

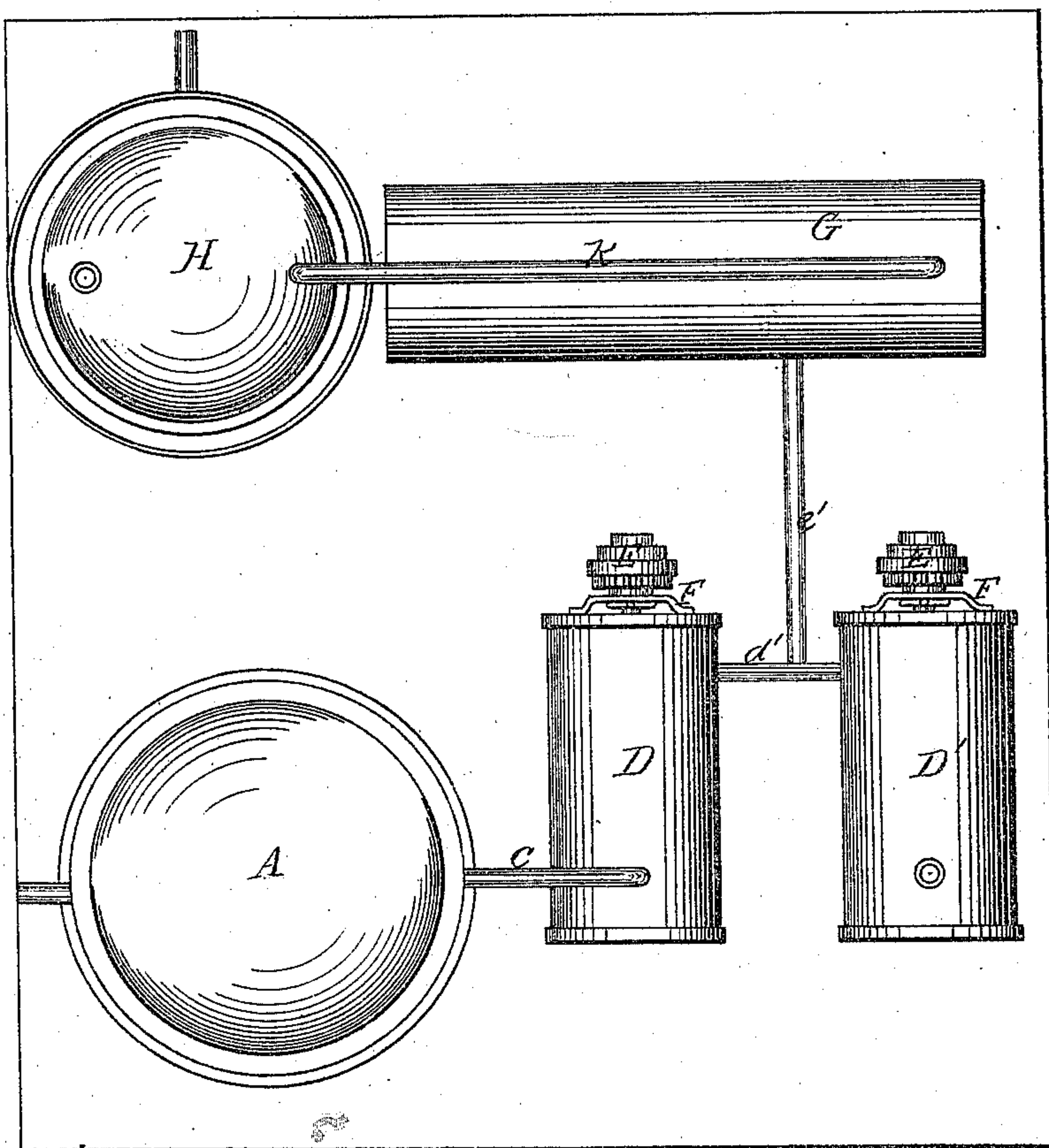
GEORGE OLNEY.

