

No. 682,933.

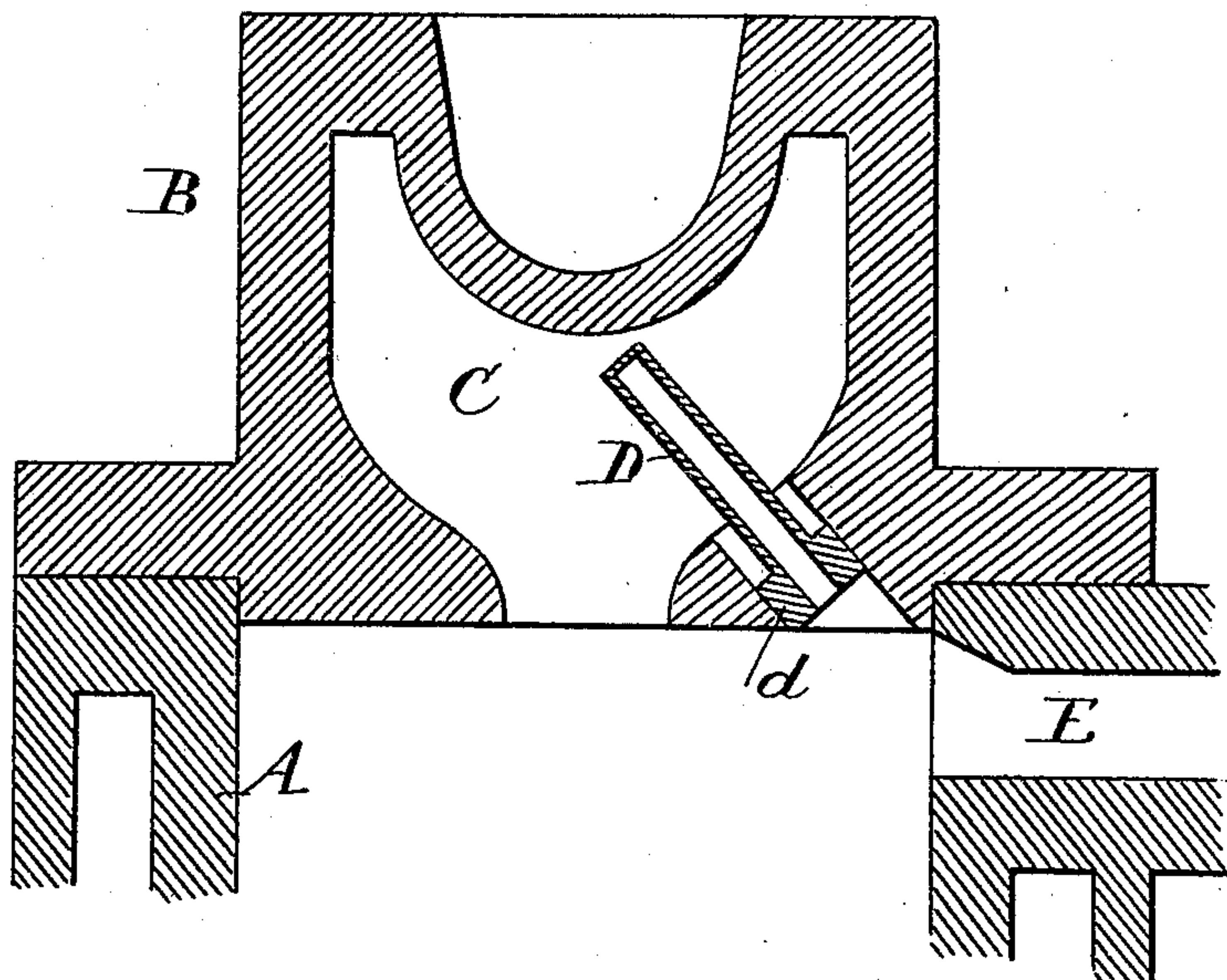
Patented Sept. 17, 1901.

R. P. HANSEN.

INCANDESCENT IGNITER FOR EXPLOSIVE MOTORS.

(Application filed May 23, 1900.)

(No Model.)



WITNESSES

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# UNITED STATES PATENT OFFICE.

RASMUS PEDER HANSEN, OF ERINDSLEV SOGN RÖDBY, DENMARK.

## INCANDESCENT IGNITER FOR EXPLOSIVE-MOTORS.

SPECIFICATION forming part of Letters Patent No. 682,933, dated September 17, 1901.

Original application filed May 4, 1899, Serial No. 715,671. Divided and this application filed May 23, 1900. Serial No. 17,720. (No model.)

*To all whom it may concern:*

Be it known that I, RASMUS PEDER HANSEN, a subject of the King of Denmark, and a resident of Erindslev Sogn Rödbby, Denmark, have invented certain new and useful Improvements in Incandescent Igniters for Explosive-Motors, of which the following is a specification.

My invention relates to an igniting-tube for automatically igniting the explosive mixture in explosion-motors.

The igniting-tube is represented in the accompanying drawing, which shows a vertical section through the upper part of a motor-cylinder with the igniting-tube arranged therein.

A is the motor-cylinder, which is closed at its upper part by a hollow lid or cover B, the hollow space C of which is in open connection with the hollow space of the cylinder.

The igniting-tube D is made of copper and is closed at its upper extremity. The igniting-tube, which is thin-walled, has at its open extremity a reinforcing-rim *d*, which serves partially for the fastening of the tube and partially as an accumulator of heat. The igniting-tube is arranged in a sloping boring in the cylinder-lid B, so that its closed extremity projects into the hollow space C, while its open extremity issues closely before the place where the conduit E, coming from the induction-valve, touches on the cylinder.

When the machine is started in the usual manner, the temperature in the heating space

or in the hollow space C will quickly rise so high that the igniting-tube becomes very hot. While the compression rises, the degree of heat rises more, and when the compression has reached the highest degree the heat will be so high that the igniting-tube becomes incandescent and ignites the explosive mixture.

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

1. In explosion-motors, an extension of the explosion-chamber formed in the cover and communicating therewith, an igniting-tube projecting into said extension of the explosion-chamber the closed extremity of the igniting-tube being provided with thin walls; substantially as described.

2. In combination with an explosive-engine cylinder, a cover closing the end thereof and having a chamber therein communicating with the cylinder, said cover having an opening through its wall to one side of the said communication with the cylinder, and a hollow ignition-tube seated in said opening and having its walls projecting into said chamber, the interior of said ignition-tube communicating with the cylinder, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

RASMUS PEDER HANSEN.

Witnesses:

JULES BLOON,  
A. HELD.