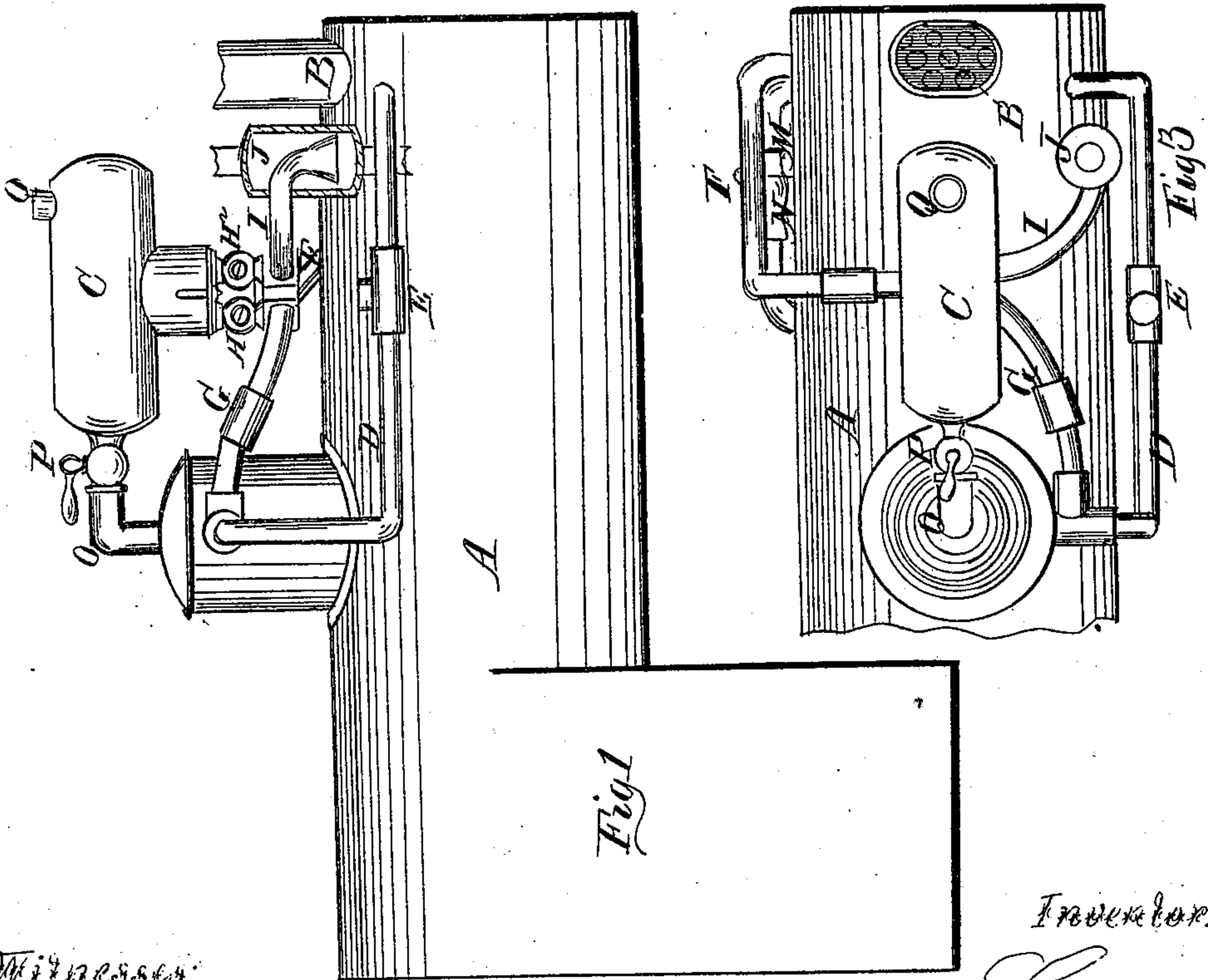
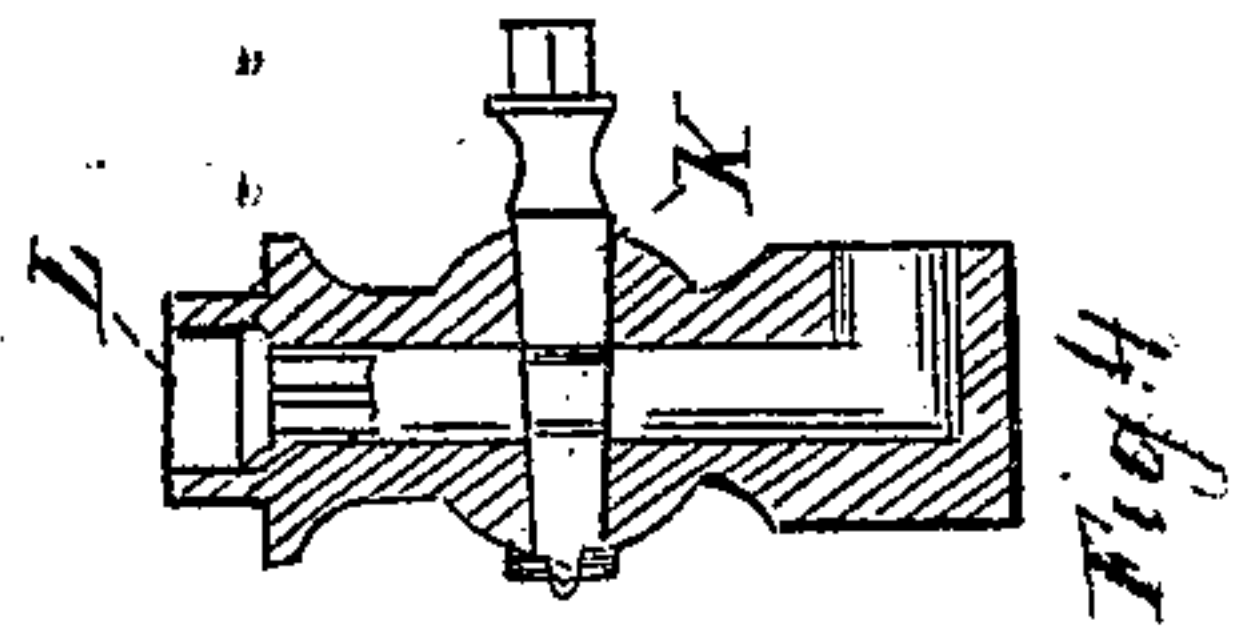
