Dec. 22, 1931. E. P. DU PONT ET AL 1,837,255

INTERNAL COMBUSTION ENGINE

Filed Aug. 11, 1928 2 Sheets-Sheet 1

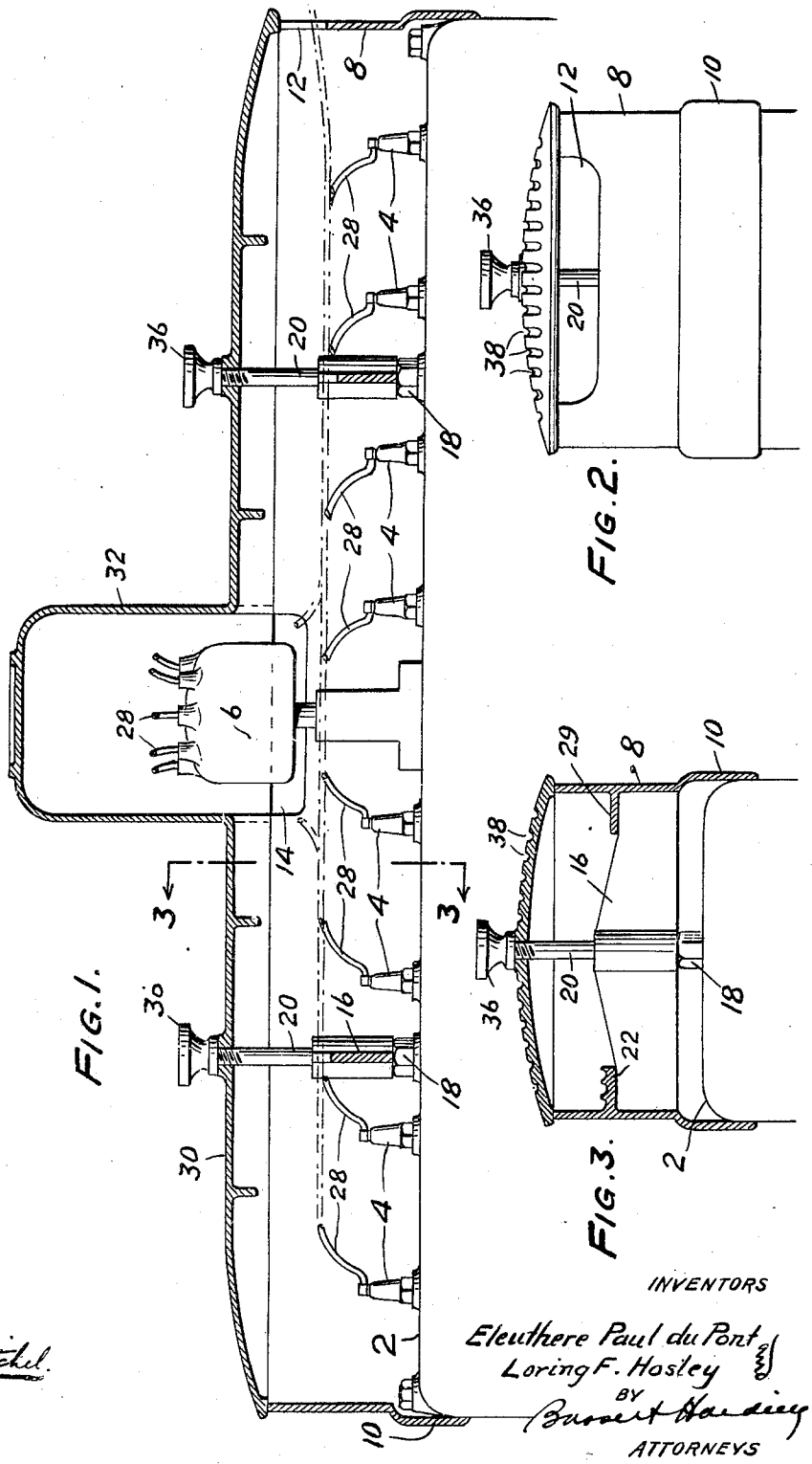


FIG. 1.

FIG. 2.

FIG. 3.

