J. KIDD.

Carbureter.

No. 62,856. Patented March 12, 1867.

FIG. 5

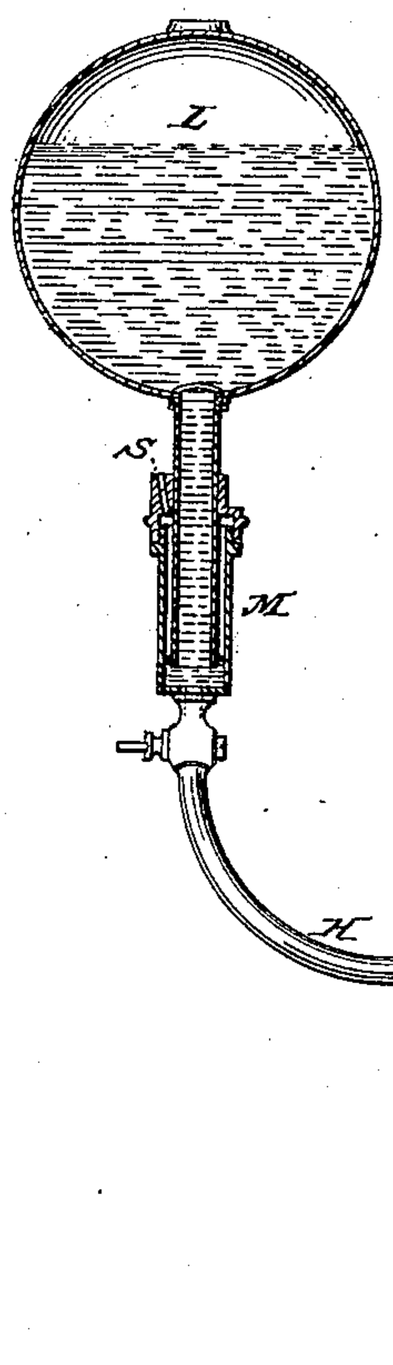


FIG. 1

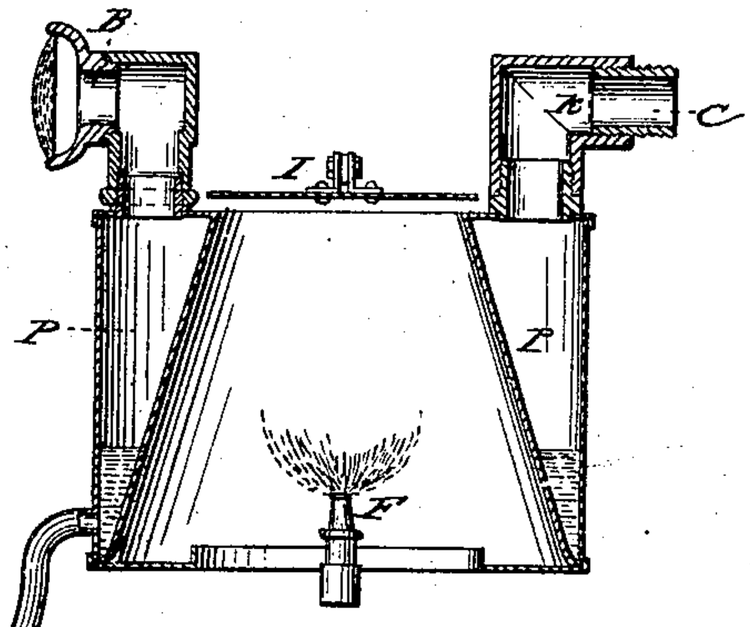


FIG. 2