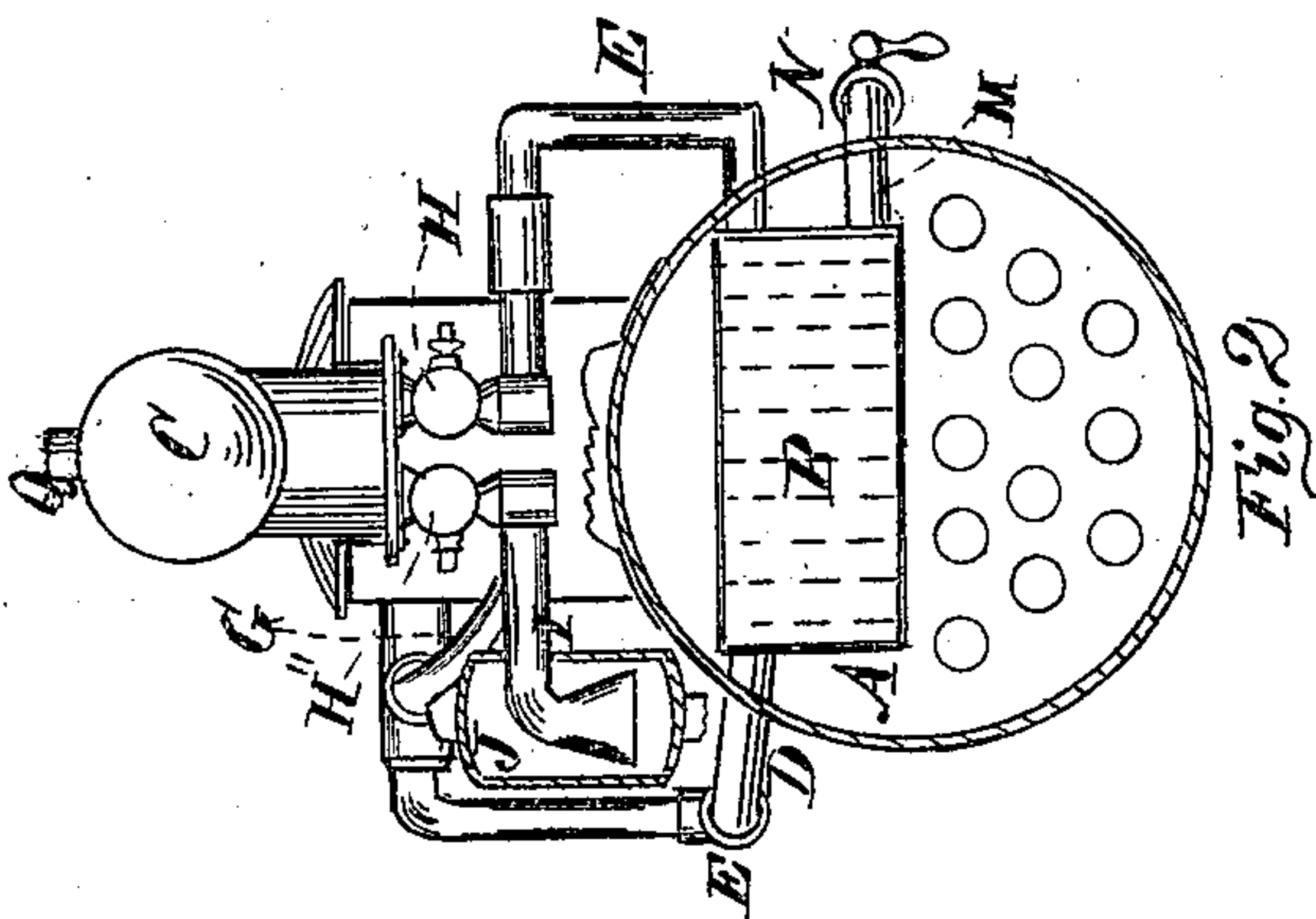


