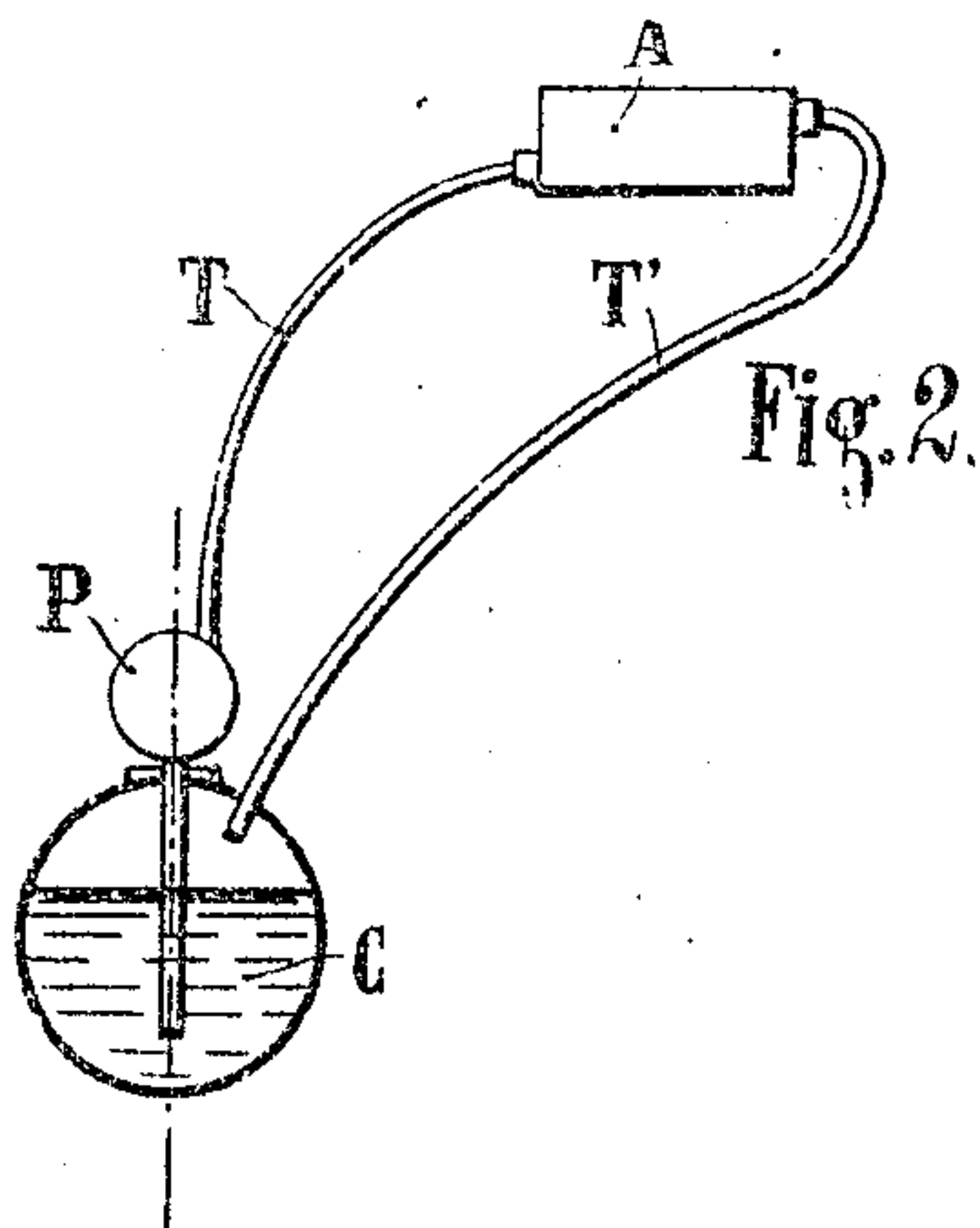