Improvement in Gas Apparatus.

No. 122,733.

Patented Jan. 16, 1872.

Fig. 1.



Witnesses.
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Fig. 2.

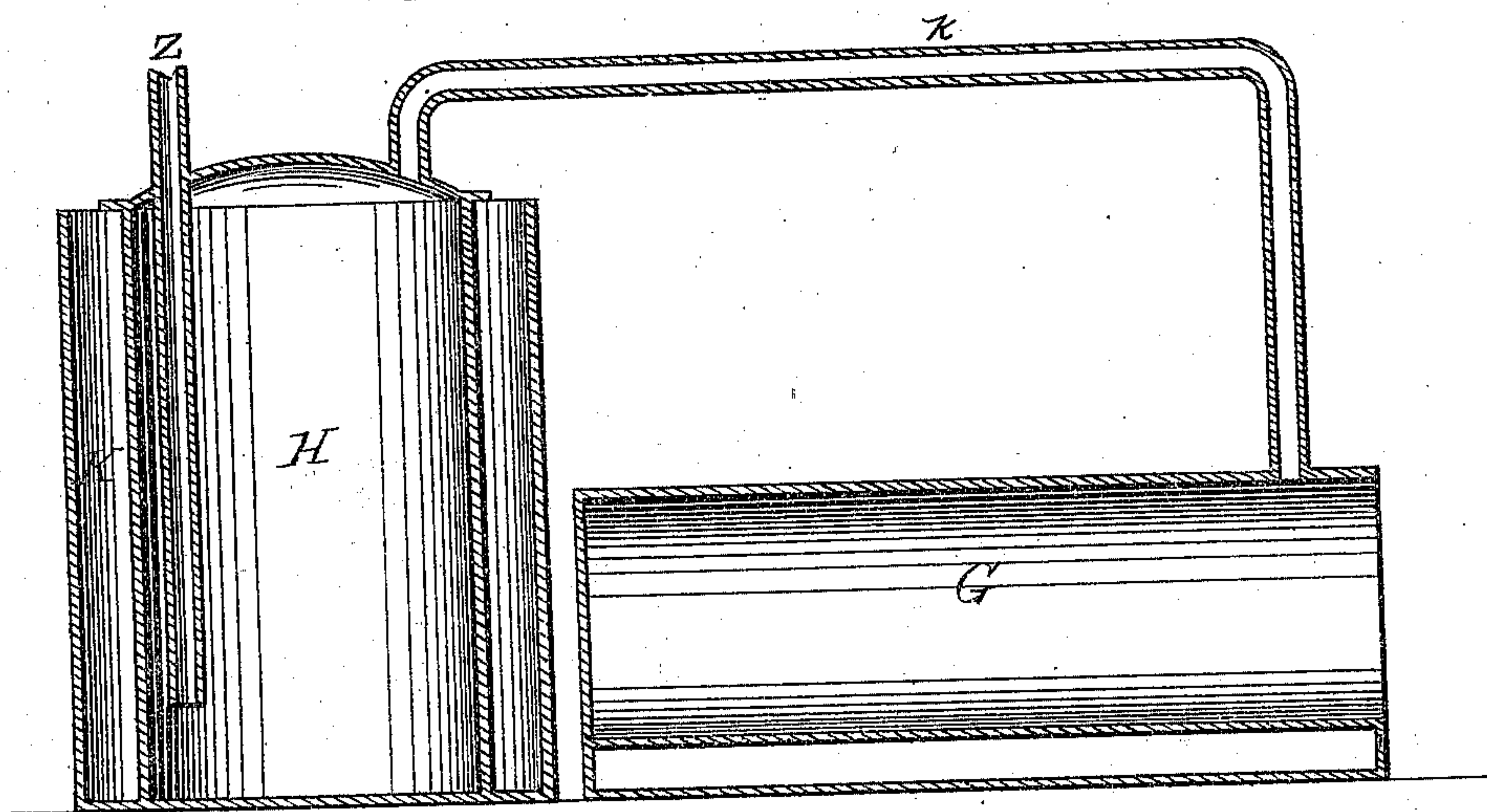


Fig. 4.

