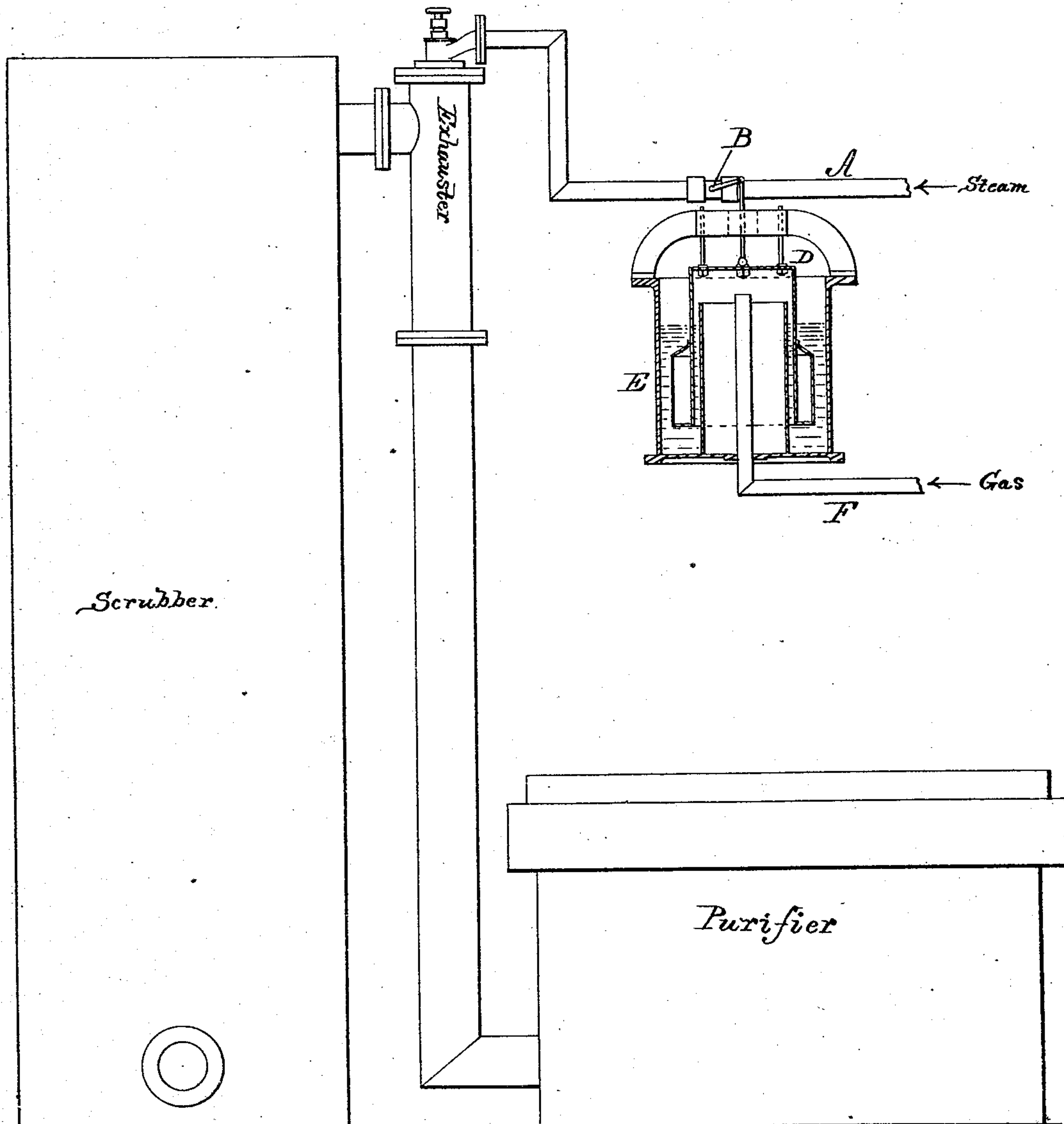


E. KORTING.
Steam-Jet Gas-Exhauster.

No. 160,443.

Patented March 2, 1875.



WITNESSES:
Will. H. Dodge
Thos. Houghton

INVENTOR:
Ernest Kortung
By his attys
Dodge & Son

UNITED STATES PATENT OFFICE.

ERNST KORTING, OF HANOVER, GERMANY.

IMPROVEMENT IN STEAM-JET GAS-EXHAUSTERS.

Specification forming part of Letters Patent No. **160,443**, dated March 2, 1875; application filed December 3, 1874.

To all whom it may concern:

Be it known that I, ERNST KORTING, of the city of Hanover, in the Empire of Germany, have invented certain Improvements in Steam-Jet Gas-Exhauster, of which the following is a specification:

My invention consists in the combination, with the scrubber or washer and the purifier, of a steam-jet exhauster located beyond the scrubber, and in advance of the purifier, that the tar may be removed from the gas before the latter comes in contact with the steam in the exhauster; the object of this special arrangement being to permit the use of the steam-jet exhauster without danger of filling the apparatus with crystallized naphthaline.

The drawing represents an elevation of a scrubber and a purifier with my exhauster applied thereto, the regulator being in section.

As is well known, coal-gas as it comes from the retorts contains large quantities of tar, which, when heated, becomes decomposed and separates into pitch, naphthaline, and volatile oils. By submitting the gas as it comes from the retorts to the action of the steam from a jet-exhauster, such, for example, as that patented by me September 16, 1873, No. 142,856, this same decomposition would take place owing to the heat of the actuating steam.

Treating the gas in this way, provision can easily be made for removing the pitch as it accumulates beyond the exhauster, and the volatile oils will be in no way deteriorating to the quality of the gas, but the naphthaline after passing the apparatus will condense and crystallize until it fills and closes the pipes.

I remedy these objections by removing the tar from the gas before passing the gas through the exhauster, by placing the exhauster between the scrubber or washer and the purifier, so that the gas deposits its tar in the scrubber before it reaches the exhauster. The exhauster may be of any of the usual forms of steam-jet exhausters, and may be arranged in any suitable manner between the scrubber and purifier; but I prefer to use the exhaust-

er patented by me as above mentioned, and to arrange it at the upper end of a stand-pipe leading from the scrubber to the purifier, as shown.

In order to obtain the best results it is necessary that the exhaust shall be varied according to the variations in the production of gas, and this end I accomplish by providing the steam-pipe leading to the exhauster with a throttle-valve operated by a float which is moved by the gas.

A represents the steam-pipe, and B the throttle-valve having its operating arm connected by a rod, C, to a bell-shaped float or vessel, D, which is mounted in a vessel, E, containing water. F represents a pipe entering the bottom of the vessel E, and conducting gas into the float or vessel D, from the gas-main located between the retorts and the scrubbers. As the production of gas increases, and its pressure becomes greater, it raises the float D and thereby opens the throttle so as to admit more steam to the exhauster, and render its operation more powerful, and then when the production decreases and the pressure lessens the float, D descends and closes the throttle. In this way the pressure of the gas is caused to vary the force of the exhaust with great nicety, and the apparatus is rendered perfect and automatic in its operation.

While the arrangement shown for regulating the steam is considered very efficient, it is obvious that it may be varied as desired, or that a different arrangement may be used.

What I claim as my invention is—

The combination, with the scrubber or washer and the purifier, of a gas apparatus, a steam-jet exhauster, located beyond the scrubber and before the purifier, as and for the purposes described.

ERNST KORTING.

Witnesses:

T. SCHUTTE,
J. W. FRIGOT.