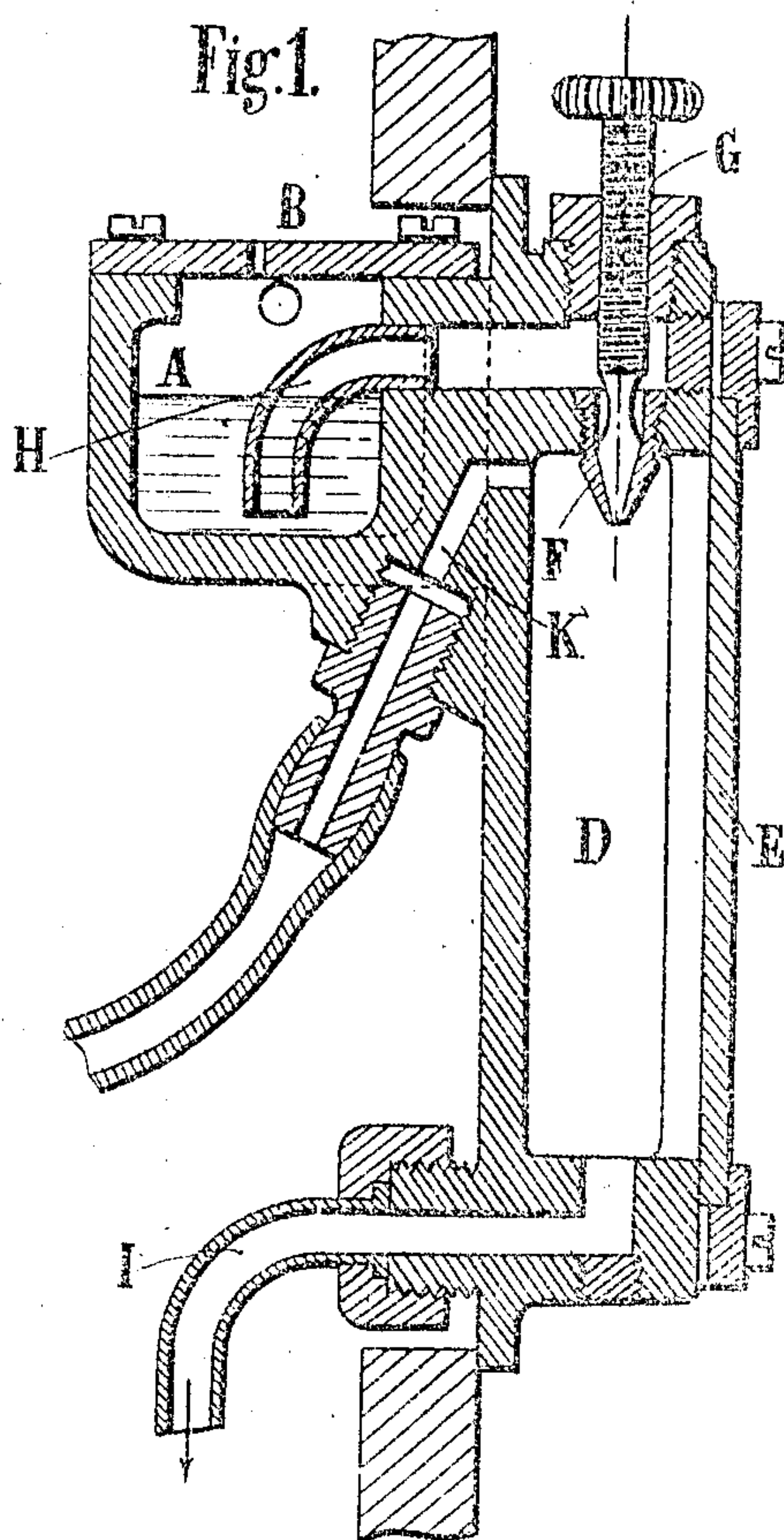