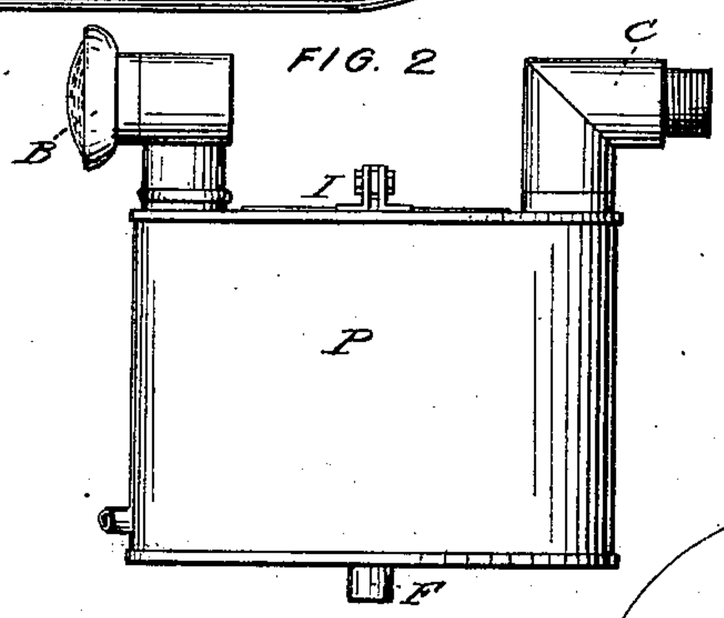


FIG. 3

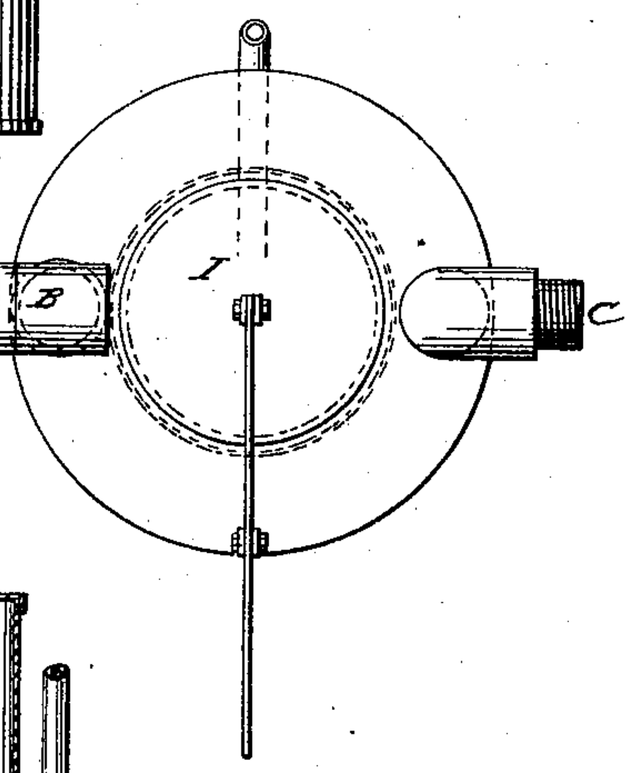


FIG. 4

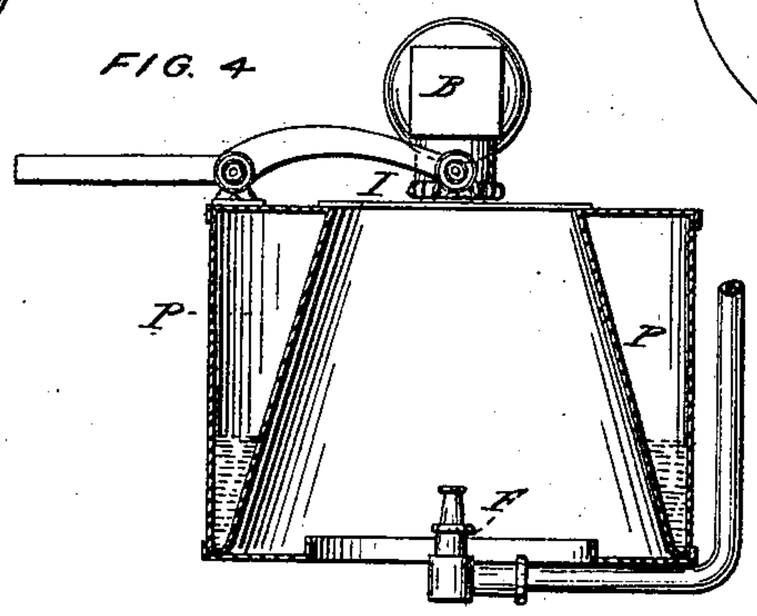
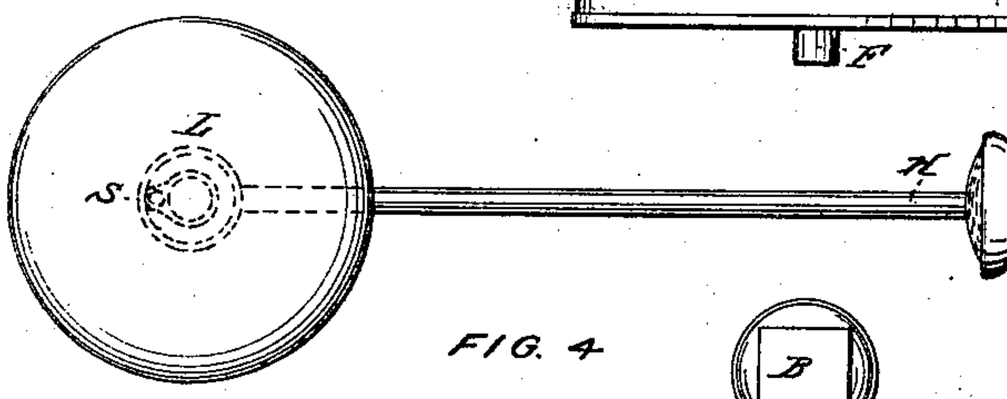


