

N<sup>o</sup> 23,042



A.D. 1899

Date of Application, 18th Nov., 1899

Complete Specification Left, 1st Aug., 1900—Accepted, 22nd Sept., 1900

PROVISIONAL SPECIFICATION.

**Improvements in and connected with Explosion-motors.**

I, WILHELM MAYBACH, of Cannstatt, in the Kingdom of Wurttemberg, German Empire, Engineer, do hereby declare the nature of this invention to be as follows:—

The present invention relates to improvements in explosion motors and has for its object to provide a motor having two or more inlet channels or inlet valves, thereby a thorough mixture of the inflowing gas with the detrimental products accumulated within the combustion chamber during the last piston stroke is ascertained.

My invention will be the better understood with reference to the accompanying drawing, in which an explosion motor with two inlet channels, each one controlled by an especial inlet valve is illustrated.

*a* and *b* represent inlet-valves controlling the inlet channels *c* and *d*. *e* is the outlet valve arranged in known manner underneath the inlet valve *b*, so that the channel *d* forms at the same time the inlet and the outlet channel.

The inlet valves are connected to one another by the pipe *f* which, by means of a branch pipe *g*, is connected with the evaporation apparatus. Instead of controlling each inlet channel by an especial valve, one single valve might be employed for this purpose. The same suitably would have to be arranged in proximity of the branch-pipe *g*. From the drawing it easily can be seen that at each piston-stroke the gas mixture through the branch pipe *g* enters the pipe *f*, from where it flows through the inlet valves *a b* and the inlet channels *c d* into the combustion chamber of the motor.

Owing to the contrary direction of the channels the different gas streams cross each other, whereby a thorough mixture of the gas with the detrimental products accumulated within the combustion chamber is ascertained, which compound thus formed in known manner is ignited at the end of the stroke.

Dated this 18th day of November 1899.

JENSEN & SON,  
77, Chancery Lane, London, W.C., Patent Agents.

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COMPLETE SPECIFICATION.

**Improvements in and connected with Explosion-motors.**

I, WILHELM MAYBACH, of Cannstatt, in the Kingdom of Wurttemberg, German Empire, Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to improvements in explosion motors and has

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*Maybach's Improvements in and connected with Explosion-motors.*

for its object to provide a motor having two or more inlet channels or inlet valves, whereby a thorough mixture of the inflowing gas or fresh explosive charge with the detrimental products accumulated within the combustion chamber during the last piston stroke is obtained.

My invention will be the better understood with reference to the drawing 5 filed with the Provisional Application which shows an explosion motor with two inlet channels, each one controlled by a valve; Figure 2, accompanying this specification illustrates a modification.

*a* and *b* represent inlet-valves controlling the inlet channels *c* and *d*. *e* is the outlet valve arranged in known manner underneath the inlet valve *b*, so that the channel *d* forms at the same time the inlet and the outlet channel. 10

The inlet valves are connected to one another by a pipe *f* which, by means of a branch pipe *g*, is connected with the evaporation apparatus. Instead of controlling each inlet channel by an especial valve, one single valve might be employed for this purpose. Figure 2 illustrates this modification, the valve 15 being arranged in proximity to the branch pipe *g*.

If desired, other constructions in which both inlet passages are controlled by one valve may be employed.

From the drawings it can easily be seen that at each piston-stroke the gas mixture enters the pipe *f*, through the branch pipe *g* whence it flows through 20 the inlet valves *a b* and the inlet channels *c d* into the combustion chamber of the motor.

