No. 686,092. Patented Nov. 5, 1901.

K. M. LEAR.

VAPORIZER FOR GASOLENE ENGINES.

(Application filed Feb. 16, 1901.)

(No Model.)

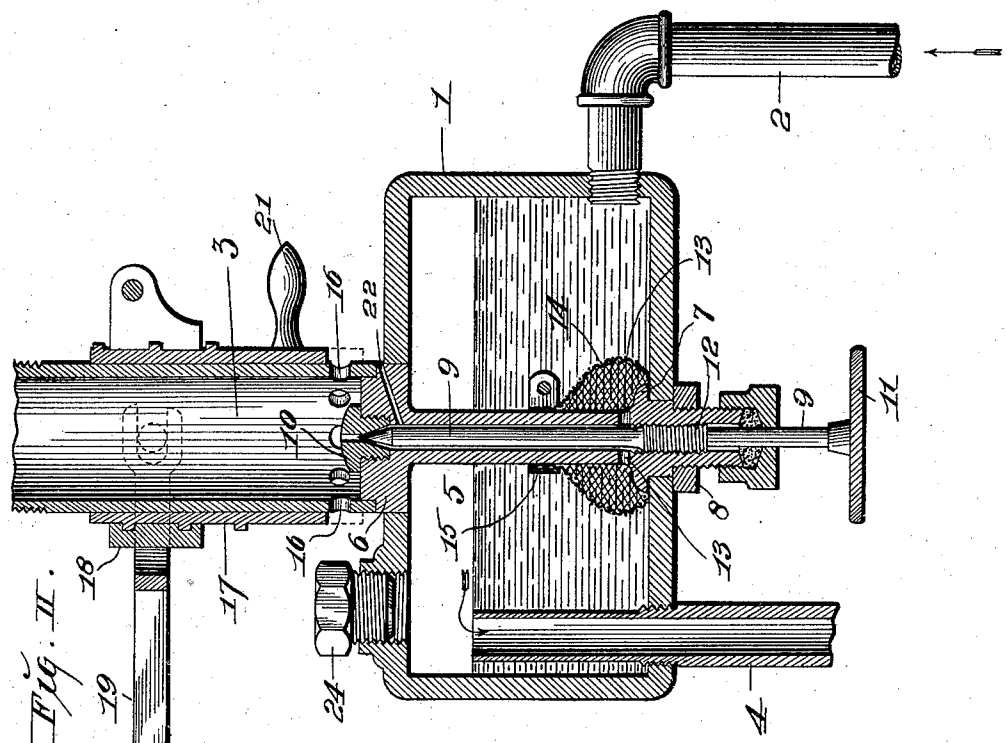


Fig. II.

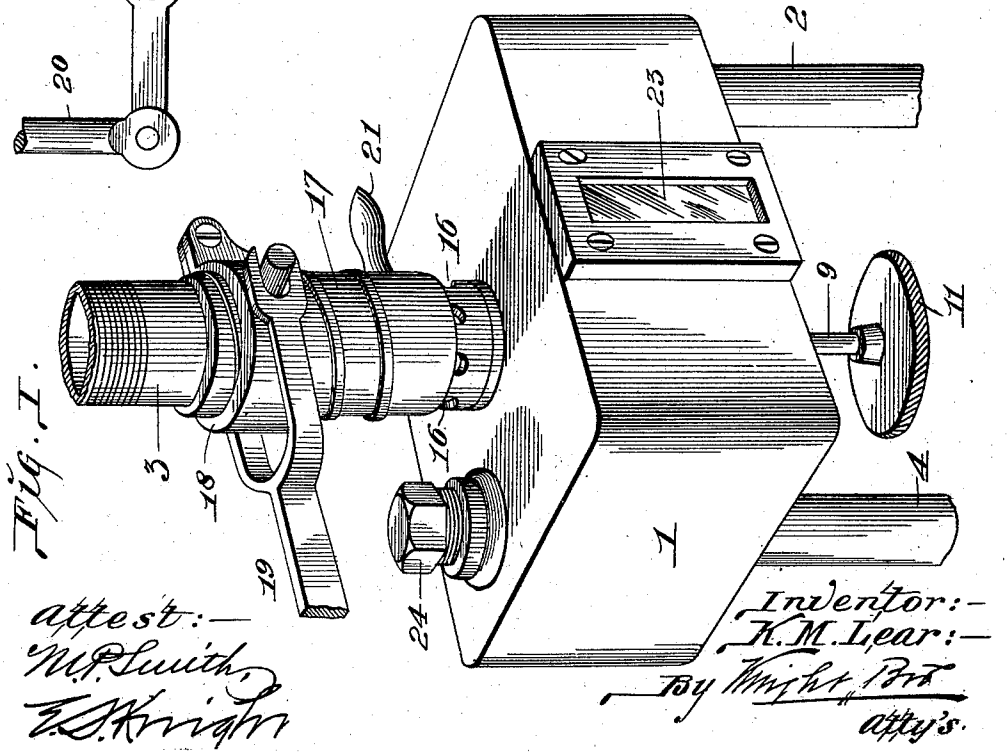


Fig. I.

Attest:—
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UNITED STATES PATENT OFFICE.

KOSSUTH M. LEAR, OF HANNIBAL, MISSOURI, ASSIGNOR OF ONE-HALF TO CENTRAL IRON WORKS, OF QUINCY, ILLINOIS, A CORPORATION.

VAPORIZER FOR GASOLENE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 686,092, dated November 5, 1901.

