

(No Model.)

P. CUNNINGHAM.  
ROCKET PRIMER.

No. 455,278.

Patented June 30, 1891.

Fig. 1.

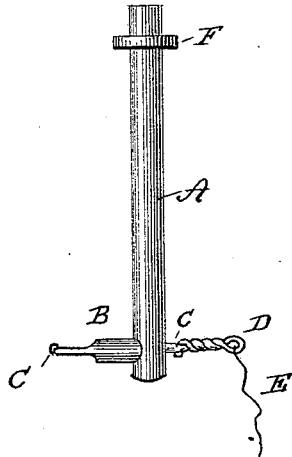


Fig. 2.

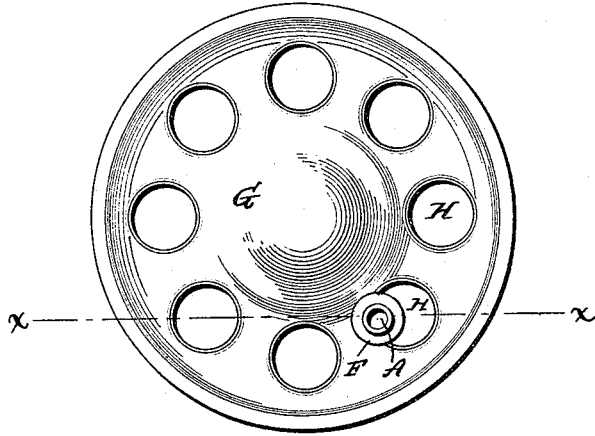


Fig. 3.

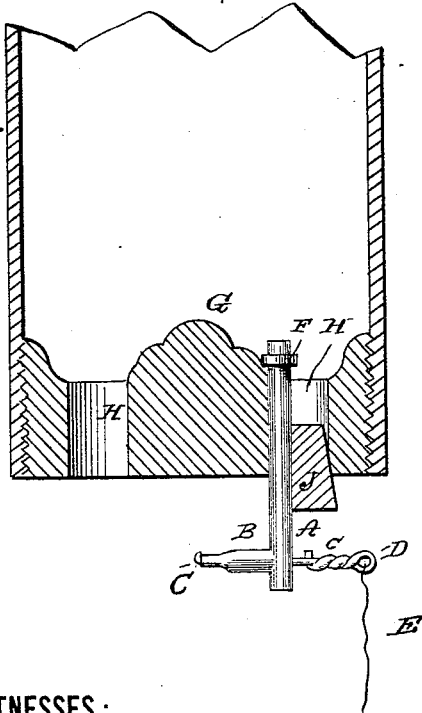
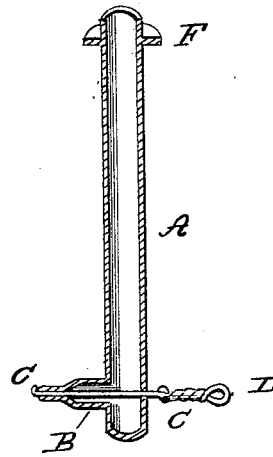


Fig. 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

PATRICK CUNNINGHAM, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR TO  
THE AMERICAN CARRIER ROCKET COMPANY.

## ROCKET-PRIMER.

SPECIFICATION forming part of Letters Patent No. 455,278, dated June 30, 1891.

Application filed November 5, 1889. Serial No. 329,320. (No model.)

To all whom it may concern:

Be it known that I, PATRICK CUNNINGHAM, a citizen of the United States, and a resident of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Rocket-Primers, of which the following is a specification.

My invention relates especially to devices employed for firing rockets, self-propelling projectiles, &c., and has for its object the provision of a cheap, simple, and effective primer, easy to place in position and sure in operation.

To attain the desired end my invention consists, essentially, in a tube provided at or near one extremity with a receptacle for fulminate, and means for producing friction for igniting the same, and at or near the opposite extremity with an offset or equivalent means for holding the primer in place when inserted in a vent, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my improved primer. Fig. 2 is an interior plan view of the fuse-piece of a rocket, showing my primer secured therein. Fig. 3 is a vertical sectional view at line *xx* of Fig. 2. Fig. 4 is an axial sectional view of the primer.

Like letters of reference wherever they occur indicate corresponding parts in all the figures.

A is a tube adapted to receive powder.

B is a receptacle for fulminate.

C is a wire, roughened upon its inner end, passing through tube A into and through receptacle B.

D is an eye upon wire C, to which a cord E may be hooked or secured when the primer is to be fired.

F is a washer firmly secured to the tube A. I have shown a washer or button as secured to the tube A; but said tube might be bent at its inner end in order to accomplish the same result.

In applying my approved primer it is passed into a vent H of a fuse-piece G until the washer, button, or offset engages with the interior of the fuse-piece, when the tube is drawn outward, as particularly illustrated in Figs. 2 and 3. To secure the primer against displacement, a cork J or its equivalent is forced into the vent at the side of tube A. When in this position, the fulminate being ignited, the gases generated in the rocket will at once force the cork out and with it the primer.

It will thus be seen that my improved primer possesses many advantages. It is carried disconnected from the rocket and the same cannot be accidentally discharged. It may be inserted for use in a moment and is sure in action. It obviates delay, which must take place where the ordinary fuse is employed, as no time is lost in procuring and applying means for igniting the same, and, finally, wind and water do not interfere with or prevent its operation.

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

1. A primer for rockets, in which is comprised a tube for containing fulminate and powder, means for igniting the same by friction, and a button or washer fixed near the inner extremity of the tube and extending at right angles thereto, substantially as shown and described.

2. The combination, with the fuse-piece of a rocket, of a primer-tube provided with an engaging washer or button near its inner extremity, and a cork or its equivalent for removably holding the primer in place, substantially as shown and described.

Signed at New Bedford, in the county of Bristol and State of Massachusetts, this 6th day of September, A. D. 1889.

PATRICK CUNNINGHAM.

Witnesses:

ARTHUR M. PIERCE,  
S. D. MOTT.