FIG. 6



WITNESSES:

Henry William Gilby.

Wm. Robt. Baker.

INVENTOR:

Joshua Kidd.

United States Patent Office.

JOSHUA KIDD, OF LONDON, ENGLAND.

Letters Patent No. 62,856, *dated March* 12, 1867.

IMPROVED APPARATUS FOR FORMING AN EXPLOSIVE MIXTURE OF AIR AND HYDROCARBON VAPORS FOR USE IN MOTIVE POWER ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL TO WHOM IT MAY CONCERN:

Be it known that I, JOSHUA KIDD, gas engineer, London, England, have invented "a new and improved Apparatus for Forming an Explosive Mixture of Atmospheric Air with the Vapor of Light Mineral Spirit, for obtaining Motive Power;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same reference being had to the drawings hereunto annexed, making part of this specification.

The object of this invention is to make available light petroleum spirit instead of gas for working the Lenoir or other gas motive power engine. For the purposes for which this invention is intended this spirit has hitherto been comparatively useless on account of the difficulty of regulating the heat and preventing the too rapid impoverishing of the spirit by evaporation, so that a regular and continuous supply of the mixed vapor could not be obtained for any length of time. My improvements are intended to remedy these defects, which I accomplish by a novel form of vaporizer and mode of supplying the spirit, which will be better understood by reference to the drawings accompanying and making part of this specification, where similar letters represent similar parts.

Description of Drawing.

Figure 1, in the drawing, represents a sectional elevation of the vaporizer attached to the oil-supplying apparatus, shown in section at Figure 5.

Figure 2 is an elevation.

Figure 3 a plan, and

Figure 4, a section of the vaporizer.

Figure 6 is a plan of the intermittent fountain feeder.

The vaporizer for holding the petroleum spirit is circular, and made with a conical-shaped aperture or chimney through its centre, For the purposes of this invention, it is preferable to use a spirit having a specific gravity ranging from ..650 to ..750. The outlet pipe C is attached to the gas-engine cylinder, and there is placed in the interior of the outlet pipe a circular piece of wire gauze, K, to prevent the possibility of flame entering the vaporizer. B is the inlet, through which air is drawn into the vaporizer, which vessel may, if desired, be partly filled with coke or other porous material. By the suction of the piston, at every alternate stroke of the engine, the air is drawn over and combines with the vapor of the spirit in the vaporizer, and thus mixed, passes to the cylinder, where it may be exploded, the same as a mixture of coal gas and air. Heat may be furnished by the gas-burner F, or, if gas is not convenient, a lamp may be substituted in its place, and its heating power regulated by the adjustable cap or hot-air intercepter I, which may be so adjusted as to charge the air with the required amount of vapor. Figs. 5 and 6 show an intermittent fountain feeder for supplying the spirit to the vaporizer P. L is a vessel for holding the spirit, made similar to a bottle or carboy inverted, with its outlet sealed by the liquid in the regulating chamber M. As the liquid in this chamber falls below the outlet in the vessel, air enters the vessel by the aperture S, and a proportionate amount of liquid descends into the chamber M, and keeps the spirit always at one level, like the common bird-cage fountain. The liquid is supplied to the vaporizer P by pipe H H, which pipe must be lower than the vaporizer so that the heat from the liquid in the vaporizer cannot be communicated to the liquid in the intermittent feeder. By this method of supplying the spirit it never impoverishes, and the amount of vapor to a given quantity of air, by this method of forming the vaporizer, may be regulated to the greatest nicety. The vaporizer or chimney may be made either round, square, conical, or other convenient shape, as required.

I claim as new, for the purposes of this invention, the general arrangement of apparatus, substantially as described and set forth.

JOSHUA KIDD. [SEAL.]

Witnesses:

HENRY WILLIAM GILBY,

WM. ROBT. LAKE.