Dec. 7, 1926. 1,609,898

F. A. BEASLEY

EXPLOSIVE ENGINE

Filed March 18, 1925

Fig 1

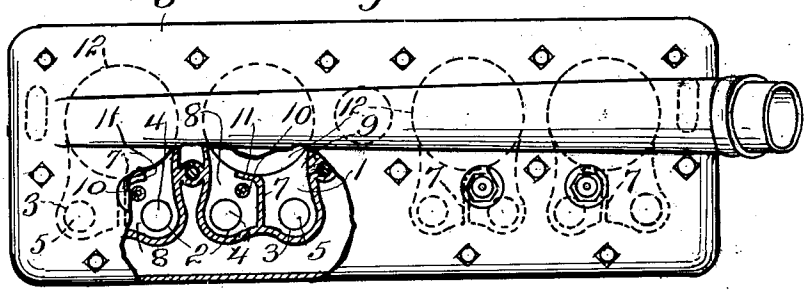


Fig 2

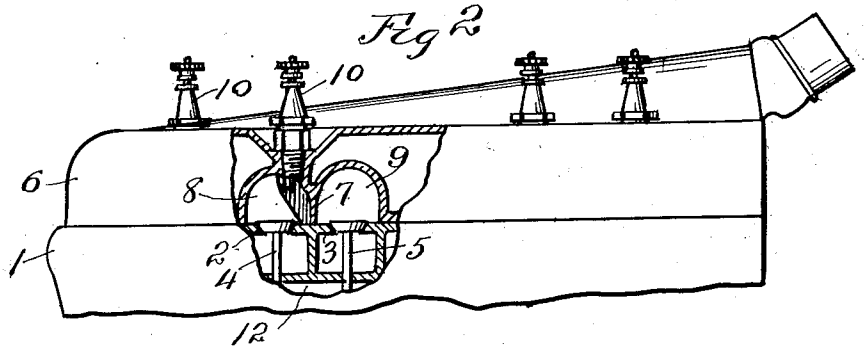
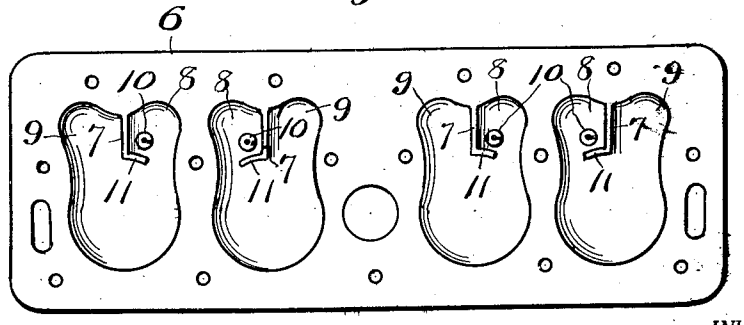


Fig 3



INVENTOR.

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Witness:

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UNITED STATES PATENT OFFICE.

FRANK A. BEASLEY, OF GARNETT, KANSAS.

EXPLOSIVE ENGINE.

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My invention relates to improvements in explosive engines.

One of the objects of my invention is to reduce the liability of fouling of the inlet port to the cylinder and the ignition device by the exhaust products of combustion.

A further object of my invention is to provide novel means for separating the ignition device and inlet port from the exhaust passage and port, whereby said inlet port and ignition device are out of the path of the exhaust, thereby preventing deposition thereon of products of combustion and oil, thus obtaining reliability in firing the charge.

A further object of my invention is the provision in the head of an explosive engine of a chamber having a partition separating the inlet and exhaust ports, which communicate with the cylinder of the engine, from each other, and separating the spark plug from the exhaust passage leading to the exhaust port, whereby fouling of the plug contacts and of the inlet port and valve by oil and products of combustion is eliminated.

Still another object of my invention is to provide a structure of the kind described, which is simple, cheaply made, durable, not liable to get out of order, and which greatly increases the efficiency of the engine.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing which illustrates the preferred embodiment of my invention,

Fig. 1 is a top view, partly broken away of a head and body of an explosive engine provided with my improvement.

Fig. 2 is a side elevation, partly broken away, of the same.

Fig. 3 is an under view of the head having my improvement.

Similar characters of reference designate similar parts.

1 designates the body of an explosive engine of a well known type, having in its top the usual inlet port 2 and exhaust port 3, and the usual inlet valve 4 and exhaust valve 5 respectively controlling said ports.

6 designates the head on the top of the body 1, and which forms therewith a chamber having a partition 7 which separates the chamber into an explosion compartment 8 communicating with the port 2, and an exhaust compartment 9 communicating with the exhaust port 3. In the compartment 8 is located the ignition device, which may comprise the usual spark plug 10 having the usual contacts in the compartment 8 separated from the exhaust passage or compartment 9 by the partition 7. As shown in the drawing, the partition 7 may have an angular extension 11, which forms in the compartment 8 a corner pocket, and which is interposed between the adjacent side of the inner wall of the power cylinder 12, which is in the body 1, and the spark plug 10. As will be noted the spark plug 10 is located closely adjacent to the port 2 and in said corner pocket, so that it will reliably ignite the charge, due also to the fact that by having the partition to separate the two compartments, the charge will be dense and free from oil and products of combustion. As the angular extension 11 is at the outer side of the inner cylinder wall, and between the latter and the spark plug 10, said extension will guide the products of combustion away from the compartment 8 and into the exhaust compartment 9, thereby protecting the spark plug from contact with such products, so that the plug will keep clean for a relatively long time.

After the charge has been fired and the exhaust valve is open and the piston is making its exhaust stroke, the rush of the burnt vapor from the cylinder to the exhaust port will sweep from the top of the piston oil and oil vapor which will be carried out with the exhaust products into the exhaust manifold or the exhaust compartment 9. The piston then on the intake stroke, with the inlet valve 4 open, will draw a charge into the compartment 8, and as the charge will be free from oil or oil vapor or burnt products, it will be reliably fired by the spark plug 10 and will have a maximum of power.

From the above description, it will be understood that the provision of the partition 7 with its extension 11 extending between the explosion compartment 8 and the inner wall of the cylinder at the outer side thereof, and between said inner wall and the spark plug 10, that the latter will be protected from deposit of burned products and will be efficient for an extended period, and the explosive charges will be practically freed from contamination by the exhaust products.

It will be, of course, understood, that the improvement above described, as associated with one cylinder, is in like manner applica-

ble to all of the cylinders, as is illustrated in the drawing. The description of one will properly apply to each.

I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claims, may be made, without departing from the spirit of my invention.

What I claim is:—

1. In an explosive engine, the combination with a power cylinder, of a chamber having therein a partition which divides the chamber into an explosion compartment having an inlet port, and an exhaust compartment having an exhaust port, both of said compartments communicating with said cylinder, said partition having an angular extension at the outer side of and between the inner wall of said cylinder and said explosion compartment, and forming in the latter a corner pocket, valves respectively controlling said ports, and an ignition device in said corner pocket.

2. In an explosive engine, the combination with an engine body having a power cylinder and a head mounted on the body, of a chamber formed by the body and head having therein a partition which divides the chamber into an explosion compartment having an inlet port and an exhaust compartment having an exhaust port, both of said compartments communicating with said cylinder, said partition having an angular extension at the outer side of and between the inner wall of said cylinder and said explosion compartment, and forming in the latter a corner pocket, valves respectively controlling said ports, and an ignition device in said corner pocket.

In testimony whereof I have signed my name to this specification.

FRANK A. BEASLEY.