

(No Model.)

F. A. LEHMANN.

MIXING VALVE FOR PETROLEUM OR OTHER MOTORS.

No. 500,401.

Patented June 27, 1893.

Fig. 1.

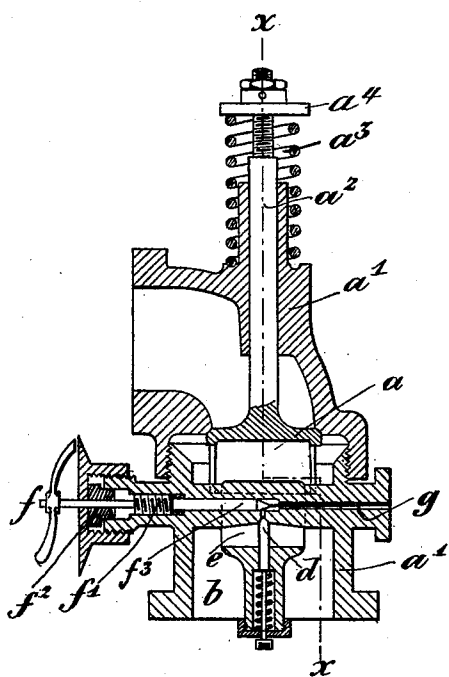


Fig. 2.

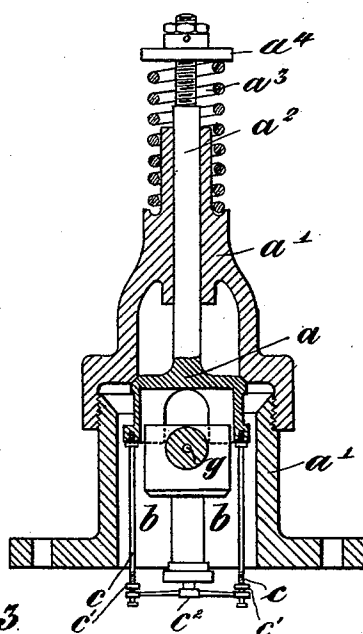
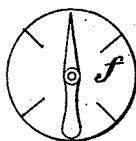


Fig. 3.



attest:
Geo. T. Smallwood.
Rece. Lewis.

Inventor:
Friedrich August Lehmann
by *Pollok & Maids*
his attorneys.

UNITED STATES PATENT OFFICE.

FRIEDRICH AUGUST LEHMANN, OF DRESDEN, GERMANY, ASSIGNOR TO
MORITZ HILLE, OF SAME PLACE.

MIXING-VALVE FOR PETROLEUM OR OTHER MOTORS.

SPECIFICATION forming part of Letters Patent No. 500,401, dated June 27, 1893.

Application filed May 31, 1892. Serial No. 484,966. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH AUGUST LEHMANN, a subject of the King of Saxony, and a resident of Dresden, in the Kingdom of Saxony, German Empire, have invented a certain new and useful Improved Mixing-Valve for Petroleum and other Motors, of which the following is a full, clear, and exact description.

10 The object of the present invention consists in an apparatus by means of which air may be mixed with petroleum or liquid hydrocarbon, and the said apparatus is connected by means of a vaporizing chamber—forming no
15 part of the present invention to the cylinder of a motor.

In order to make this invention more easily intelligible reference is had to the accompanying drawings in which similar letters denote similar parts throughout the several views.

Figure 1 is a vertical section through the apparatus or valve. Fig. 2 is a section on line $x-x$, Fig. 1, and Fig. 3 is a front view of a
25 pointer and disk by means of which the quantity of oil or hydrocarbon passed may be regulated.

In the upper part of the casing a' is mounted the air inlet valve a having spindle a^2 and
30 spring a^3 to press against a plate a^4 at the top of the said spindle and normally hold the valve a upon its seat. The said valve a is however connected, by rods c c to a spring actuated valve d adapted to close or open an
35 inlet passage g for the oil or hydrocarbon, said passage being regulated by means of a needle valve f^3 having on its spindle a thread f' to fit an interior thread in the valve casing and being held tight by a gland f^2 . By means of
40 the valve f^3 and the pointer and dial f the quantity of oil or hydrocarbon passed by the valve may be varied in proportion to the amount of air let in.

During the suction period of the motor, the
45 valve a will be opened and will admit air into the chamber b ; at the same time the valve d

will be opened and petroleum or hydrocarbon admitted at e forming an explosive mixture in the said chamber, which then passes to the vaporizing chamber and thence to the cylinder, where it is ignited.

For the purpose of allowing the air to enter chamber b in advance of the oil, the rods c , c are provided with nuts c' , so arranged that they do not press upon the cross-bar c^2 to open
55 the valve d until the air-inlet valve a has been opened. The rods c , c will therefore be out of operation for the time the air inlet valve moves downwardly until the nuts reach the cross-bar, *i. e.* the time for the entrance of air
60 alone into the chamber b will be proportionate to the distance between the nuts c' and the cross-bar c^2 .

I claim as my invention—

1. An apparatus for producing a mixture of
65 air and petroleum or liquid hydrocarbon, consisting of the combination of an air inlet valve a having spindle a^2 and spring a^3 , to normally keep it closed on its seat, said valve opening into a chamber b , a spring pressed oil valve
70 d also opening into the chamber b and rods c c connecting the valves a and d by means of the cross-bar c^2 and nuts c' adjustable on said rods and adapted to be engaged against said cross-bar substantially as described. 75

2. An apparatus for producing a mixture of air and petroleum or liquid hydrocarbon, consisting of the combination of an air inlet valve a having spindle a^2 and spring a^3 , to normally keep it closed on its seat, said valve opening
80 into a chamber b , a spring pressed oil valve d also opening into the chamber b and rods c c connecting the valves a and d and valve f^3 having screw spindle and pointer to regulate the oil inlet at g substantially as described. 85

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRIEDRICH AUGUST LEHMANN.

Witnesses:

GENI VARIQUI,
HERNANDO DE SOTO.