L. H. Colborne,

Boiler Heater

No. 93276.

Patented Aug. 3. 1869.



Witnesses
L. R. Sanford
W. C. Smith

Inventor:

L. H. Colborne

United States Patent Office.

L. H. COLBORNE, OF ALBION, NEW YORK.

Letters Patent No. 93,276, dated August 3, 1869.

IMPROVEMENT IN STEAM-GENERATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, L. H. COLBORNE, of Albion, in the county of Orleans, and State of New York, have invented a new and useful Improvement in Steam-Generators; 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation.

Figure 2 is an end view.

Figure 3 is a top view.

Figure 4 is a sectional view of the valves H H' H".

Like letters of reference indicate like parts in the different figures.

My improvement consists in providing a receiver, situated between the boiler and the engine, in which saturated and superheated steam, and also a portion of the exhaust steam are combined, the said receiver being provided with suitable check-valves, to prevent back pressure on the boiler.

I will proceed to describe my invention.

A is the boiler.

B, the superheater.

C, the receiver.

D is a pipe, leading from the boiler to the superheater, having a check-valve at E.

F is a pipe, connecting the superheater B with the receiver C, through the valve H.

A pipe, G, connects the boiler A with the receiver C, through the valve H'.

One end of the pipe I connects with the receiver C, through the valve H"; the other end is bent downward, and enlarged so as to form a funnel, which is

encased in an enlarged portion of the exhaust-pipe J, leaving sufficient space around it for the escape of steam.

The valves H H' H" are constructed as seen in fig. 4, with a stop-cock at K, and a check-valve at L.

M is a pipe, which connects the superheater B with the boiler, below the water-line, and is furnished with a stop-cock N.

O is a pipe, which connects the receiver C with the boiler, and is provided with a stop-cock, P.

The pipe which leads to the engine is connected with the receiver C at Q.

When the engine is not working, the stop-cock P, in the pipe O, is opened, to allow the mixed vapors to pass from the receiver C back into the boiler.

The pipe M is used to convey water from the boiler to the superheater.

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

1. The receiver C, combined as herein set forth, whereby the saturated and superheated steam is commingled, as above set forth.

2. The pipe D, superheater B, and intermediate devices, in combination with the receiver C, substantially as shown and described.

3. The arrangement of the devices whereby to exhaust steam into the receiver C, as set forth.

The above specification of my invention signed by me, this 4th day of February, 1869.

L. H. COLBORNE.

Witnesses:

L. R. SANFORD,

H. C. SMITH.