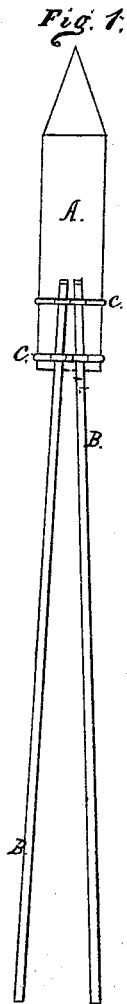


J. J. DETWILLER.
Sky-Rockets.

No. 148,553.

Patented March 17, 1874.



Witnesses.

R. R. Moffatt.

Alf. Austin.

Inventor.

Jacob J. Detwiller.

UNITED STATES PATENT OFFICE.

JACOB J. DETWILLER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN SKY-ROCKETS.

Specification forming part of Letters Patent No. 148,553, dated March 17, 1874; application filed September 17, 1873.

To all whom it may concern:

Be it known that I, JACOB J. DETWILLER, of Jersey City, in the county of Hudson, State of New Jersey, have invented certain Improvements in Sky-Rockets, of which the following is a full specification, reference being had to the accompanying drawings, which form a part of the same.

The object of this invention is to increase the efficiency and simplicity of sky-rockets, both in transportation and in their flight through the air when fired. It consists in a novel application of two short, light sticks, which can be readily attached to or detached from the rocket-head. These sticks are attached on but one side of the rocket-head, and diverge as they extend from the rocket-base.

In the annexed drawings, Figure 1 represents a view of a sky-rocket embodying my invention. Fig. 2 represents a cross-section of the same, taken on the line *x x*, Fig. 1.

Similar letters of reference in the two figures indicate like parts.

In the drawings, letter A represents the rocket-head, which may be made in any known manner. B B are sticks of wood, which are attached to the rocket-head A by wire bands

or rings C C. These bands or rings are indented on both sides of the sticks, and by that means they are held firmly to the rocket-head in the desired position. (Shown in Fig. 1.)

By the use of two sticks, as shown, they can be made much shorter and much lighter than the single stick now in common use, and the flight of the rocket improved, and its range increased.

I am aware that rockets have been supplied with sticks having a flaring attachment at their ends by which to obtain steady flight, but they are expensive and unsatisfactory in practice; such attachments I disclaim.

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

The sky-rocket A, having two short tail-sticks, B B, attached on one side of the rocket-head, and arranged substantially as and for the purpose herein specified.

JACOB J. DETWILLER.

Witnesses:

R. R. MOFFATT,
ALFD. AUSTIN.