

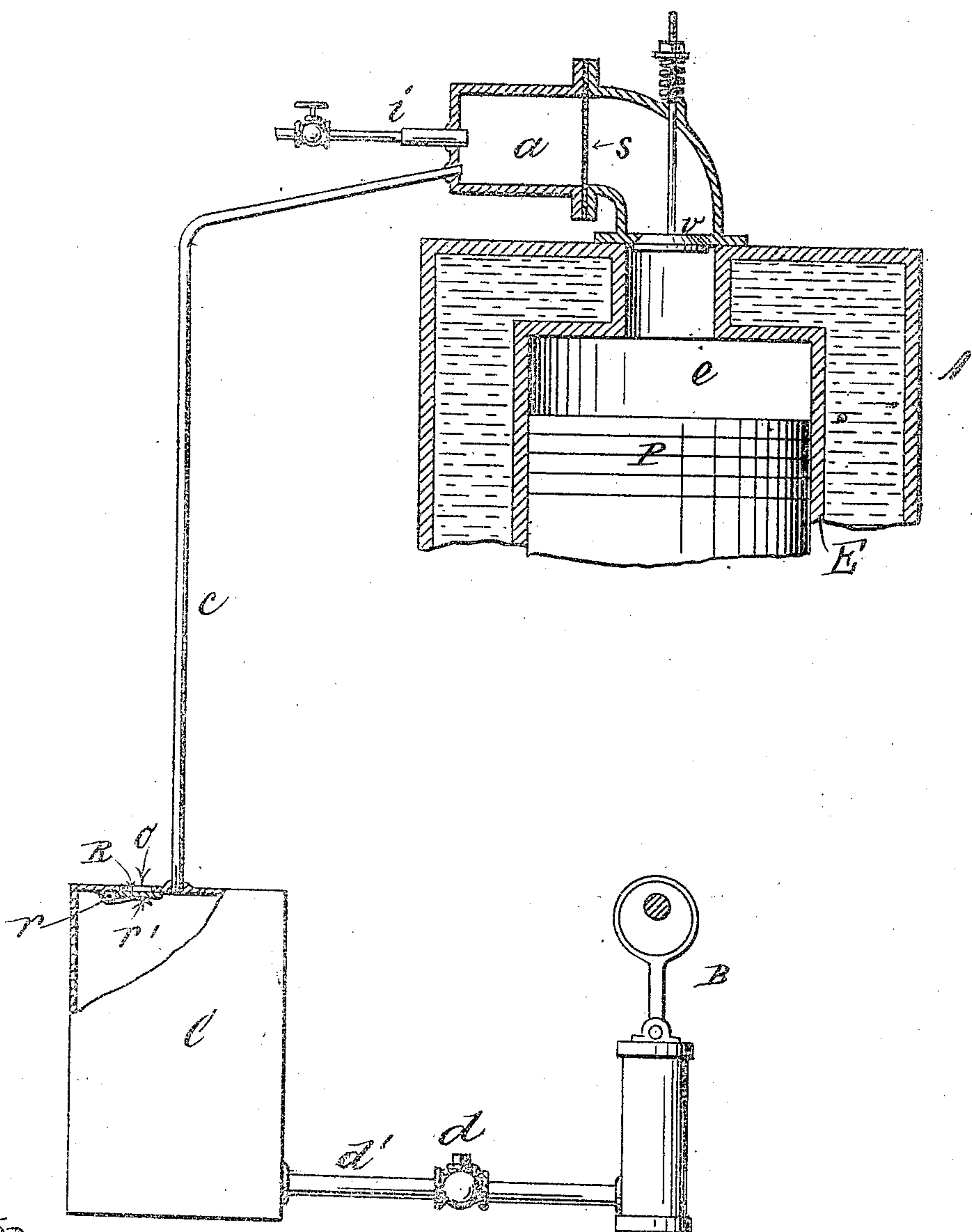
No. 855,191.

PATENTED MAY 28, 1907.