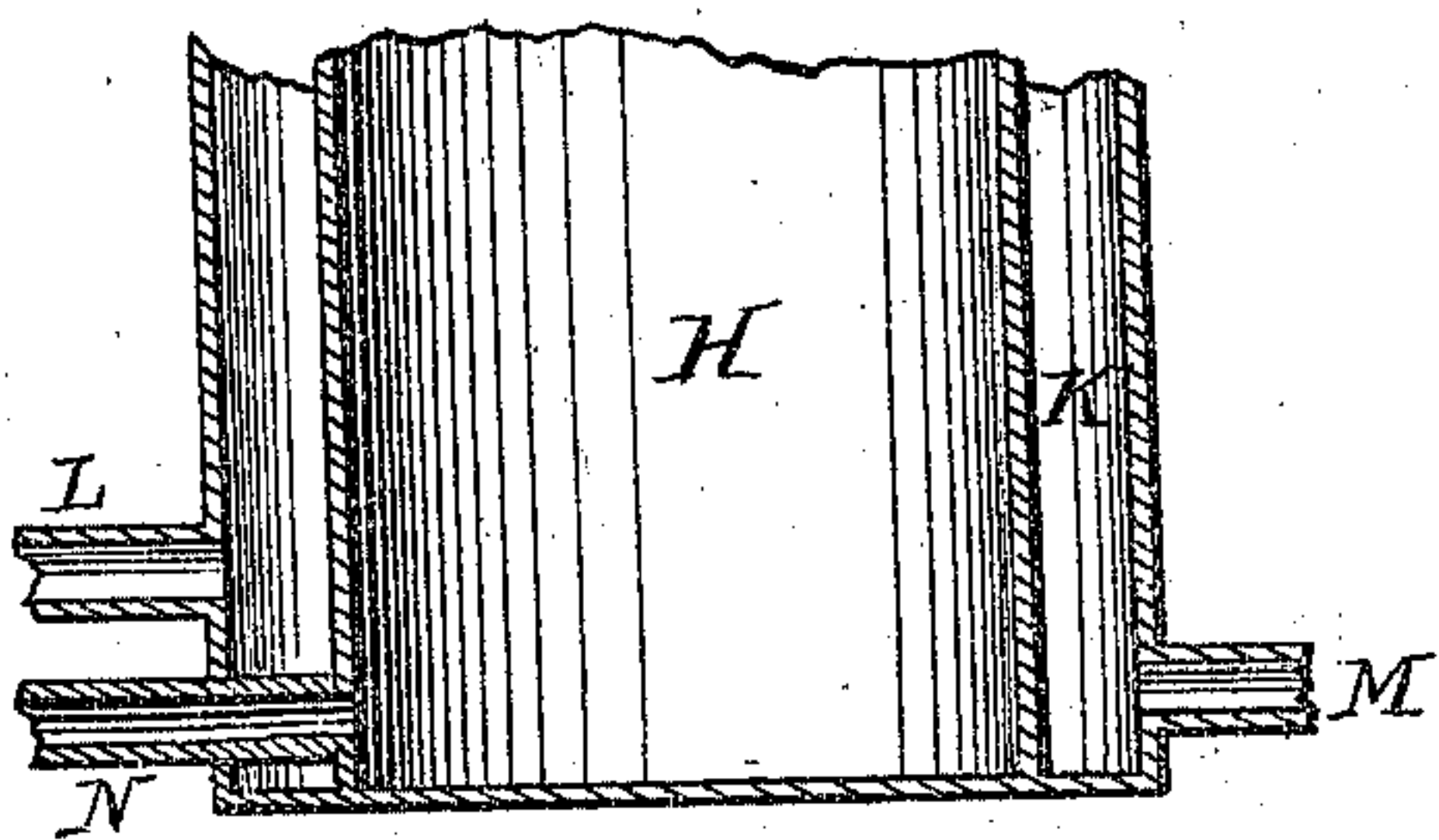
