

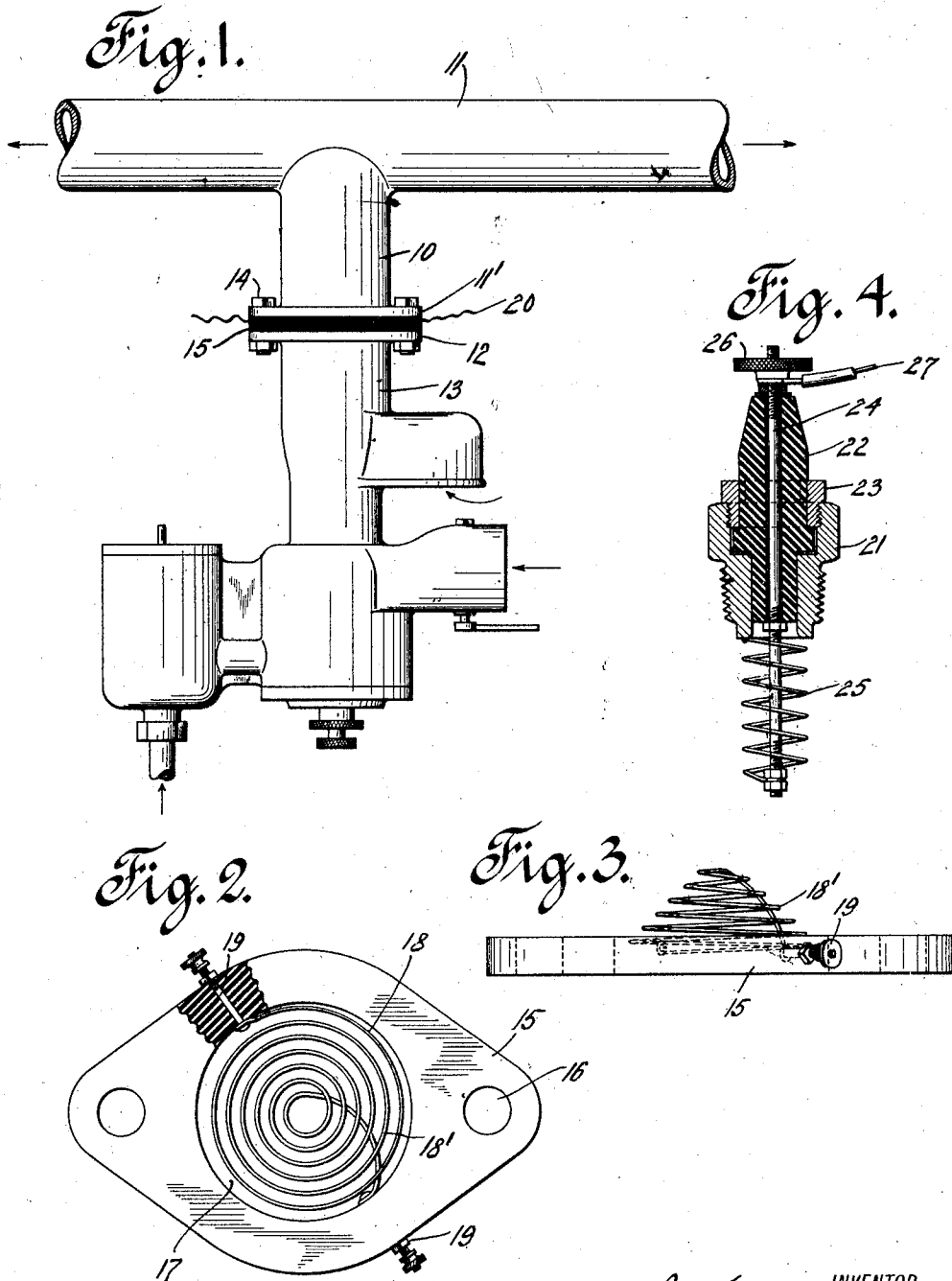
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VAPORIZING ATTACHMENT FOR INTERNAL COMBUSTION ENGINES

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VAPORIZING ATTACHMENT FOR INTERNAL-COMBUSTION ENGINES.

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To all whom it may concern:

Be it known that I, JULIUS MEDVECZKY, a subject of the King of Hungary, and a resident of the city of New York, in the county of Queens and State of New York, have invented certain new and useful Improvements in Vaporizing Attachments for Internal-Combustion Engines, of which the following is a specification.

The present invention relates to a vaporizing attachment for internal combustion engines, and has for its main object to provide an electric device of this type, that is readily attachable to engines of any suitable construction, and more particularly to the intake manifolds thereof.

Another object of the invention is to produce a device of the type mentioned, which is simple in construction, inexpensive to manufacture, instantaneous in operation, and which can be attached to the engine without necessitating any changes in the construction of the latter.

A further object of the invention is to produce a vaporizer, that serves at the same time as a means for thoroughly commingling the mixture of air and hydro-carbon produced by the carbureter.