WITNESS:

Robt. R. Kitchel

INVENTORS

Eleuthere Paul du Pont and
Loring F. Hosley

BY

Burnett Harding

ATTORNEYS

Dec. 22, 1931. E. P. DU PONT ET AL 1,837,255

INTERNAL COMBUSTION ENGINE

Filed Aug. 11, 1928 2 Sheets-Sheet 2

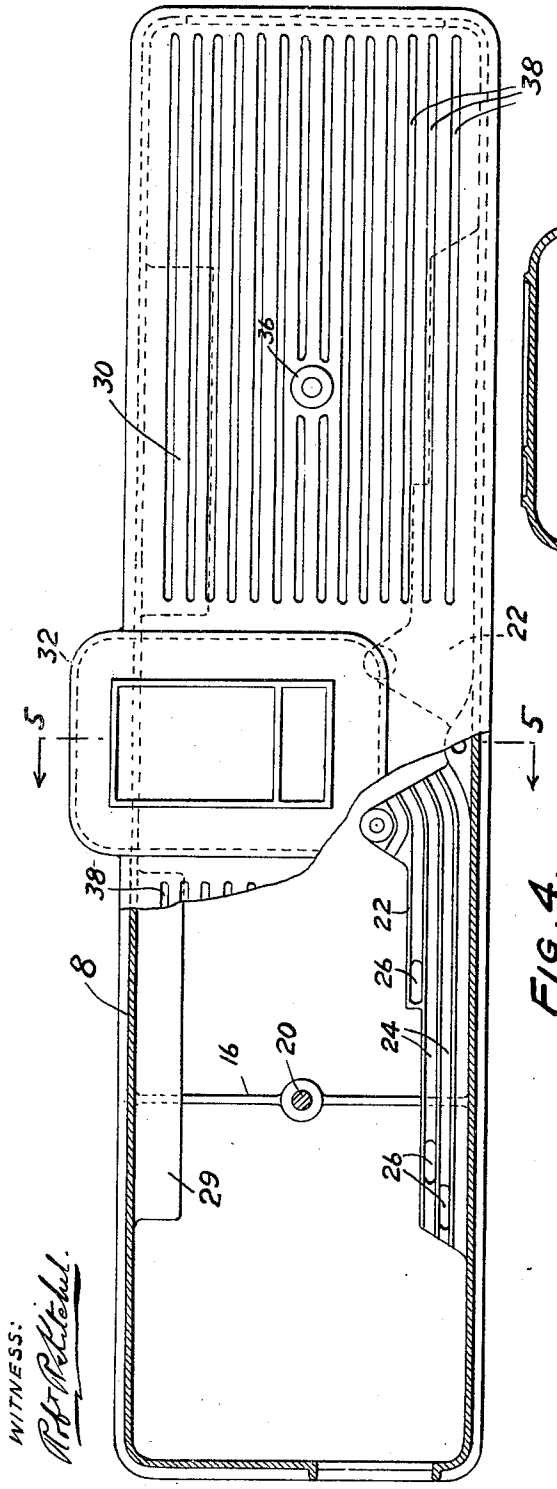


FIG. 4.

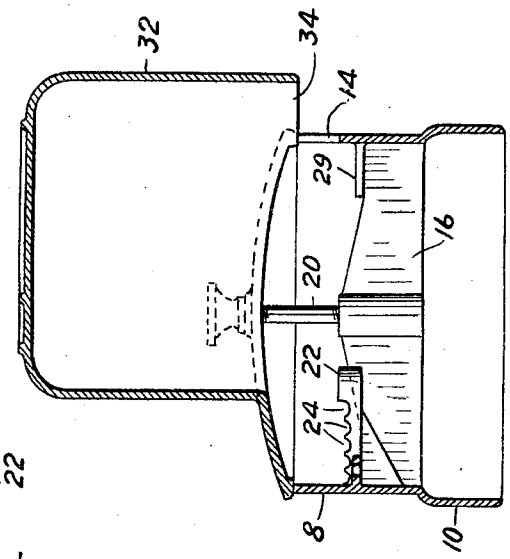


FIG. 5.

WITNESS:
Robt. Pitfield.

INVENTORS
Eleuthere Paul du Pont
Loring F. Hosley
BY
Burnett Harding
ATTORNEYS.

Patented Dec. 22, 1931 1,837,255

UNITED STATES PATENT OFFICE

ELEUTHERE PAUL DU PONT, OF MONTCHANIN, AND LORING F. HOSLEY, OF ASHLAND, DELAWARE, ASSIGNORS TO DU PONT MOTORS, INCORPORATED, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE

INTERNAL COMBUSTION ENGINE

Application filed August 11, 1928. Serial No. 298,908.

This invention relates to an internal combustion engine and more particularly to a housing device for such engine adapted to protect portions of the ignition system thereof from the elements and give an appearance of greater height to an engine of the L-head type.

In engines of the L-head type designed for automobiles, the spark plugs project outwardly from the cylinder heads and are exposed to rain and the like blown over the engine by the fan. The distributor and leads therefrom to the spark plugs are similarly exposed so that short circuits through the water collecting on these parts cause misfires and frequently prevent starting.

There is a tendency in present day automobile design towards high hoods. On the other hand, engines of the L-head type, as distinguished from the type having valves in the head, are very low. Consequently a large space between the top of the engine and the hood results, giving an appearance of a vast empty space when the hood is raised with consequent appearance of a very small engine.