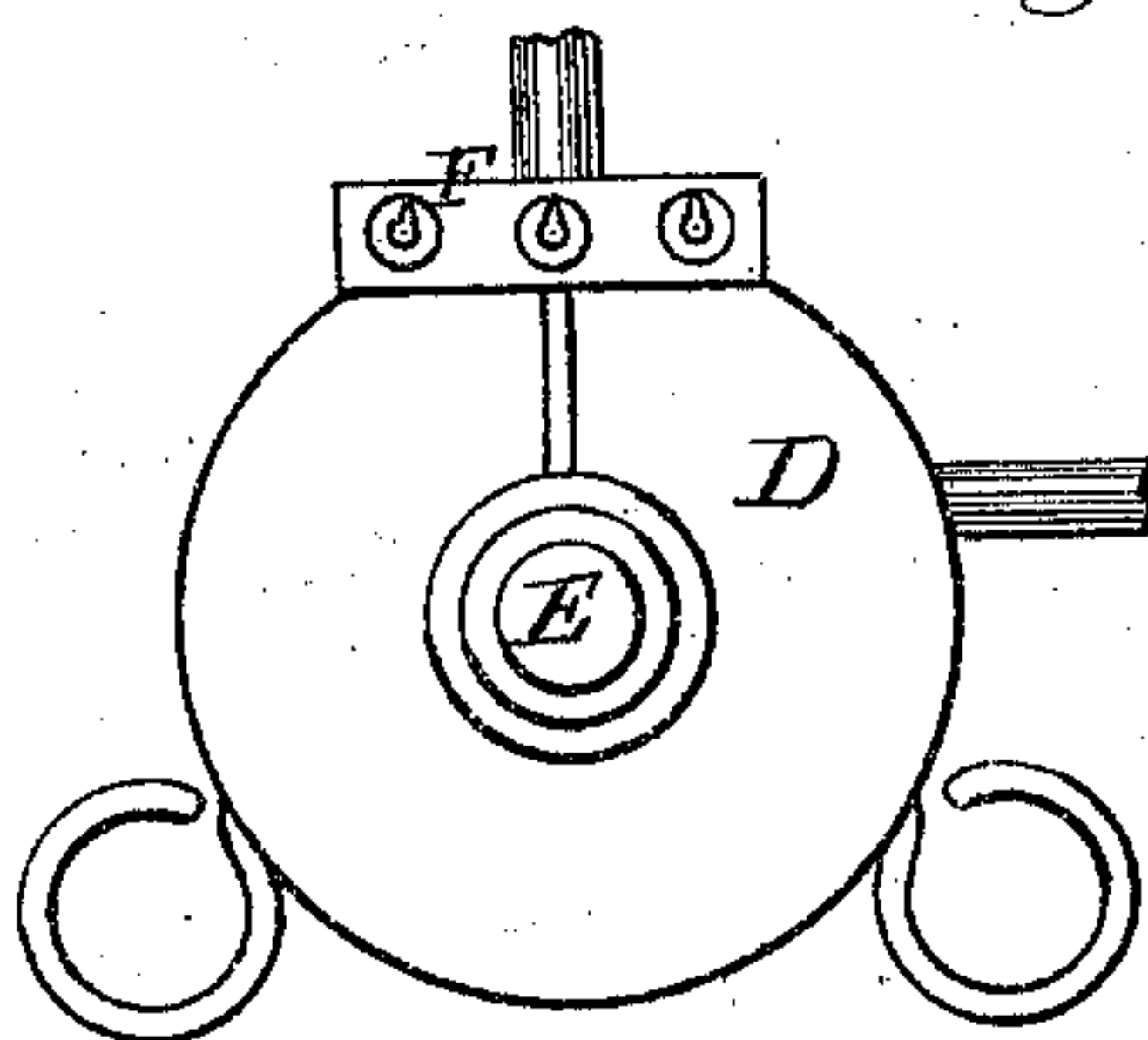