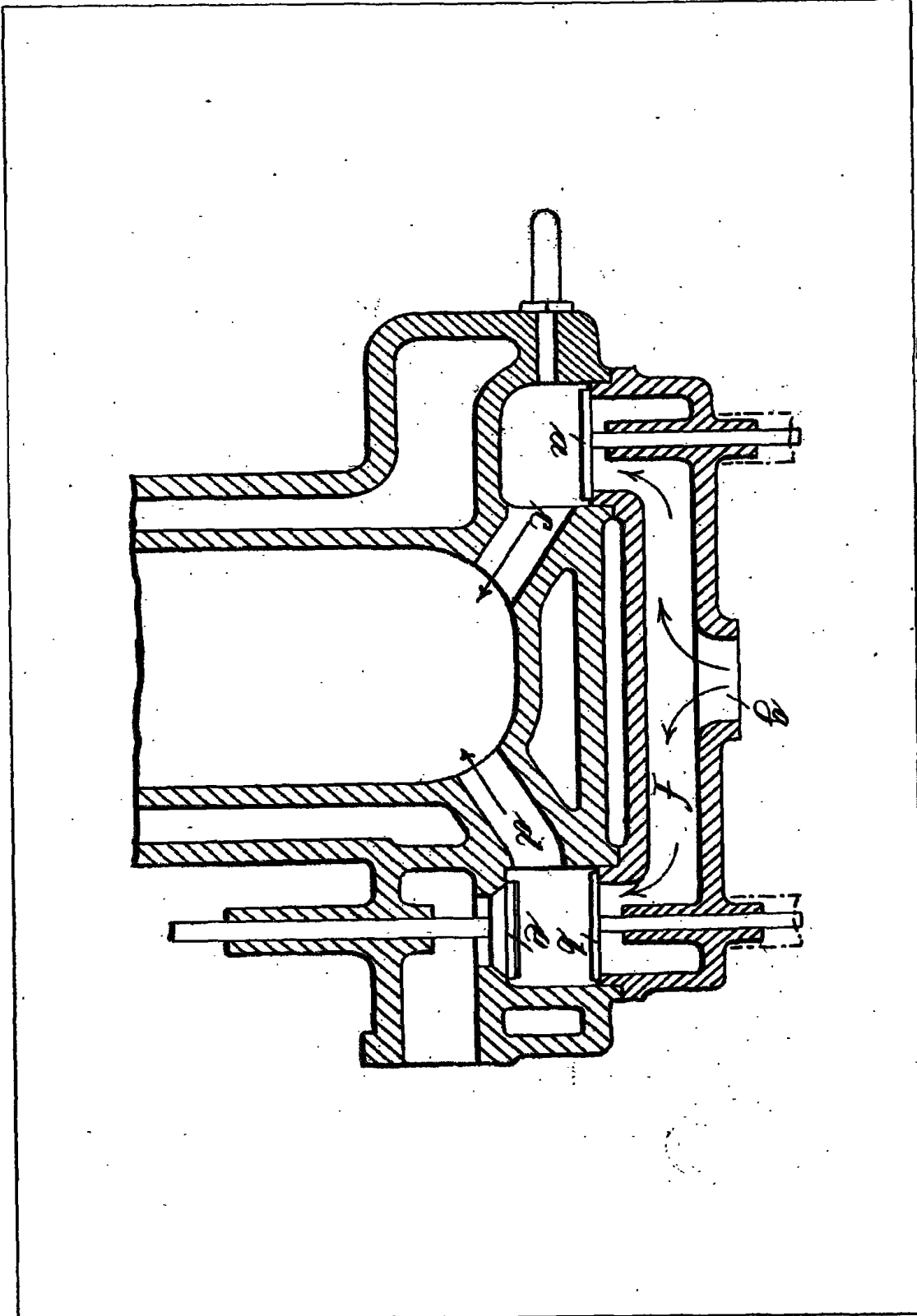
Owing to the contrary direction of the channels the different gas streams cross each other, thus causing a thorough mixture of the gas with the detrimental products accumulated within the combustion chamber, and this compound is 25 ignited at the end of the stroke in any desired manner.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

1. In an explosion motor, the arrangement of a motor cylinder with two or 30 more inlet-channels branching off from one inlet channel for the purpose of enabling the gas thoroughly to mix with the detrimental products accumulated within the motor cylinder, a valve controlling the inlet channels and an exhaust valve arranged in communication with the cylinder substantially as described.
2. In an explosion motor, the arrangement of a motor cylinder with two or 35 more inlet-channels branching off from one inlet channel, for the purpose of enabling the gas thoroughly to mix with the detrimental products accumulated within the motor cylinder, valves controlling the inlet-channels and a discharge-valve located underneath an inlet-valve, substantially as described.

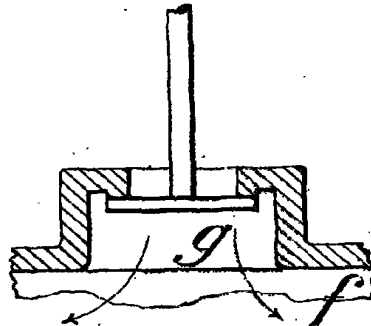
Dated this 30th day of July 1900.

BOULT, WADE & KILBURN,  
Agents for the Applicant.



*[This Drawing is a full-size reproduction of the Original.]*

FIG. 2



*[This Drawing is a full-size reproduction of the Original.]*