

No. 736,398.

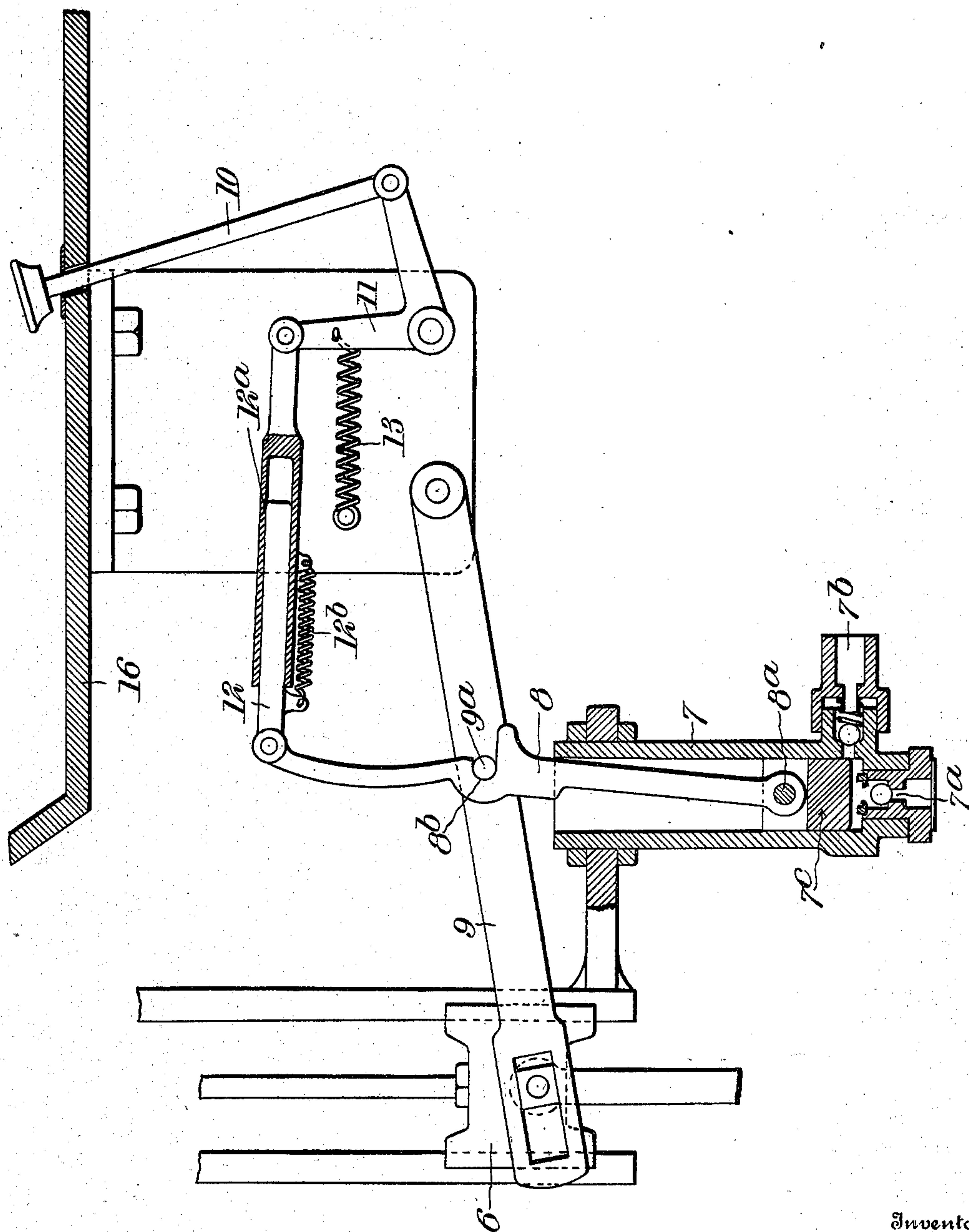
PATENTED AUG. 18, 1903.

L. E. HOFFMAN.

AIR PUMP.

APPLICATION FILED NOV. 20, 1902.

NO MODEL.



Inventor

Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS E. HOFFMAN, OF CLEVELAND, OHIO.

AIR-PUMP.

SPECIFICATION forming part of Letters Patent No. 736,398, dated August 18, 1903.

Application filed November 20, 1902. Serial No. 132,087. (No model.)

To all whom it may concern:

Be it known that I, LOUIS E. HOFFMAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Air-Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the figures of reference marked thereon, which forms a part of this specification.

This invention relates particularly to air-pumps for automobiles for the purpose of supplying air to the pressure-tanks thereof. It is not necessary or desirable that the operation of these pumps be continuous; and the object of my invention is to provide a construction whereby the pump may be put into operation whenever desired and started or stopped with facility and ease.

In the accompanying drawing the figure is an elevation, partly in section, showing the air-pump and the engaging gear.

The parts shown are supported in any suitable and proper manner on a fixed portion or body of the vehicle, and the cross-head of the engine is indicated at 6, the pump-barrel at 7, the pump-rod at 8, and the lever at 9 for transmitting motion from the cross-head to the pump-rod. The connection with the cross-head of the engine is a suitable and convenient one; but it is to be understood that the operating-lever may be connected with any moving part of the engine. The inlet-valve is indicated at 7^a, and the outlet at 7^b, leading to the air reservoir or tank. The trunk-piston of the pump is indicated at 7^c, to which the oscillating pump-rod 8 is connected by a wrist-pin at 8^a. The pump-rod has a notch 8^b, which takes the pin 9^a on the lever 9 to start the pump, and the engagement or disengagement may be effected by appropriate movement communicated to the pump-rod from the foot-piece 10 through the bell-crank 11 and connecting-rod 12, which

is connected with the outer end of the pump-rod. A spring 13, attached to the bell-crank lever, normally throws the notch of the pump-rod out of engagement with the pin 9^a. When the foot-piece is depressed, the pin slips into the notch and the pump is actuated. To take up the variation of length necessary to the reciprocation of the pump-rod and piston, the connecting-rod 12 is divided into two parts, one of which is sleeved over the other, as at 12^a, and the parts are connected by a spring 12^b. This allows sufficient extension of the rod to accommodate the variation.

It will be seen that the pump is immovable, which is an improvement over those pumps which oscillate with the stroke. It is necessary only to swing the pump-rod to put the pump in operation. The gear is suitably located under the floor of the vehicle-body, (indicated at 16,) and the stem of the foot-piece extends through the floor to bring it in convenient position for the driver.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an engine, the combination with the air-pump having a notched oscillatory pump-rod, and a lever actuated by a reciprocatory part of the engine, having a projection adapted to engage the notch, of an engaging gear including a lever under control of the operator, and a connecting-rod between the lever and the pump-rod extensible to accommodate variation in distance due to the reciprocation of the pump-rod.

2. In a pump, the combination with a reciprocatory piston, of a notched oscillatory piston-rod pivoted to the piston, a vibrating lever having a pin adapted to engage the notch, and means to engage the pin in the notch, including a yielding extensible connecting-rod attached to the piston-rod.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS E. HOFFMAN.

Witnesses:

JOHN A. BOMMARDT,
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