Application filed February 16, 1901. Serial No. 47,531. (No model.)

To all whom it may concern:

Be it known that I, KOSSUTH M. LEAR, a citizen of the United States, residing in Hannibal, in the county of Marion and State of Missouri, have invented certain new and useful Improvements in Vaporizers for Gasolene-Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to produce an inexpensive, reliable, and effective vaporizer for gasolene-engines, which consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a perspective view of my improved vaporizer. Fig. II is a vertical section.

1 represents a tank, which may be of any desired shape or size and into which the oil enters through a supply-pipe 2 and from which the oil mixed with air passes to the engine, in the form of carbureted air, through a pipe 3. The tank is provided with an oil-overflow pipe 4.

5 represents a tube that traverses the tank 1 and which has a head 6 on its upper end for the attachment of the pipe 3. The lower end of the tube extends through the bottom of the tank, an oil-tight connection between it and the tank being effected by a flange 7 on the tube above the bottom of the tank and a nut 8 (and a washer or gasket, if necessary) beneath the bottom of the tank.

9 represents a needle-valve that extends through the tube 5, the upper end of which is adapted to seat against a nipple 10, tapped into the head of the tube, and the lower end of which is provided with a hand-wheel 11 or other means for turning it to open and close the valve, which has a threaded connection 12 with the tube. The lower part of the tube is formed with one or more perforations 13 above the bottom of the tank, and this part of the tube is provided with a wire-gauze or other suitable strainer 14, through which the oil filters to keep foreign matter or any hard substance from the point of the valve. The top of the strainer is held to the tube by a clamp 15, and its bottom is held in place by fitting beneath the flange 7 on the tube.

The lower part of the pipe 3 is provided with air-holes 16 for the admission of air to mix with the oil as the latter issues from the nipple, through which it is drawn by the suction of the engine, which also causes the passage of the carbureted air through the pipe 3.

To regulate the passage of air through the perforations 16, I employ a sleeve 17, that surrounds the pipe 3, and which is slidable thereon. The sleeve has a threaded connection with a collar 18, that is supported by a pivoted lever 19, to which the rod 20 of the governor of the engine is connected. As the speed of the engine increases the governor will act to move the sleeve upwardly to increase the inflow of air to keep the mixture uniform, and should it be desirable to adjust the sleeve with relation to its supporting-collar, and consequently with relation to the governor, it may be done by turning the sleeve in the collar, for which purpose the sleeve is provided with a handle 21.

For the purpose of mixing a slight quantity of air with the oil before the latter issues from the nipple 10 to facilitate carbureting I provide the head 6 of the tube 5 with a passage 22, as shown in Fig. II. The air entering through the passage 22 acts to atomize the oil as it leaves the nipple, thereby greatly increasing the efficiency of the machine as a vaporizer.

The side of the tank is provided with a sight tube or plate 23, through which the amount of oil in the tank can be seen. The top of the tank is provided with a clean-out hole closed by a plug 24.

The pipe 3, as well as forming a conductor for the carbureted air from the tank to the engine, is also a mixing-pipe, wherein the air unites with the oil and becomes carbureted, and it is referred to in the claims as a "mixing-pipe."

I claim as my invention—

1. In a vaporizer for gasolene-engines, the combination of a tank, a supply-pipe for delivering oil to the tank, a valve-controlled tube for permitting oil to pass from the tank, and a mixing-pipe for conducting the carbureted air from said tube; said pipe having air-passages above the valve of the tube and said tube having an air-passage beneath the seat of the valve, substantially as set forth.

2. In a vaporizer for gasolene-engines, the combination of a tank, a valved tube for permitting the passage of oil from the tank, and a perforated mixing-pipe; said tube having an air-passage beneath the seat of the valve, substantially as set forth.

3. In a vaporizer for gasolene-engines, the combination of a tank, a tube traversing the tank and having oil-inlets at its lower portion, and a nipple at its upper portion, a valve located in said tube and adapted to seat against said nipple, a mixing-pipe connected to said tube, and having perforations for the passage of air, and a sleeve surrounding said pipe and slidable thereon, and to which the governor-rod of the engine is connected, substantially as set forth.

4. In a vaporizer for gasolene-engines, the combination of a tank, a tube traversing the tank, and which is perforated at its lower portion for the passage of oil, a nipple located on the upper end of said tube, a valve located within the tube, a mixing-pipe connected to said tube and which is provided with perforations for the admission of air, a sleeve surrounding said pipe, a collar with which said tube has threaded connection, and means for supporting said collar, substantially as set forth.

5. In a vaporizer for gasolene-engines, the combination of a tank, a tube traversing the tank and having perforations in its lower portion for the passage of oil, a nipple located in the upper end of the tube, a valve located within the tube and adapted to seat against said nipple, a mixing-pipe fitted over the upper enlarged end of said tube and having perforations for the passage of air, a sleeve fitting over said pipe and slidable thereon, a collar with which said sleeve has threaded connection, and a pivoted lever supporting said collar and to which the governor-rod of the engine is connected, substantially as set forth.

6. In a vaporizer for gasolene-engines, the combination of a tank, a valved tube having a head fitting in the top of the tank and having perforations in the lower portion thereof for the passage of oil, a nipple fitted to the head of said tube, and a mixing-pipe fitting over the head of the tube and which is provided with perforations for the passage of air; the head of said tube having an air-passage below said nipple, substantially as set forth.

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In presence of—
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