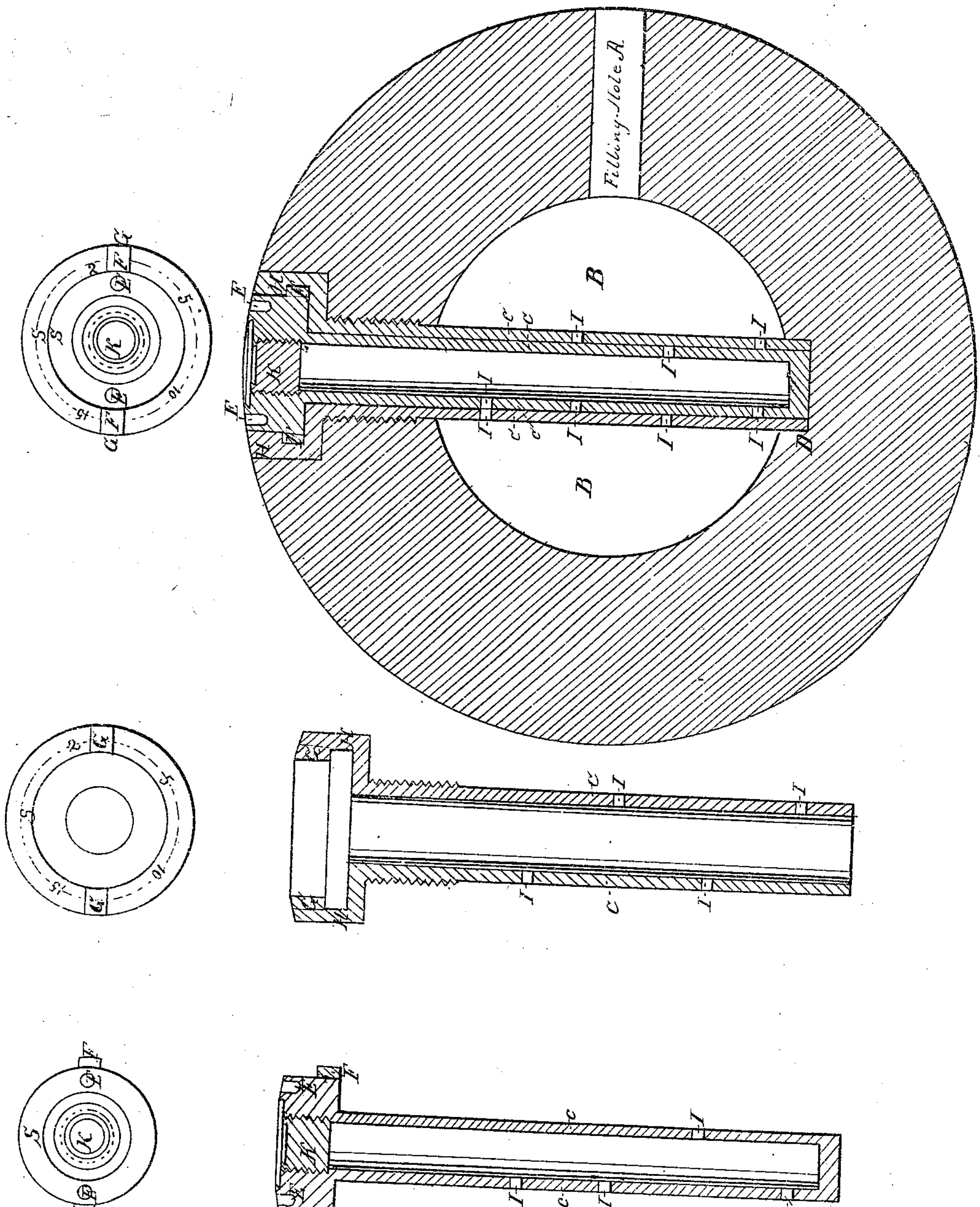
A. Powell Jr.
Shell Fuse
No. 13138.
Patented Jun. 26. 1855



Witnesses;
John L. Dunn
Robert A. Love

Inventor;
A Powell Jr

UNITED STATES PATENT OFFICE.

A. POWELL, JR., OF MARE ISLAND, CALIFORNIA.

IMPROVED FUSE-STOCK FOR BOMB-SHELLS.

Specification forming part of Letters Patent No. 13,138, dated June 26, 1855.

To all whom it may concern:

Be it known that I, ABRAHAM POWELL, Jr., of Mare Island, Solano county, State of California, have invented a new and improved mode of bursting shell-shot at any required time from two to fifteen seconds, or any moderate number of seconds; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in making a stock of two cylinders, one within the other, the outer cylinder being screwed fast in the shell and the inner made to turn at pleasure to any required point of a graduated scale on the ends of both. This scale is marked with the number of seconds—2, 5, 10, 15, &c.—to the greatest extent of time, according to the driving of the fuse, that it may be required for the bursting of the shell; and when the inner cylinder is set with, say S opposite 2 on the outer cylinder, then that indicates that the shell when fused will burst in two seconds, and so on to any other number. To effect this there are apertures down the sides of both cylinders, so arranged that when any particular hole of inner cylinder is opposite to the corresponding hole of outer cylinder all the others are shut and safe from fusion, and when the fuse has burned down to that particular aperture indicated by the scale on top or outer end then will the explosion take place. When it is required that all the apertures should be shut, the letters S on each cylinder are placed opposite to one another, rendering it a safety-fuse, all the apertures being shut, so that no fire can escape to the shell, though the fuse should burn to the bottom of the stock.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I take the usual shell, with filling-hole A, (as shown in the accompanying drawing, full size,) and cavity B, in which I insert a stock, C C, composed of two cylinders. The outer one is fast screwed in the shell and enters a ground socket, D, on the opposite side of shell, about one-fourth of an inch deep. The inner cylinder is made to revolve in the outer one and turned around to any required point by means of a strong two-pronged key inserted in the holes E E. On the top or end view of both cylinders are the letters S S—one letter on the inside cylinder and one on the outside—and when these letters are opposite one to the other then are all the apertures (shown in section) of stock closed, when the fuse may burn to the bottom of stock with perfect safety from explosion; but when the inner cylinder is turned round until letter S is opposite to Fig. 2 on outer cylinder, then the upper aperture of inner and outer cylinders are also opposite to each other, and the explosion will take place in two seconds. In like manner, when S is placed opposite to 5, the explosion will take place in five seconds, and so on for any number of seconds for which the stock is made. The inner cylinder is made fast to outer one by means of two ears, F F, which enter at G G, and when turned round in the cincture or groove H H makes it perfectly firm. The apertures I I I I are of course so arranged as that two of them will not be opposite their corresponding holes at the same adjustment. The number of apertures may be increased or decreased at pleasure.

The composition of fuse can be driven so dense that it will burn for any moderate period of time before getting to the end of the stock.

I use a similar water-cup, K, to that used in Algeir's fuse-stock.

What I claim as my invention, and desire to secure by Letters Patent, is—

A double-cylinder fuse-stock so graduated as to burst shell-shot at any required number of seconds, as herein described.

ABRAHAM POWELL, JR.

Witnesses:

JOHN L. DUNN,

ROBT. A. LOVE.