Fig. 5.



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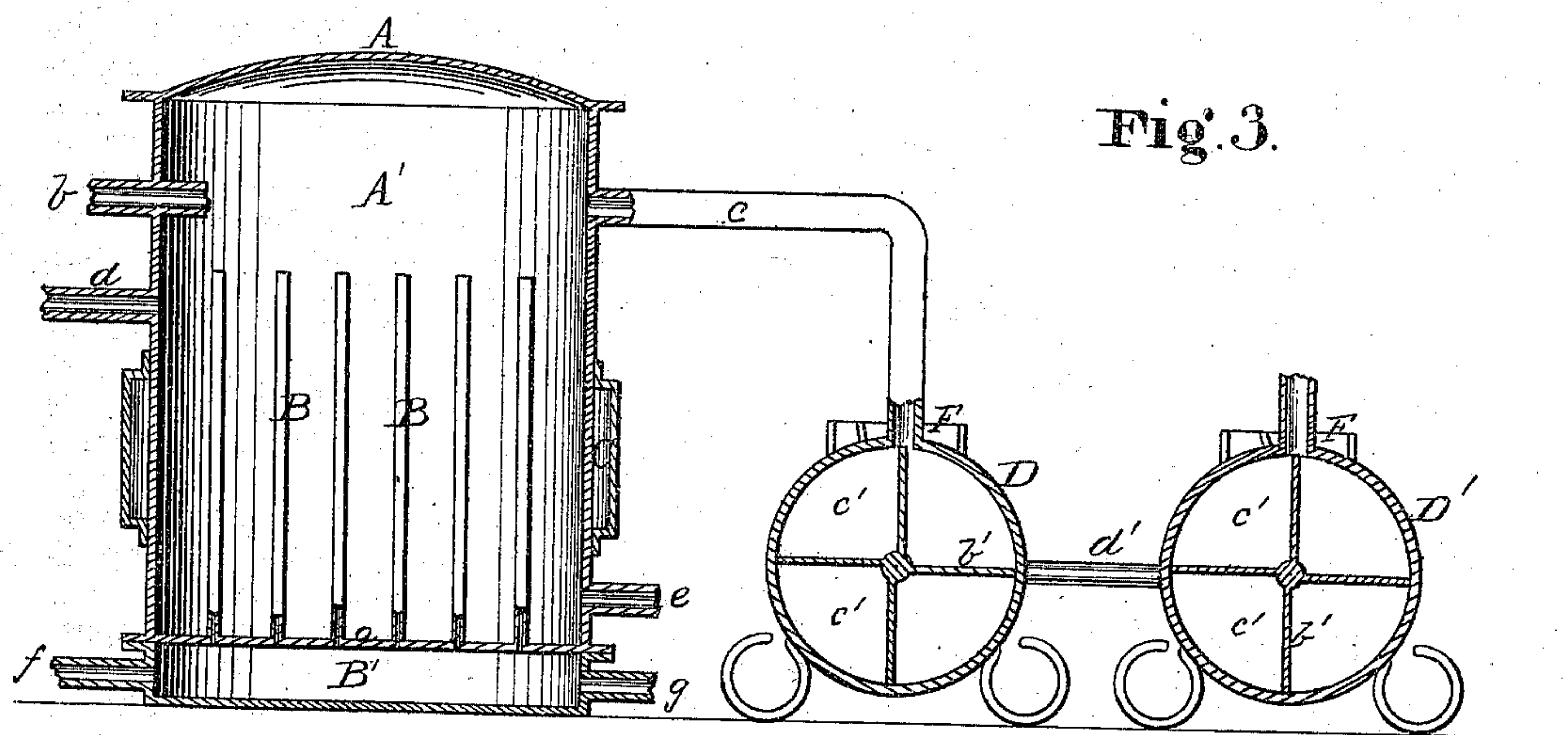


Fig. 3.

