

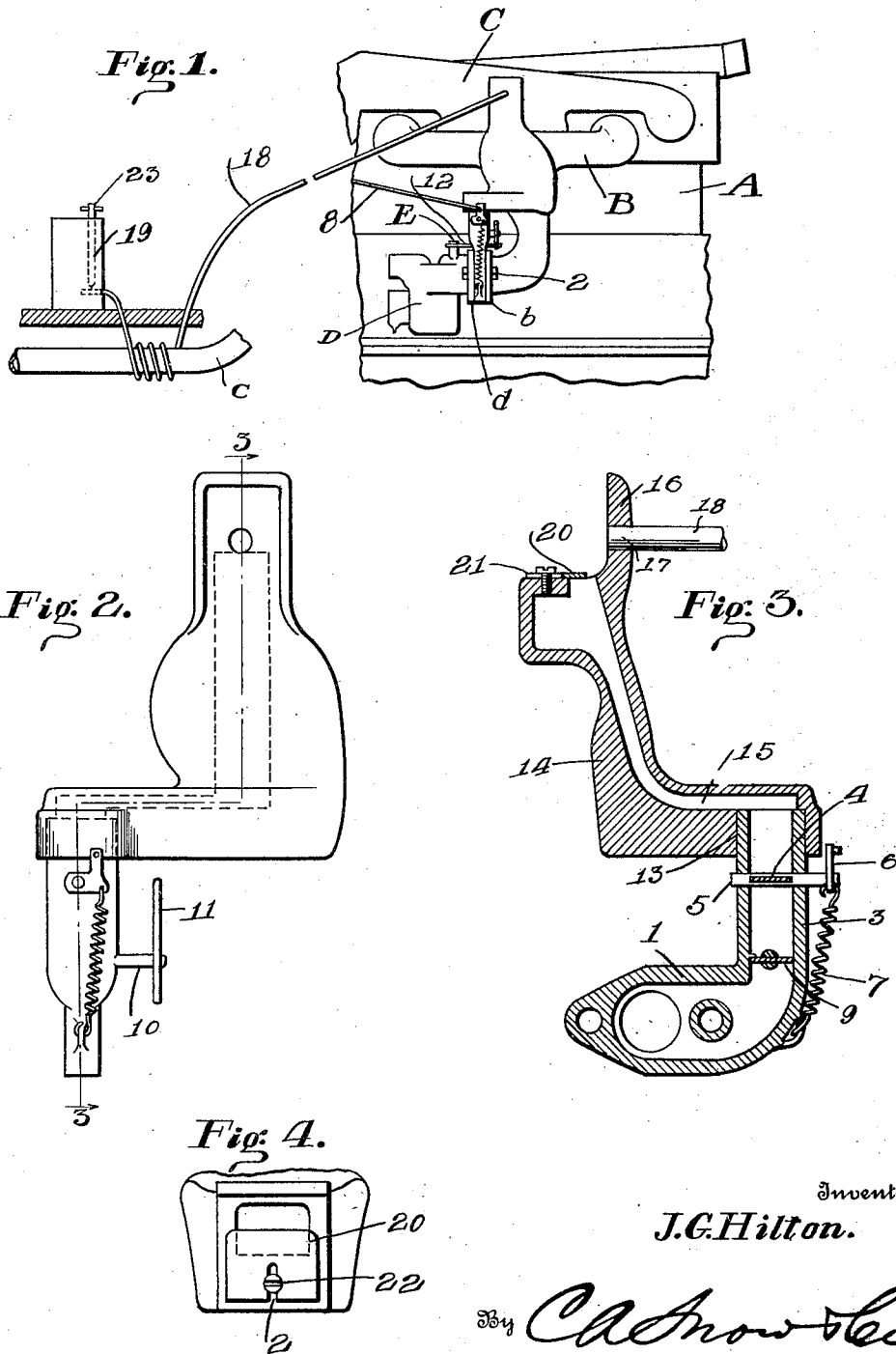
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J. G. HILTON

CARBURETOR ATTACHMENT FOR EXPLOSIVE ENGINES

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Invento:

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UNITED STATES PATENT OFFICE.

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CARBURETOR ATTACHMENT FOR EXPLOSIVE ENGINES.

Application filed November 13, 1920. Serial No. 423,951.

To all whom it may concern:

Be it known that I, JESSE G. HILTON, a citizen of the United States, residing at Mena, in the county of Polk and State of Arkansas, have invented a new and useful Carburetor Attachment for Explosive Engines, of which the following is a specification.

