

A. LANERGAN.

Rocket.

No. 24,468

Patented June 21, 1859

Fig. 2

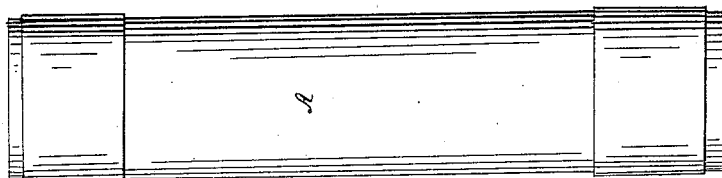
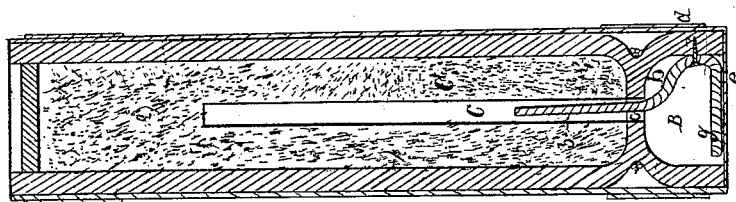


Fig. 1



Witnesses

Andrew Lanergan

UNITED STATES PATENT OFFICE.

ANDREW LANERGAN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN EXHIBITION-ROCKET.

Specification forming part of Letters Patent No. 24,468, dated June 21, 1859.

To all whom it may concern:

Be it known that I, ANDREW LANERGAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Exhibition-Rocket; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a side view, and Fig. 2 a longitudinal section, of it.

The nature of my invention consists in applying and arranging the match entirely within the choke of the rocket, and covering the mouth of its choke with a thin disk or plane, (of paper or other suitable material,) having no opening into the choke, nor any cavity to hold the match or catch sparks, the match having no direct connection with the cap or cover, but being so attached to the inner surface or side of the choke as to be capable of being drawn out of the mouth of the choke after breakage of the cap.

In the drawings, A exhibits the rocket-case as formed in the ordinary manner, with a choke, B, such choke being provided with a throat, *a*, for the reception of a match, *b*, which is to be inserted therein and extended upward into the bore *c* of the charge C, as shown in Fig. 2. The said match, at about one inch from its lower end, I fasten to the inside surface of the choke by means of a small tack, *d*, and subsequently bend the lower part of the match upward into the choke, and finally cover the mouth of the choke with a thin plane or disk of paper, *e*, made smooth and without any hole through it, or any cavity or wrinkle, whereby sparks or cinders can easily pass into the choke or lodge on the outside surface of the covering *e*. It is often the case that rockets are fired by cinders or sparks falling upon their fuses or matches, and this particularly during large exhibitions of fireworks, where many rockets are required to be discharged in a short period of time.

The common mode of making the rocket, when the match is to be separate therefrom and applied in the choke immediately before the time of explosion of the rocket, has been to provide the mouth of the choke with a thin cover, which could easily be pierced or broken by the finger preparatory to insertion of the match in the choke and its throat. Under this

state of things it will be seen that the match has no direct connection with the rocket, and is not protected by the cover or cap of the choke. Another mode of constructing a rocket has been to place the match loosely in the throat of the choke, and allow the said match to project out of the choke a short distance, or about one-half an inch, the part so projecting being covered on its sides with paper twisted about the same, and so fixed to the choke as to constitute a cover thereto, the cover being wrinkled from its circumference to the match, in consequence of the particular manner of applying it to the match. As a general thing the lower end of the match is not covered, but left exposed for the purpose of enabling it to be readily inflamed. A rocket so constructed, or having its match so applied or held in place, is very liable to be accidentally inflamed, particularly while in the vicinity of others in the process of being discharged, as the sparks and cinders that may fall from them are liable to lodge in the creases of the cover or on the match, and be retained thereby long enough to set fire to the cover or match. With my improved rocket the liability of accidentally firing is very small, from the fact that the entire match is within the choke of the rocket-case and entirely covered by the cap *e*, having a plane or smooth surface, this cap, preparatory to the rocket being fired, requiring to be broken by the finger of a person in order that the part *g* of the match may be seized and drawn out of the choke. Another advantage of my invention is that the match, by being attached to the choke, cannot be forced up into the bore of the charge so far as to cause bursting of the rocket; nor can it be moved up and down in the rocket bore or choke, so as to have its powder or composition chafed off and scattered along the bore, so as to produce bursting of the rocket when the match is inflamed.

I claim—

1. The improvement of making the rocket with a match, *b*, arranged and fixed in the choke, and protected or covered by a plane or thin disk, *e*, having no opening in the choke, nor any cavity or recess to hold the match or catch sparks, as described.

2. Attaching the match, as described, to the inner surface or side of the choke, or arranging the attachment *d* therein, and with respect

to the lower end of the match, substantially as described, the same not only enabling the match to be confined to the choke of the rocket, but to have a portion of it after breakage of the cap capable of being bent downward out of the choke into a convenient position for being fired.

In testimony whereof I have hereunto set my signature.

ANDREW LANERGAN.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.