Fig. 6

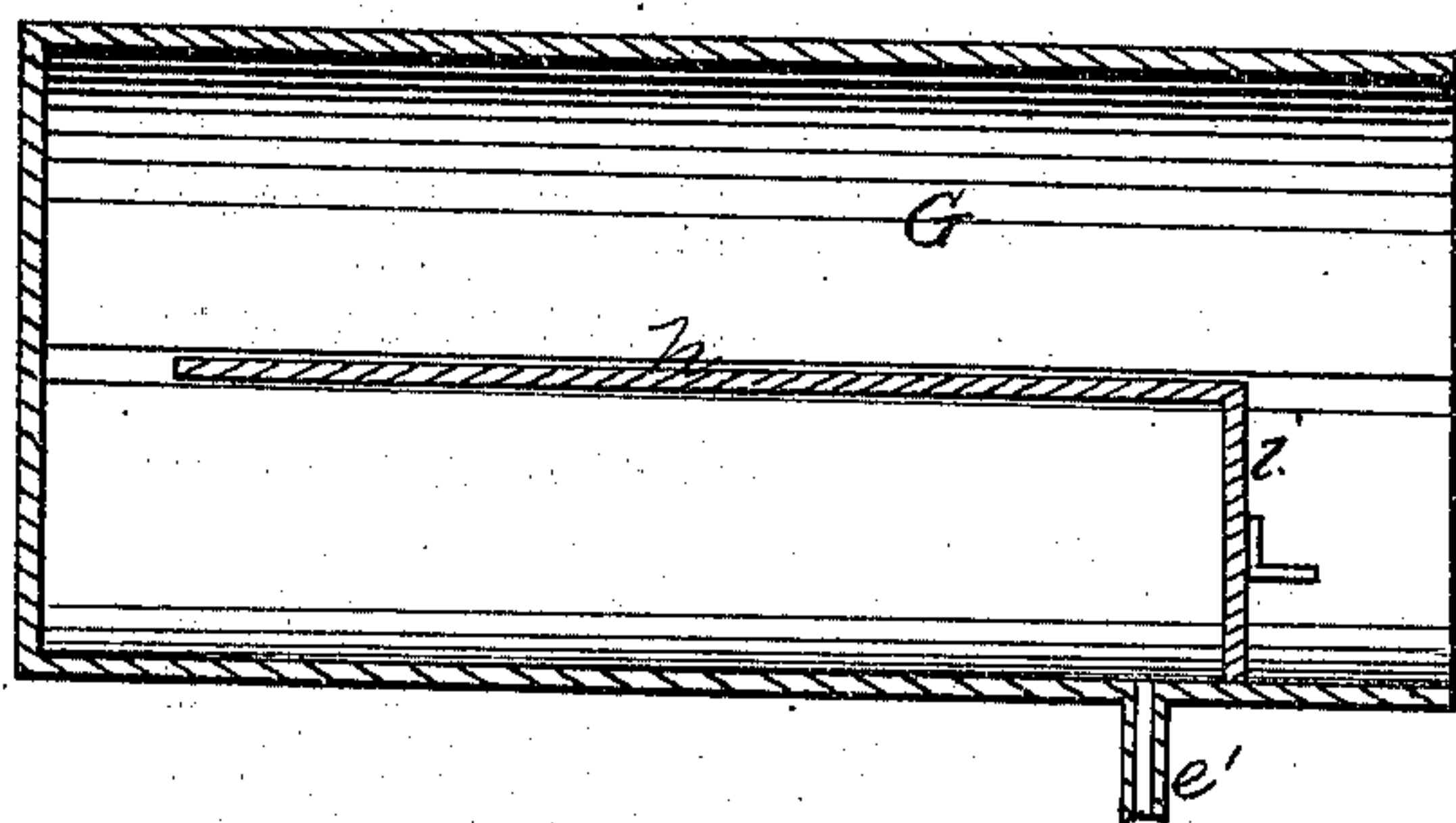
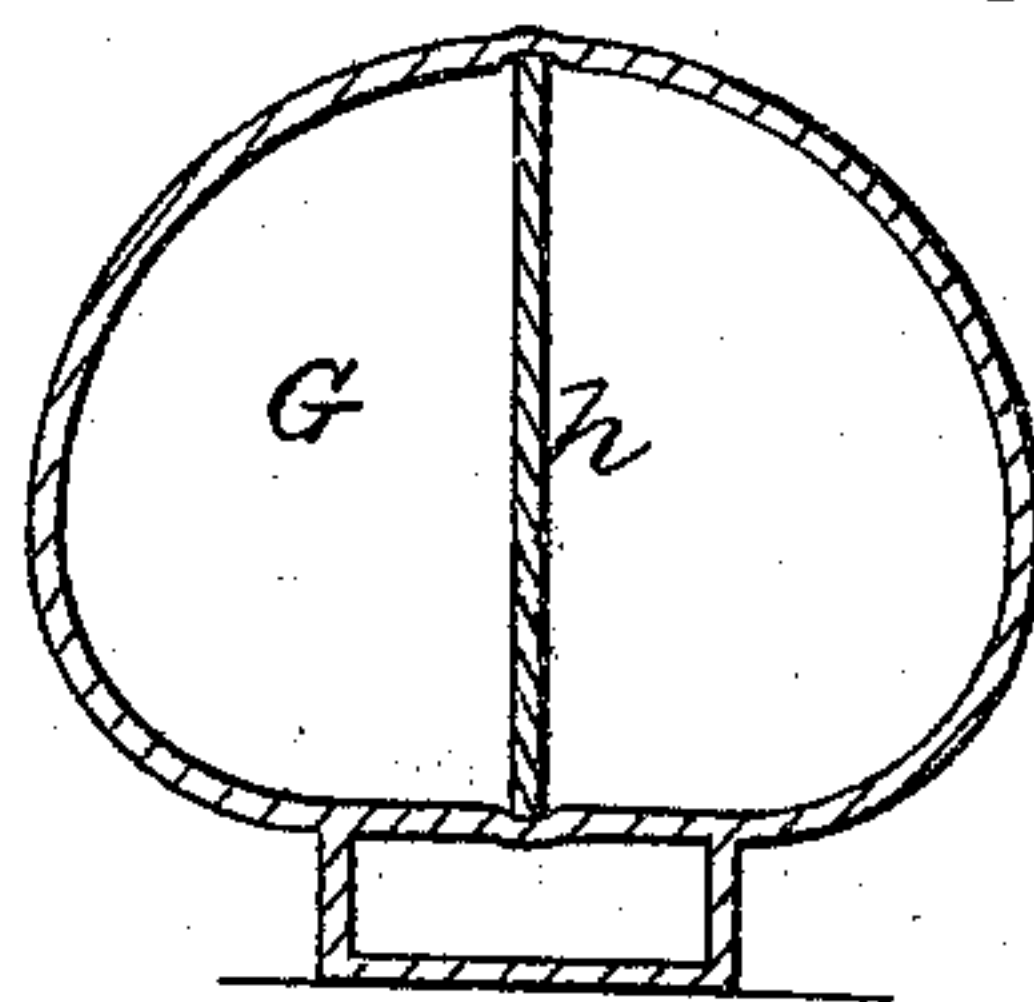


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE OLNEY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN GAS APPARATUS.