This invention relates to an attachment for carburetors used in connection with explosive engines, one of the objects of the invention being to provide a device which can be readily placed in position between the carburetor and the intake manifold of an engine and which serves to direct heated fresh air either with or without steam into the intake manifold where it will mix with the gas delivered from the carburetor, it being possible by means of this attachment, to effect a considerable saving of gas after the engine has once been started, the various parts of the attachment being controlled easily by the driver.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings—

Figure 1 is a side elevation of a portion of a vehicle and engine having the present improvements combined therewith.

Figure 2 is an enlarged side elevation of the attachment.

Figure 3 is a section on line 3—3, Figure 2.

Figure 4 is a top plan view of a portion of the attachment.

Referring to the figures by characters of reference A designates a portion of an engine having an intake manifold B and an exhaust manifold C, there being a carburetor D mounted in the usual way and from which projects the stem E of the throttle valve.

The attachment constituting the present invention includes a hollow metal gasket 1 adapted to be placed between the flange b of the intake manifold B and flange d of the

outlet end of the carburetor, said gasket and the flanges being held together by bolts 2 which are extended through them as shown. The gasket 1 is hollow and has a tubular stem 3 projecting upwardly therefrom, there being contained within the upper portion of the stem a valve 4 the stem 5 of which has an angle lever 6 at one end. A spring 7 connects one arm of this lever to the lower portion of the gasket while the other arm of the lever has an operating rod 8 attached thereto and extending rearwardly to a point where it can be reached and actuated readily by the driver. Another valve 9 is mounted in the lower portion of the stem and the stem 10 of this valve is provided with a lever 11 coupled, by an arm 12, to the stem E of the butterfly valve in the carburetor. The arm 12 is designed to swing during the rotation of the stem E and will at that time actuate the lever 11 and valve 9 so as to open or close the valve to maintain a proper proportion of air and gas within the intake manifold.

The upper end of the tubular stem 3 is seated within an opening 13 formed in the bottom of a plate 14 which is suitably fastened to the exhaust manifold and has an air passage 15 extending from the opening 13 upwardly through the top of the plate and close to the exhaust manifold C. An ear 16 projects upwardly from the plate and has an opening 17 in which is secured one end of a pipe 18. This pipe is coiled about the exhaust pipe c of the engine and is adapted to receive water from a container 19 mounted at any desired point above said pipe. A regulating plate 20 is mounted on the upper end of the plate 14 and is adapted to partly cover the intake end of the passage 15, said plate being slotted as at 21 and engaged by a holding screw 22.

While the engine is being started the valve 4 can be closed so that a rich mixture will flow through the carburetor to the engine. After the engine has started and the exhaust manifold has been heated, the valve 4 can be opened by pulling on the rod 8 and securing said rod in any suitable manner. Thus fresh air heated in its passage across the exhaust manifold will be sucked through the passage 15 and through the stem 3 into the gasket 1 where it will mix with the gas flowing from the carburetor to the intake manifold. This heated air will enable a reduced quantity of gas to be used, this quan-

tity being first determined by the proper adjustment of the plate 20. At times moisture may be supplied to the mixture by directing water from the container 19 through the pipe 18. This pipe, being wrapped about the pipe *c* will be heated to a high temperature, thus producing vapor or steam which will be discharged across the open upper end of the passage 15. It will here be sucked into the passage together with the heated air and the steam and air thoroughly mixed with the gas as it passes through the gasket 1.

It is to be understood that the attachment may be made in various styles for use in connection with different kinds of cars, the construction illustrated being designed primarily for use in connection with the well known "Ford" engine.

As shown in Figure 1 a suitable needle valve 23 or the like can be used for controlling the flow of water from the container 19.

What is claimed is:

In an attachment of the class described,

a hollow metal gasket insertable between the carburetor outlet and the intake manifold of an engine and having a tubular stem extending upwardly therefrom and provided with a valve, a spring connected to hold said valve normally in closed position, manually controlled means for opening said valve against the tension of said spring, a casting mounted on said stem and having an air inlet passage communicating with the stem, said casting being shaped to fit over the exhaust manifold and equipped at its upper end with a chamber provided with an adjustable closure to control the entrance of air thereto, said casting having means for directing a jet of steam across the opening controlled by said closure.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JESSE G. HILTON.

Witnesses:

MONROE MARTIN,
CLAUDE WELLIFORD.