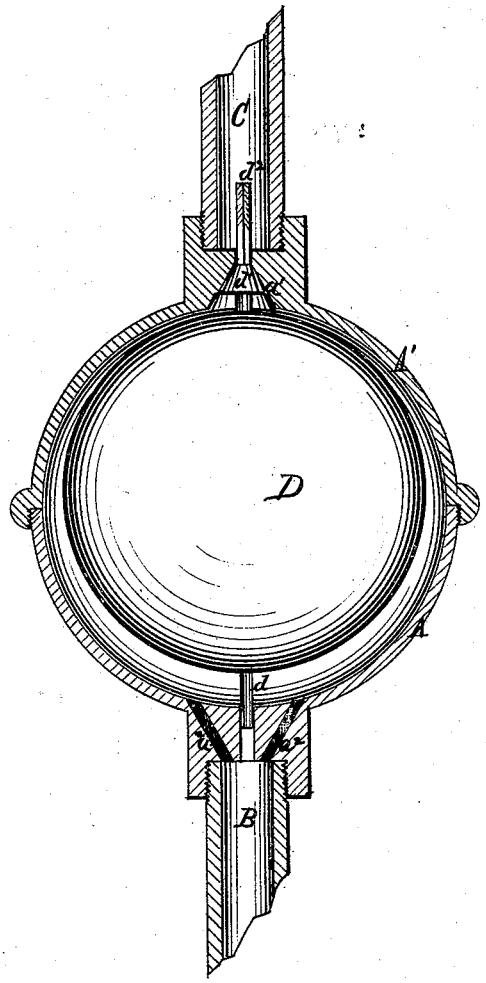
T. VAN KANNEL & L. D. TOWSLEY.

AUTOMATIC CHECK-VALVES FOR GAS-MACHINES.

No. 169,746. Patented Nov. 9, 1875.



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UNITED STATES PATENT OFFICE.

THEOPHILUS VAN KANNEL AND LOVIAS D. TOWSLEY, OF CINCINNATI, OHIO; SAID VAN KANNEL ASSIGNOR TO SAID TOWSLEY.

IMPROVEMENT IN AUTOMATIC CHECK-VALVES FOR GAS-MACHINES.

Specification forming part of Letters Patent No. **169,746**, dated November 9, 1875; application filed August 31, 1875.

To all whom it may concern:

Be it known that we, THEOPHILUS VAN KANNEL and LOVIAS D. TOWSLEY, both of Cincinnati, Hamilton county, State of Ohio, have invented a new and useful Automatic Check-Valve for Gas-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification.

The nature of our invention relates to that class of gas-machines wherein gasoline or any other similar fluid is used for making gas, the same being first brought to a vapor under pressure by heat.

The object of this invention is to prevent the gas-making material from entering the gas-holder in the fluid state, while it permits it to enter in the gaseous state, the action of the valve being automatic, and not dependent on any other part of the machine.

In the drawing, A A′ is the shell or housing. B is the inlet-pipe, which leads to the retort, and C the pipe leading through the mixing-valve to the gas-holder. The lower portion of A is perforated by one straight hole to receive the stem *d* of the movable floating ball D, while the upper portion of part A′ is also drilled with a conical seat, a^1, to receive the corresponding conical valve d^1, and guiding-stem d^2. The latter is filed triangular in order to provide an outlet for the gas when the valve is off its seat, while the inlet to the valve is through the perforations a^2.

In operation our invention is as follows: The gasoline or gas, as the case may be, has its inlet through pipe B. Should the heat under the retort be sufficient to turn the oil into gas, the ball D will fall, so as to take the valve d^1 off its seat, allowing it to escape into pipe C, where it passes to the mixing-valve, and then to the gas-holder. In case the heat under the retort gets sufficiently low to allow the gas to return to the fluid state, as soon as its surface arrives at the center of the ball D it buoys it up, closing the valve d^1 on its seat a^1, thus preventing the fluid from escaping until the heat under the retort has again changed it into gas.

It will thus be seen that gas alone can pass freely, while the valve is a complete check against its escape in the fluid state.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A float, D, carrying the valve d^1 to and from the seat a^1, all being inclosed in the shell A A′, for checking a fluid and permitting the same to escape in a gaseous state, as and for the purpose herein set forth.

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