It is accordingly the object of the present invention to provide a housing for the ignition system to protect the same from the elements, which housing will at the same time give the appearance of an engine of considerable height by appearing as an integral part of the cylinder block. A further object is the provision of means for maintaining the leads in the ignition system in proper positions.

The accomplishment of other objects, such as the provision for ready access to various parts, will be apparent from the following description read in conjunction with the accompanying drawings in which:

Fig. 1 is a longitudinal vertical section showing the housing assembled upon an engine and over the parts of the ignition system.

Fig. 2 is an end view of the same.

Fig. 3 is a section on line 3—3 of Fig. 1, parts of the ignition system being omitted.

Fig. 4 is a plan view, partly in section, of the housing, and

Fig. 5 is a section on line 5—5 of Fig. 4.

The head of an internal combustion engine is indicated in the drawings by numeral 2. Spark plugs 4, extending into the respective cylinders, project above the engine in the usual manner, receiving high tension current from a distributor 6 which is mounted above the engine, being driven through a vertical shaft in the ordinary manner.

The head of the engine is shown of generally rectangular shape having rounded corners. A similarly shaped casing 8 is provided with outwardly and downwardly projecting lower edge portions 10 adapted, as shown in the drawings, to fit over the edges of the engine head and overlap the vertical side walls thereof. The upper edge of the casing 8 may be cut out as at 12 and 14 to provide openings for the passage of leads, or the like, or for ventilation.

In order to maintain the casing in proper position cross webs 16 are provided, each of these webs having a vertical hole therein permitting the webs to slide over extensions 20 of bolts holding the cylinder head in position. Nuts 18 are threaded on the bolts at the lower portions thereof to suitably hold the cylinder head in position. Webs 16 may rest on these nuts to provide for the proper vertical positioning of casing 8.

Horizontal brackets 22, carried in the interior of the casing, are provided with grooves 24 in which the lead wires 28 extending from the distributor to the spark plugs may be located to maintain them in fixed positions to prevent loosening of their connections by vibration. Suitable holes 26 through which the wires pass from the grooves to the respective spark plugs maintain the wires in the grooves.

A bracket, or a plurality of brackets, 29 may be provided to conveniently give necessary information concerning the engine, as, for example, the order of firing of the cylinders.

A cover 30 is provided to close the top of casing 8 to form a closed housing for the ignition elements. As illustrated, this cover is provided with a raised portion 32 arranged to accommodate the distributor. Referring

to Fig. 5, it will be seen that the side of portion 32 overhangs a cut away portion 14 of the casing, thus providing at 34 an opening for ventilation while providing an arrangement preventing the entrance of rain or snow. The edges of cover 30 overlie the upper edges of the casing and the cover is securely held by ornamental nuts 36 on the ends of bolts 20. Ornamental grooves 38 may be provided in the upper surface of cover 30 serving to promote cooling thereof by air blown over the engine.

By the above construction, which illustrates specifically only one modification of the housing adapted to the particular engine shown, there is provided a support for the ignition wires and protecting housing therefor which may be opened readily by removal of cover 30 to permit access to the interior. It will also be noted that the housing, when assembled, appears to be a part of the engine thus giving the desired appearance of height and filling of the hood.

Having now fully described our invention, what we claim and desire to protect by Letters Patent is:

1. In combination with an internal combustion engine having portions of the ignition system at the top thereof, a housing over said engine covering the said portions of the ignition system, said housing comprising a casing having walls extending upwardly from the tops of the side walls of the engine and supporting portions of the ignition system, and a removable cover for the upper open end of the casing.

2. In combination with an internal combustion engine having portions of the ignition system at the top thereof, a housing over said engine covering the said portions of the ignition system, and wire supporting means carried by the housing, said wire supporting means comprising a bracket provided with open grooves in its upper surface for the reception and spacing of ignition wires.

3. In combination with an internal combustion engine having portions of the ignition system at the top thereof, a housing over said engine covering the said portions of the ignition system, and wire supporting means carried by the housing, said wire supporting means comprising a bracket provided with open grooves in its upper surface for the reception of ignition wires and having holes therethrough adjacent the ends of the grooves for the passage of the wires.

4. In combination with an internal combustion engine having portions of the ignition system at the top thereof, a housing over said engine covering the said portions of the ignition system, said housing comprising a casing having walls extending upwardly from the tops of the side walls of the engine and transverse webs perforated for the reception of bolts extending upward from the engine, and a removable cover for the upper open end of the casing securable upon said bolts.

5. In combination with an internal combustion engine having a distributor mounted on the top thereof, a housing over said engine, said housing having a raised portion over said distributor and opening downwardly at one side thereof.

In testimony of which invention, we have hereunto set our hands, at Wilmington, Delaware, on this 7th day of August, 1928.

ELEUTHERE PAUL DU PONT.
LORING F. HOSLEY.