

G. SCHWABACH.
 REGULATING DEVICE FOR GAS SUPPLY PLANTS.
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1,037,337.

Patented Sept. 3, 1912.

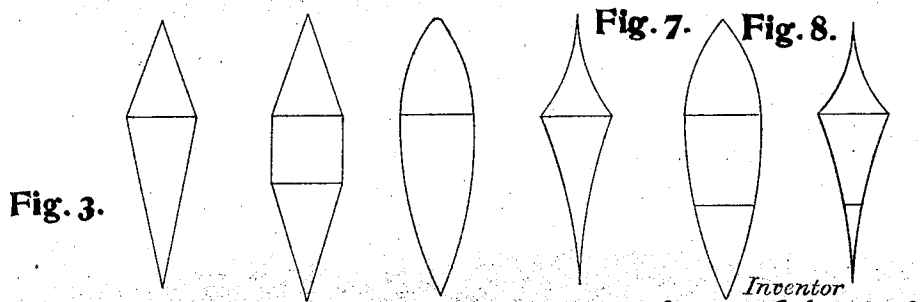
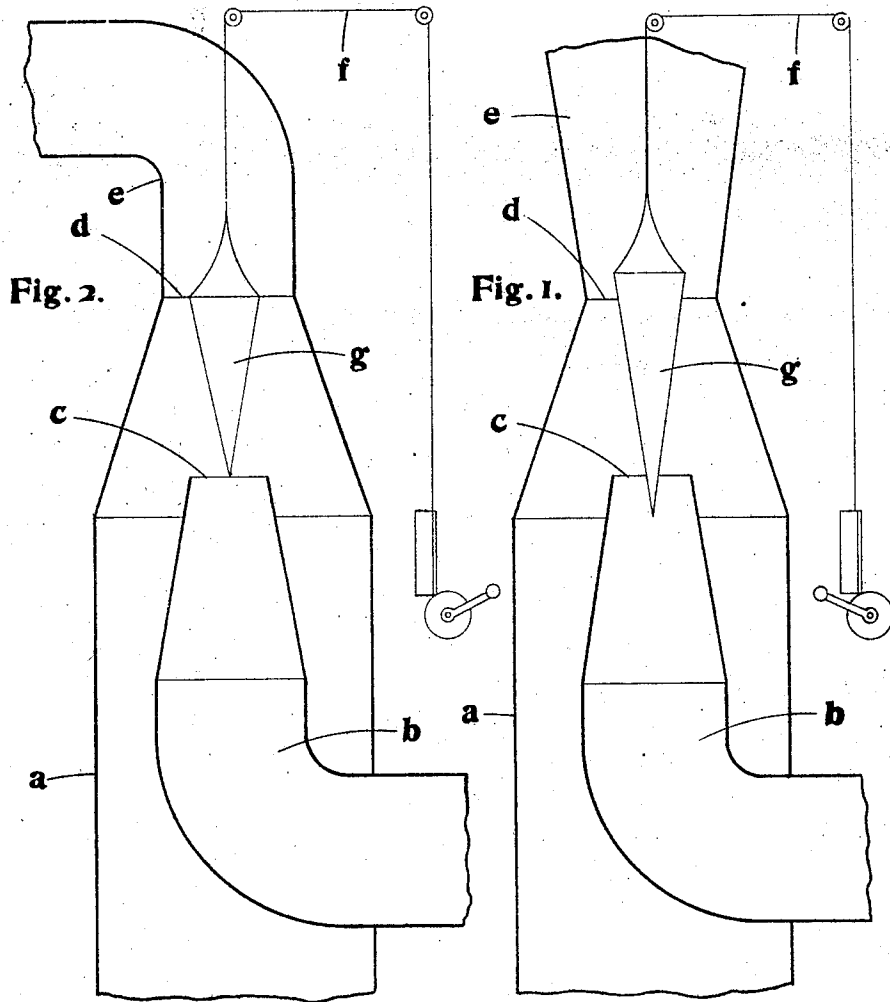


Fig. 3.
 Witnesses—
Stanley Wood.
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Fig. 4. Fig. 5. Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORG SCHWABACH, OF CHARLOTTENBURG, GERMANY.

REGULATING DEVICE FOR GAS-SUPPLY PLANTS.

1,037,337.

Specification of Letters Patent.

Patented Sept. 3, 1912.

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To all whom it may concern:

Be it known that I, GEORG SCHWABACH, a subject of the Emperor of Germany, residing at 10 Giesebrechtstrasse, Charlottenburg, Germany, have invented a certain new and useful Regulating Device for Gas-Supply Plants, of which the following is a specification.

The supply of gases and gas mixtures, for example exhaust gases from furnaces, aciduous vapors, air saturated with dust and the like is generally effected in such a manner that the current of gas to be supplied is passed through a second gas or air current. To provide these plants for various operations, regulating devices are necessary. Regulation is required for example, when the quantity of the gases to be delivered or the resistance, which they meet, varies. The means hitherto employed in the regulation of such plants consists in varying the cross section of the aperture, from which the driving gas passes to mix with the driven gas. Such devices however do not suffice for large requirements, since to obtain a favorable efficiency it is not only necessary to regulate the outlet aperture for the driving gas, but it is also necessary to simultaneously regulate the outlet aperture through which the mixture obtained passes, and the regulations of both cross sections must be effected simultaneously in such a manner that the two cross sections are operated to continuously correspond to the working capacity.

The object of this invention is to provide such a regulation by means of a regulating body of such a shape that the two cross sections are enlarged or diminished according to its adjustment.

The invention is illustrated in the accompanying drawing.

a is the pipe for the gases to be supplied, b is the pipe for the driving gas which leaves at c , where it mixes with the gases passing through a . The mixture then passes through the opening d into the pipe e from which it is conducted farther. The regulation of the two cross sections c and d is effected by regulating body g which is operated to adjust the cross sections by any suitable means such for example as a rope,

chain or the like f connected to a winch. The regulating body g has its length and cross section of such dimensions that in every position of the body g there is a corresponding regulation of the two cross sections c and d .

In Figure 1 the body g is shown of such construction that on diminishing the cross section c by lowering the body g there is a corresponding decrease in size of the cross section d .

In Fig. 2 the regulating body is of such construction that a decrease in size of the cross section c by lowering the body g corresponds to a simultaneous increase in size of the cross section d which is often necessary.

Figs. 3-8 show various constructional forms of regulating body as required for various uses. By means of some of these forms it is possible to rapidly vary the size of the opening c while the opening d is varied very slowly. In some cases this is just the reverse.

It is essential according to this invention that the shape of the regulating body is such that the regulation of the cross sections c and d can be effected simultaneously and in any relation to one another according to the circumstances of operation.

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

In gas supply plants the combination of a gas inlet pipe, an inlet pipe for the driving gas located within the gas inlet pipe, a mixing chamber in which the inlet pipes terminate, a common outlet pipe for the gas mixture and means for simultaneously controlling the area of the inlet pipe for the driving gas and that of the outlet pipe, consisting of a tapered body disposed within the mixing chamber and projecting into the inlet pipe for the driving gas and the outlet pipe.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

GEORG SCHWABACH.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.