S. H. DALE.

EXPLOSIVE ENGINE.

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1,096,604.

Patented May 12, 1914.

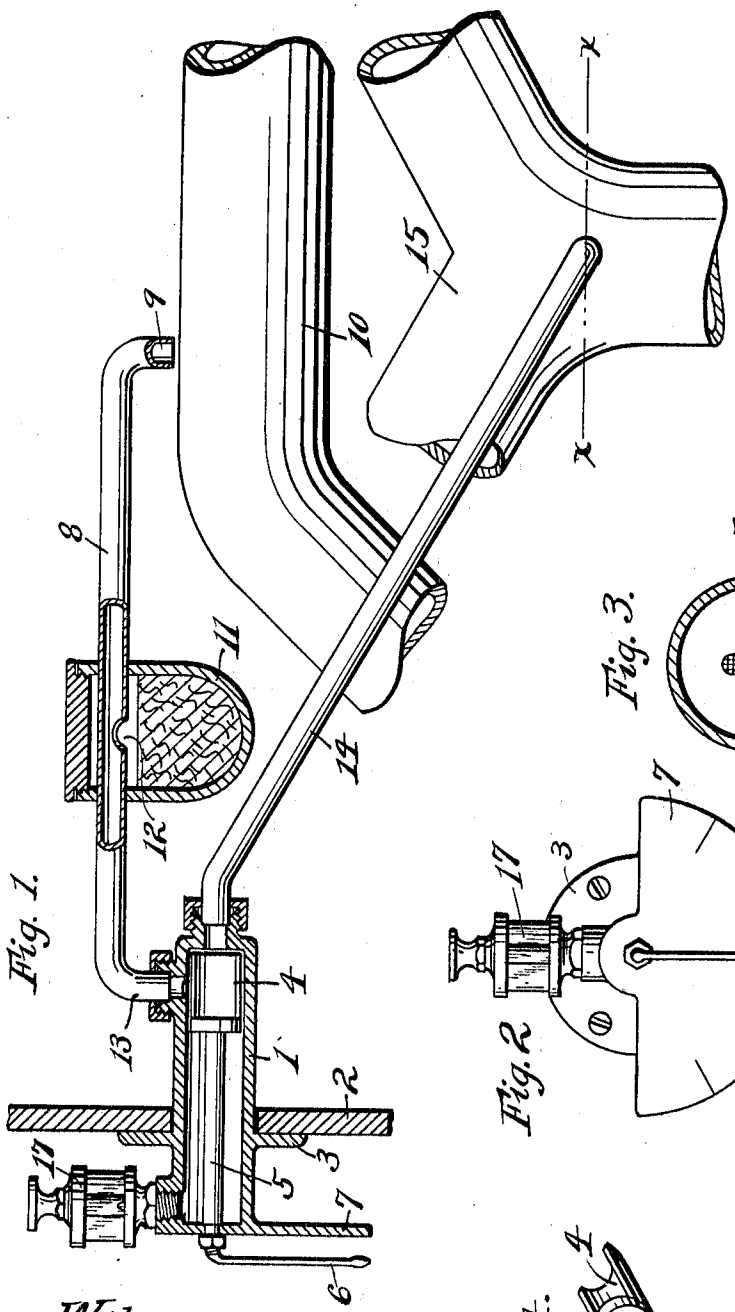


Fig. 1.

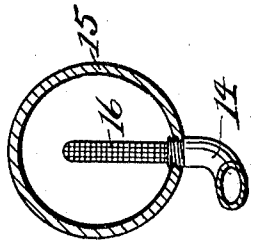


Fig. 3.

Fig. 2.



Fig. 4.

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UNITED STATES PATENT OFFICE.

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EXPLOSIVE-ENGINE.

1,096,604. Specification of Letters Patent. Patented May 12, 1914.

Application filed February 25, 1913. Serial No. 750,657.

To all whom it may concern:

Be it known that I, SAMUEL HENRY DALE, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Explosive-Engines, of which the following is a specification.

My invention relates to improvements in explosive engines and especially to the means for supplying the fuel thereto, the object of the invention being to provide improved means for supplying fuel, whereby the starting and running of the engine is facilitated.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a view illustrating my invention and shown in position of use in conjunction with the ordinary exhaust pipe and the ordinary intake pipe or manifold of the engine, Fig. 2, a face view of a valve chamber employed in the construction, Fig. 3, a section taken on line *x*—*x* of Fig. 1, and Fig. 4, a detail perspective view of a valve employed in the construction.

The preferred form of construction as illustrated in the drawing, comprises a valve chamber 1 which is passed through the ordinary dash board 2 of an automobile and secured thereto by means of a suitable securing flange 3. Valve chamber 1 is provided with a valve 4 as shown in detail in Fig. 4, said valve being operated by means of a valve stem 5 carrying an operating handle 6 which is arranged in operative relation with a dial 7 on chamber 1 and located immediately behind dash board 2 so as to be in position for convenient access by the driver of the car. A pipe 8 is arranged with one end 9 in close proximity to the top of the ordinary exhaust pipe 10 of the ordinary engine, (not shown). This pipe 8 leads through a supplemental carbureting chamber 11 and is provided with an opening 12 in said chamber, said chamber being partially filled with wicking or other suitable absorbent material and being supplied with gasolene or other suitable fuel. At its other end 13 pipe 8 is connected with valve chamber 1 and another pipe 14 leads from valve chamber 1 into intake pipe or manifold 15 as indicated. The end of pipe 14 projecting into pipe 15 is provided with a suitable strainer 16 which extends well into pipe 15 and serves to strain any fuel passing therethrough and also to facilitate evaporation thereof and thorough mixing with the air in pipe 15. Valve chamber 1 is also provided with an oil cup 17 leading thereto and which may be of any usual or desired construction.

In operation heated air is drawn through pipe 8 and valve chamber 1 into the intake pipe 15 by the action of the ordinary suction of the engine as will be readily understood by those skilled in the art, said air absorbing a certain amount of gasolene or other fuel from chamber 11 thus tending to enrich the mixture and facilitate starting and running of the engine. Under ordinary conditions gasolene or other fuel is carried in oil cup 17 and permitted to run down into casing 1 where it seeps around valve 4, which fits sufficiently loose in casing 2 to permit such passage of the gasolene or other fuel under the influence of the engine's suction already mentioned to facilitate carbureting the air drawn through pipe 14.

When it is desired to remove the carbon from the engine a mixture of turpentine and kerosene is supplied to the oil cup 17 and this mixture will thus be introduced into the engine and provide its usual function in the removal of the carbon therefrom.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. The combination with the exhaust and intake manifolds of an explosive engine, of a pipe having one end adjacent said exhaust manifold and its other end connected with said intake manifold; a primary fuel supply receptacle pierced by and in communication with said pipe; a valve casing connected in said pipe; an auxiliary fuel supply recepta-

cle connected with said valve casing; and a valve in said valve casing controlling the passage through said pipe and permitting fuel to pass between said valve and its casing into said pipe, substantially as described.

2. The combination with the exhaust and intake manifolds of an explosive engine, of a pipe having one end adjacent said exhaust manifold and its other end connected with said intake manifold; a fuel supply receptacle pierced by and in communication with said pipe; a valve casing connected in said pipe; a cleansing material receptacle connected with said valve casing; and a valve in said valve casing controlling the passage in said pipe and permitting the flow of the cleansing material into said pipe, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL HENRY DALE.

Witnesses:
A. A. OLSON,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."