A. A. LOW.

HYDROCARBON MOTOR.

APPLICATION FILED JAN. 16, 1906.



Witnesses:
D. W. G. D. W.
S. P. R.

Inventor:
Abbot Augustus Low
By his Attorney
Geo. W. Mills

UNITED STATES PATENT OFFICE.

ABBOT AUGUSTUS LOW, OF HORSESHOE, NEW YORK.

HYDROCARBON-MOTOR.

No. 855,191.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed January 16, 1906. Serial No. 296,326.

To all whom it may concern:

Be it known that I, ABBOT AUGUSTUS LOW, a citizen of the United States, residing at Horseshoe, St. Lawrence county, State of New York, have invented certain new and useful Improvements in Hydrocarbon-Motors, of which the following is a specification.

My invention relates to motors in which hydro-carbon is used as a source of power.

The object of the invention is to insure a supply of air for the purpose of combustion under all conditions, particularly where compressed air is used, and incidentally to obviate the noise caused by the pulsation of the engine in drawing in the charge.

The invention consists essentially in the combination and arrangement with the hydro-carbon motor and with suitable means for compressing air, of a reservoir or tank interposed between said motor and said air compressing mechanism, which reservoir acts as an accumulator and compensator, the novelty consisting in providing said reservoir with an inlet relief valve for the purpose of admitting atmospheric air thereto, should the pressure within the reservoir for any reason be reduced below the pressure of the atmosphere. By this means I obviate any danger of partial vacuum or back suction in the reservoir or mixing chamber of the motor and insure an adequate supply of air to the mixing chamber. By the use of the reservoir and compressed air I also obviate or neutralize the noise ordinarily caused by the suction of the motor while drawing a charge into the combustion chamber.

In the accompanying drawing I show diagrammatically parts essential for a practical understanding of my invention, A representing a sectional elevation of the upper portion of any well known or desired hydro-carbon motor, and B an air pump or equivalent mechanical expedient for supplying the reservoir or accumulator C, with air under pressure.

a' , is the mixing chamber of the motor, provided with an intersticed screen s , against which the hydro-carbon from the injector i is cause to impinge.

v , is the induction valve between the mixing chamber and combustion chamber e , formed in the upper part of the cylinder E in which the piston P reciprocates.

A check valve d , is interposed in the conduit d' , between the compressor B, and the reservoir C to prevent back pressure.

c is a pipe or conduit leading from the reservoir C to the mixing chamber a , and entering the same at an angle so as to cause the compressed air to impinge against the screen s , at or near its center.

R is an inlet relief valve of any desired form or construction with which the reservoir C is provided for the purpose of admitting atmospheric air in case of necessity, as by reason of the failure of the compressing apparatus or for any other reason, so that under all conditions a supply of air to the mixing chamber a , is insured and all possibility of partial vacuum in said chamber and the reservoir C is obviated. The inlet relief valve R as shown in the drawings consists of an ordinary flap valve hinged at r , and provided with a spring r' , which under normal conditions, when the internal pressure is in excess of that of the atmosphere, closes the opening o .

Under ordinary conditions of use, with an excess of pressure in the reservoir C, the air is supplied to the mixing chamber a' , without perceptible noise or pulsation thus obviating one of the objections to hydro carbon motors as ordinarily constructed.

What I claim as my invention and desire to secure by Letters Patent is,

1. The combination with a hydro carbon motor, and with air compressing mechanism, of an accumulator or reservoir interposed between them and arranged to supply air to the mixing chamber of the motor, said reservoir formed with an inlet relief valve for the purpose set forth.

2. The combination of a hydro carbon motor, means for compressing air, a reservoir or accumulator connected with said air compressing mechanism by a conduit in which is interposed a check valve, an inlet relief valve in said reservoir or accumulator and a conduit for introducing air from said reservoir into the mixing chamber of the motor, for the purpose set forth.

ABBOT AUGUSTUS LOW.

Witnesses:

D. W. GARDNER,
GEO. WM. MIATT.