A. KREBS.
ENGINE LUBRICATING DEVICE.
APPLICATION FILED FEB. 15, 1908.

927,552.

Patented July 13, 1909.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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ETABLISSEMENTS PANHARD ET LEVASSOR, OF PARIS, FRANCE.

ENGINE-LUBRICATING DEVICE.

No. 927,652.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed February 15, 1908. Serial No. 416,685.

To all whom it may concern:

Be it known that I, ARTHUR KREBS, a citizen of the Republic of France, and resident at Paris, France, have invented a new and useful Engine-Lubricating Device, which improvement is fully set forth in the following specification.

In an internal combustion engine the lubrication should increase with the power developed. This is indeed a rational condition which applies to machines in general. The power demanded of internal combustion engines used for driving vehicles is very variable and very frequently such motors are run idly. The lubrication of the motor when adjusted for its normal power, is greatly excessive when it runs at a much lower power or idly. This results in an accumulation of oil in the cylinders which frequently impedes the ignition and which in any case produces a very disagreeable and inconvenient liberation of smoke at the exhaust.

The means hereinafter described have for their object to regulate the supply of oil automatically to the power developed at any moment by the motor.

In internal combustion engines the power developed is proportionate to the weight or volume under atmospheric pressure of the combustible mixture introduced into the cylinder during a unit of time. This admission is generally regulated by a throttle valve. In that part of the conduit which connects the carbureter with the throttle valve the flow of the combustible mixture takes place under the influence of the vacuum produced by the suction of the motor. Accordingly, if the supply of lubricating oil is regulated by this vacuum, the lubrication will be rendered proportionate to the power developed. It is this feature which forms the basis of the present invention.

Practical embodiments of the object of the invention are illustrated by way of example in the accompanying drawing, in which:—

Figure 1 is a vertical section. Fig. 2 is a general view.

In these drawings, A (Figs. 1 and 2) is a reservoir for containing the oil at a substantially constant level; the oil is supplied to it through the force pipe T of the pump P which draws the oil from the oil reservoir C

(Fig. 2). The oil in excess flows from the reservoir A through the pipe T and returns to the cylinder C. The pressure of the air in the reservoir A is the same as the external air pressure owing to the provision of the small hole B (Fig. 1) in the cover.

A chamber D provided with a glazed window E communicates at its upper part with the reservoir A by means of a nozzle F closed more or less by a pin valve G, and by a bent conduit H entering the oil in the reservoir A. At its lower part the chamber D communicates through the pipe I with the suction orifice of the pump which forces the oil to the motor. (This pump is not illustrated. It may be of any suitable kind, and is only mentioned to render the description clearer). Finally a pipe K opening at the top of the chamber D is connected by a pipe to the carbureter so that the vacuum existing in the latter when the motor is operative is transmitted to the chamber D.

The system operates in the following manner. When the motor is running, the chamber D is subjected to the vacuum which exists in the carbureter owing to the communication established with the latter by means of the pipe K. This vacuum is transmitted by the nozzle F and the conduit H to the oil in the reservoir A. The oil thus sucked flows through the space between the sides of the nozzle F and the screw pin valves G which permits of controlling the supply. The oil therefore flows drop by drop and in a visible manner to the bottom of the chamber D and passes through the pipe I to the pump which sucks it and then forces it to the motor. The flow of oil therefore takes place under the influence of the vacuum or reduction of pressure which exists in the carbureter in proportion to the flow of the liquid fuel which produces the power; the quantities of oil and of petrol supplied will therefore always be in the same ratio and as the power produced is proportionate to the quantity of petrol which passes, it follows that the lubrication will at all times be proportionate to this power.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

The combination in a motor lubricator, of
an oil reservoir, a fixedly adjustable needle
valve controlling the flow from said reser-
voir, a pipe connecting the valve with the
5 carbureter, and communicating to the reser-
voir the variations of the vacuum in the car-
bureter.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

ARTHUR KREBS.

Witnesses:

GASTON DEMOGET,
H. C. COXE.