With these and other objects in view which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement, and construction of parts hereinafter described, pointed out in the appended claims and illustrated in the accompanying drawings; it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

Two of the many possible embodiments of the invention are illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of a fragmentary portion of an intake-manifold and the carbureter of an engine having the vaporizer, constructed in accordance with the present invention, attached thereto; Fig. 2 is a top plan view, partly in section, of the vaporizer; Fig. 3 is a front elevation thereof; and Fig. 4 is a longitudinal vertical section taken through a modified vaporizer.

Referring now first to Figs. 1 to 3, inclusive, of the drawings, the numeral 10

indicates the intake pipe of an internal combustion engine, which leads to the manifold 11 thereof, only a fragmentary portion of the latter being shown. To the flange end 11' of the intake pipe is attached the corresponding flange end 12 of a carbureter 13, the attaching means consisting of screw bolts 14. The carbureter may be of any suitable type, the vaporizing device, forming the subject matter of the present application for Letters Patent, being not dependent upon any type or style of charge forming device.

The vaporizing device is interposed between the flanges 11' and 12 of the intake pipe and carbureter, respectively, and consists of a plate member 15, made of any suitable electric insulating material and having a contour that corresponds to that of the flanges 11' and 12. The member 15 is provided with holes 16, through which pass the clamping bolts 14 above referred to. Centrally there is formed in the member 15 an aperture 17, the size of which corresponds to the inner diameter of the intake pipe 10, and within this aperture is disposed an electric heater 18, consisting of a coil 18' of wire, formed of a suitable electrical resistance material, and secured to binding posts 19, which are connected by wires 20 with a source of electric energy.

The coil 18' is wound in the form of a conical spiral, and is of a height that exceeds considerably that of the member 15, the base of the spiral corresponding in size substantially to that of the aperture 17 in the member 15 and being disposed within the said aperture, and the apex of the conical coil being located above the said member 15 within the intake pipe 10.

The operation of this device is as follows: The combustible mixture of air and hydro-carbon flows between the convolutions of the conical coil, constituting the heater, and, as the said coil is heated, the combustible charge is fully vaporized and pre-heated, so that the engine may be started and operated regardless of the atmospheric temperature. As the combustible charge flows between the convolutions of the conical spiral, the mixture of air and hydro-carbon is thoroughly commingled, thereby producing a more uniform and homogeneous mixture.

The vaporization of the fuel by pre-heating is particularly desirable in cold weather.

In hot weather it may not be necessary to use the vaporization attachment, and in such case one of the wires 20 is detached from one of the binding posts 19, thereby cutting out the attachment.

In certain types of internal combustion engines, the ignition circuit is grounded to the engine. In such case, therefore, one end of the heating coil may be clamped between the member 15 and either one of the flanges 11' and 12, or one of the wires 20 leading from one of the binding posts 19 may be clamped between the members mentioned.

A modification of the invention is illustrated in Fig. 4 of the drawings, differing from the one above described in that it may be applied to any part of the intake pipe or manifold of the engine. This construction comprises an exteriorly screw-threaded sleeve 21, through which extends a bushing 22 of electrical insulating material, said bushing being attached to the said sleeve for instance by a nut 23. Through the bushing extends a terminal bar 24 of electric conducting material, said bar projecting a considerable distance below the sleeve. An electric resistance coil 25 is attached at one of its ends to the sleeve 21 and at its other end to the lower end of the terminal bar 24. The coil 25 is wound in the form of a helical spring, although it may be of any suitable configuration without departing from the invention. The sleeve 21 is made of a material that constitutes an electric conductor. A clamping screw 26 serves to attach a wire 27 to the terminal bar 24, the said wire being connected to one of the terminals of an electric battery or other source of electrical energy, the other terminal of which is grounded to the internal combustion engine.

To attach this vaporizer to the engine, a hole of suitable size is drilled into either the intake pipe 10 or the manifold 11, said hole being screw threaded. These threads mesh with the threads of the sleeve 21, whereby

the resistance coil 25 projects into the intake pipe or manifold, as the case may be.

The operation of this device is in all respects similar to that of the one above described.

What I claim is:

1. The combination with a carbureter, of a charge conveying conduit leading therefrom, a plate member of electric insulating material inserted between said carbureter and said conduit having an aperture to permit the passage of the charges from said carbureter to said conduit, and a heater carried by said plate member consisting of an electric resistance in the form of a conically wound spiral inserted into an electric circuit, the base of said conical spiral being disposed within said aperture and its apex projecting into said conduit.

2. The combination with carbureter, of a charge conveying conduit leading therefrom, a gasket plate member of electric insulating material inserted between said carbureter and said conduit having a central aperture therethrough to permit the passage of the charges from said carbureter to said conduit, and a heater carried by said gasket plate member consisting of an electric resistance in the form of a conically wound spiral inserted into an electric circuit, the base of said conical spiral being disposed within said aperture and its apex projecting beyond the plane of the gasket and extending within said conduit.

3. In combination with a carbureter and a conduit extending therefrom for supplying a mixture of fuel and air to a motor, a heating and atomizing coil in said conduit having the convolutions thereof arranged to progressively intercept the mixture supplied through said conduit.

Signed at New York, in the county of New York, and State of New York, this 10th day of Sept., A. D. 1918.

JULIUS MEDVECZKY.