Specification forming part of Letters Patent No. 122,733, dated January 16, 1872.

To all whom it may concern:

Be it known that I, GEORGE OLNEY, of Brooklyn, in the county of Kings and State of New York, have invented a new and valuable Improvement in Gas-Carbureters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my carbureter. Fig. 2 is a vertical section of the condenser and retort. Fig. 3 is a vertical section of the carbureter and pump; and Figs. 4, 5, 6, and 7 are details.

This invention has relation to certain improvements in the manufacture of illuminating-gas; and it consists in the construction and novel arrangement of devices, constituting an apparatus wherein such gas is first made by mixing mechanically the air and oils, and afterward converted into a fixed gas by the application of heat. My apparatus consists of a carbureter, exhausters, retorts, and condensers, relatively arranged and connected, as hereinafter described.

In the accompanying drawing, the letter A designates the carbureter divided by a partition, *a*, into a carbureting-chamber, A', and a steam-chamber, B'. From the latter chamber vertical pipes B extend upward and radiate heat through the body of oil in the carbureter. A steam-jacket, C, extends around the middle portion of the carbureting-chamber. Of the pipes connected with the carbureter *b* is the air-inlet; *c*, outlet; *d*, supply-pipe; *e*, discharge-pipe; *f*, steam-pipe; and *g* condensation-pipe. The exhaust-pumps D D' are usually two in number. Each pump is provided with a rotating-shaft having wings *b'* radially extending therefrom in such a manner as to divide the interior of the cylindrical casing into several equal sections, *c'*. These pumps are connected by a pipe, *d'*, from which a pipe, *e'*, runs to the retort. The pump D exhausts the gas from the carbureter and forces it through the retort. The pump D' furnishes atmospheric air in definite quantities, to be mixed with the

gas, as it comes from the carbureter in the pipes *d'* and *e'*. A cone of pulleys, E, is secured to the shaft of each pump, by means of which the speed may be varied and the proportions of the mixture of gas and air regulated; at the same time the volume of the mixture, which passes through the pipe *e'* to the retort, is accurately measured by the section-spaces *c'* of the pumps, with each of which a registering device, F, is connected. G represents the retort, to which the pipe *e'* leads. This retort is traversed centrally and vertically by a partition, *h*, which makes an angle at *i* and is connected with the wall of the retort at this end in such a manner that the mixture of gas and air from the pipe *e'* is carried twice the length of the retort before it passes through the outlet *k* to the condenser. It is in this retort that the gas becomes fixed by the application of direct heat, a chemical combination taking place between the elements. H represents the condenser, which receives over the gaseous product of the distillation which takes place in the retort. K represents a water-chamber, placed around the condenser; L, the water-pipe; M, the water-discharge. N represents the discharge-pipe by which the products of the condensation are taken out.

By evaporation from this water-chamber a sufficient degree of cold is produced for the purposes of condensation and consumption. This evaporation is produced by passing a draught of air through the water-supply pipe L.

The fixed gas is furnished for consumption through the outlet-pipe Z.

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

1. The apparatus for making illuminating-gas, consisting of the carbureter A, the mixing and registering pumps D D', the partitioned retort G, and the condenser H, substantially as specified.

2. In a gas apparatus, the measuring and registering pumps D D' provided with cones E of pulleys for varying the proportions of gas and air, substantially as specified.

3. The carbureter herein described, consisting of the oil-chamber A', steam-chamber B', steam-jacket C, and radiating steam-pipes B,

constructed and arranged substantially as specified.

4. The retort herein described, provided with central longitudinal partition *h* and pipes *e'* and *k*, in combination with the condenser H, having a water-jacket, K, and pipes L M N Z, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE OLNEY.

Witnesses:

JOHN CURTIS,

WILLIAM MACKEY.

(27)