

No. 791,408.

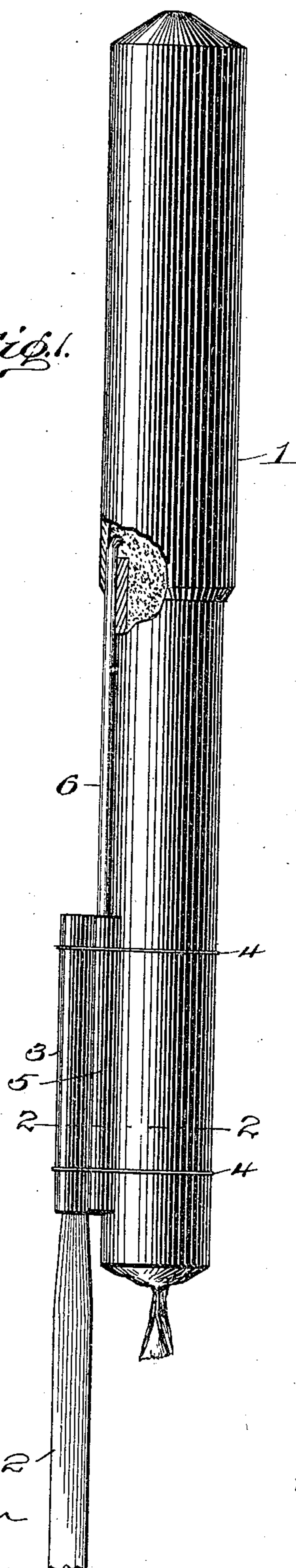
PATENTED MAY 30, 1905.

H. P. DIEHL.

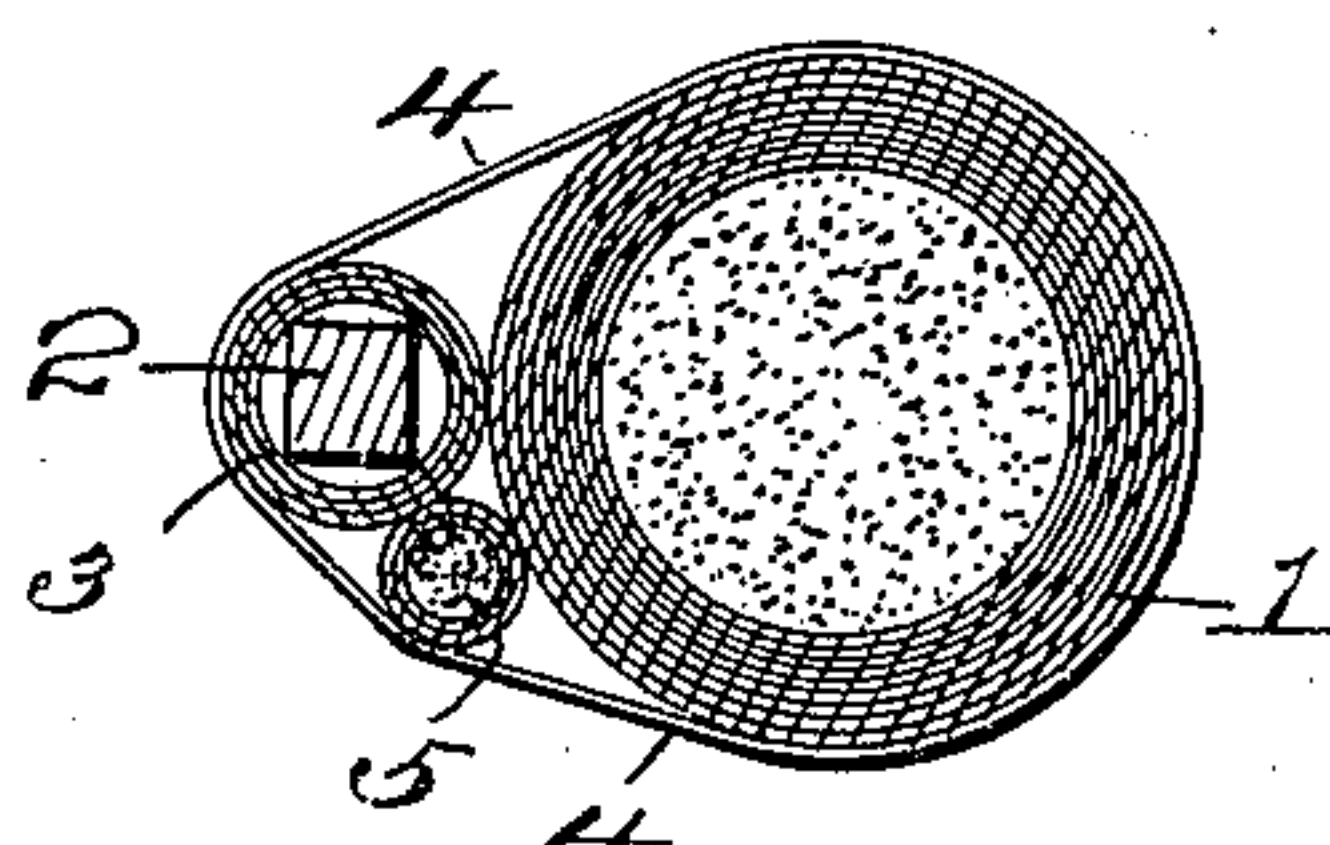
ROCKET.

APPLICATION FILED FEB. 23, 1905.

*Fig. 1.*



*Fig. 2.*



Witnesses

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# UNITED STATES PATENT OFFICE.

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## ROCKET.

SPECIFICATION forming part of Letters Patent No. 791,408, dated May 30, 1905.

Application filed February 23, 1905. Serial No. 246,969.

*To all whom it may concern:*

Be it known that I, HARRISON P. DIEHL, a citizen of the United States, residing at Lawrenceburg, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Rockets; and I do hereby 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.

This invention relates to improvements in rockets; and the object in view is the provision of means for severing the parts of the rocket after the same has arrived at the highest point of its movement, whereby danger from the falling fragments of the rocket is largely obviated.

With this and further objects in view the invention comprises the combination, with a rocket having a guiding-stick, of means for severing the stick from the rocket-casing.

The invention further comprises certain other novel details of construction hereinafter fully described and claimed.

In the drawings, Figure 1 represents a view in side elevation of a rocket embodying the features of the present invention. Fig. 2 represents a transverse section taken on the plane of line 2 2 of Fig. 1.

In the present art it has heretofore been purposed to sever certain parts of a rocket from other parts thereof after the same has reached its height; but, as far as I am aware, in each instance a portion of the guiding-stick has been left secured to the casing of the rocket, said guiding-stick serving to cause the casing to descend in a straight line, causing the impact of the casing to be received endwise, from which injurious results are liable to flow. To obviate this objection and to gain certain other advantages, I purpose to provide means for completely severing the guiding-stick from the rocket-casing as soon as the rocket has reached the limit of its upward movement, whereby said casing is relieved of any guiding means and is left free to revolve while falling, so that the force of the blow when the same strikes is only relatively small.

By reference to the accompanying drawings

the invention may be understood in detail, 1 in said drawings indicating a rocket-casing adapted to be charged in the usual way and provided with a guiding-stick 2 of any ordinary type, said stick 2 being connected with the casing 1 by means of a shell or jacket 3, strapped to the casing 1 by means of any suitable cords or cables 4. Arranged at one side of the jacket 3 is a primer 5, which is inclosed by the retaining-cords 4 4 and is provided with a suitable lead 6, extending to and entering the upper end of the shell 1 in position for being ignited as the last particle of powder within the shell is being burned.

In operation the fuse at the lower end of the casing 1 is ignited, and the rocket rises in the usual manner, and when it has arrived at the limit of its upward movement the fuse or lead 6 is ignited and discharges the primer 5, which possesses sufficient explosive capacity for blowing the jacket 3 entirely loose from the casing 1, leaving the casing free to move downwardly completely severed from the stick 2.

While I have illustrated but the one method of severing the stick from the casing, it will be obvious that a primer might be introduced directly into the upper end of the jacket 3 and the stick 2 blown longitudinally out of the jacket at the required time, or any other slight changes in the arrangement of the parts may be made within the scope of the present invention so long as the complete severance of the stick from the casing is attained.

What is claimed is—

1. In a rocket, the combination with a casing and guiding means therefor, of means for removing the guiding means from the casing.

2. In a rocket, the combination with a casing and guiding means therefor, of means for severing the guiding means from the casing, and means for actuating the severing means after the rocket has arrived at the limit of its upward movement.

3. In a rocket, the combination with a casing and guiding means therefor, of a primer positioned for dis severing the guiding means from the casing.

4. In a rocket, the combination with a casing and guiding means therefor, of a primer



positioned for dis severing the guiding means from the casing, and a fuse extending from the upper end of said casing to and communicating with said primer.

- 5 5. In a rocket, the combination with a casing and guiding means therefor, of a jacket inclosing said guiding means, a primer disposed at one side of the said jacket, and means

for securing said jacket and primer to said casing.

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

HARRISON P. DIEHL.

Witnesses:

GEORGE C. COLUMBIA,  
GEO. H. WOOD.