

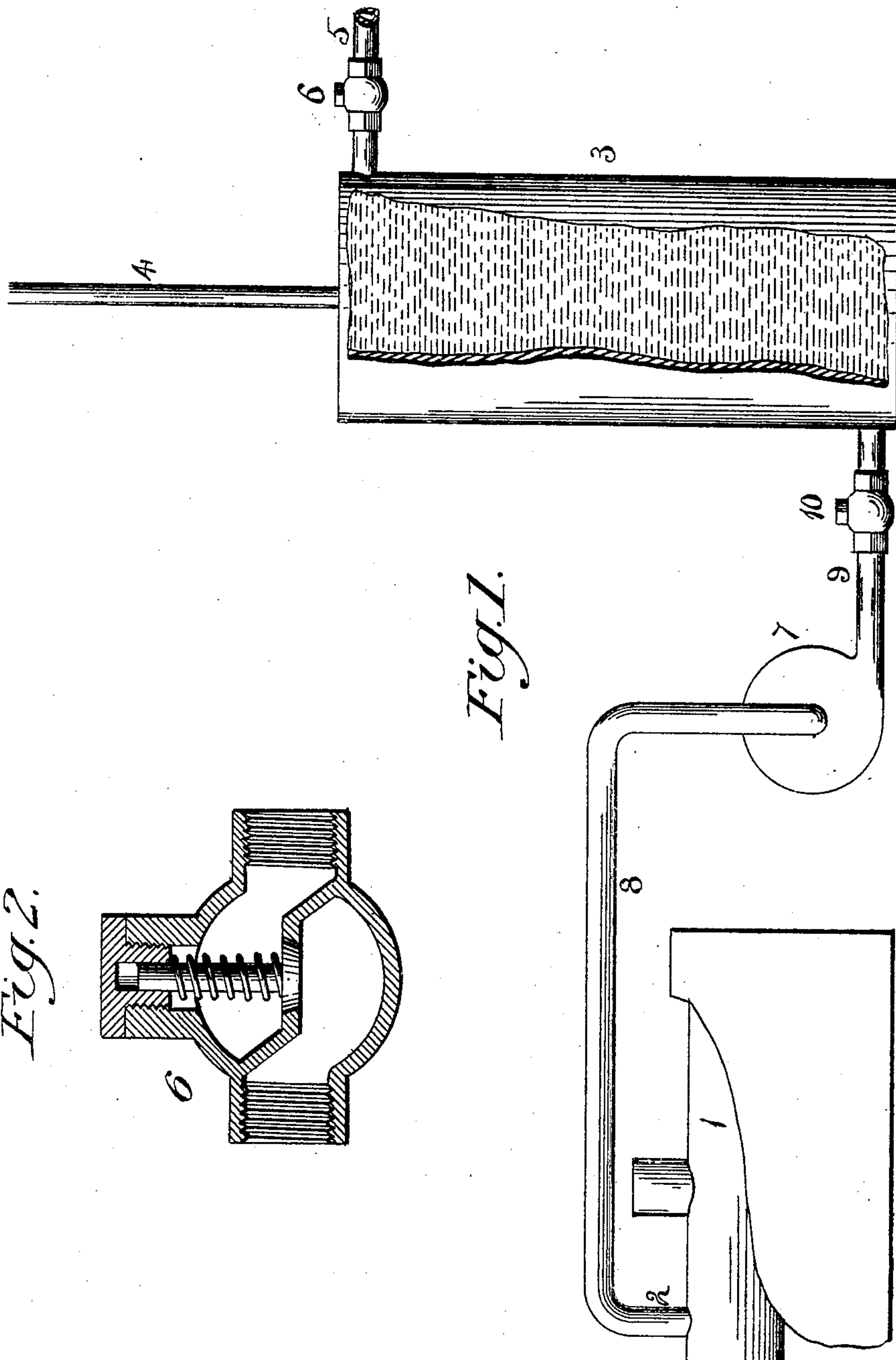
No. 808,917.

PATENTED JAN. 2, 1906.

J. R. & J. GORMLEY & P. CONLEY.

SMOKE CONSUMER.

APPLICATION FILED AUG. 16, 1904.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES R. GORMLEY, OF CHICAGO, AND JOHN GORMLEY AND PATRICK CONLEY, OF ROCKFORD, ILLINOIS.

SMOKE-CONSUMER.

No. 808,917.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed August 16, 1904. Serial No. 220,963.

To all whom it may concern:

Be it known that we, JAMES R. GORMLEY, of Chicago, county of Cook, and JOHN GORMLEY and PATRICK CONLEY, of Rockford, county of Winnebago, and State of Illinois, have invented certain new and useful Improvements in Smoke-Consumers, of which the following is a specification.

The object of this invention is to arrest all smoke issuing from the smoke-pipe of a heater, boiler, or other coal-consuming apparatus by forcing it through water contained in a tank under pressure in a manner that a continuous stream of water will flow from the tank with the gases after combustion.

In the accompanying drawings, at Figure 1 is shown an elevation of a boiler and the arrangements of our improvements therewith. Fig. 2 is a section of the relief-valve.

The boiler 1 is of an old construction provided with a smoke pipe or flue 2. A tank or receptacle 3 has a pipe 4 connected with the upper portion, by which water may be forced into the tank until the required pressure is attained. An overflow or escape pipe 5 has a connection with the upper portion of the tank and is provided with a relief-valve 6. A blower 7 is located between the boiler and tank, and a pipe 8 forms a communication between it and the boiler. A pipe 9 forms a communication between the blower and the lower end of the tank and is provided with a check-valve 10.

The blower is set in operation, which will draw the smoke and products of combustion

through the pipe 8 from the boiler and force it by the check-valve 10 into the tank 3, containing water. As the water in the tank is under pressure, the tank is therefore always filled, and in order for the gases to escape from the tank the relief-valve 6 must be lifted, which will allow water to escape from the tank with the gases. It has been found in forcing smoke through a body of water that only the heavy particles of the products of combustion are collected by the water; but if a body of water be contained in a tank under pressure, so that all air be excluded from the tank and the products of combustion forced into the water, that some of the water will be forced out of the tank with the gases, thereby having settled or made unobservable.

Water must be supplied to the tank in order to keep up the waste and pressure, which can be accomplished in any suitable manner.

We claim as our invention—

A smoke-consumer comprising a closed tank, a water-supply to the tank, an overflow to the tank provided with a relief-valve, a blower, a pipe connection between the blower and tank, and provided with a check-valve, and a pipe connection between the blower and boiler or other coal-consuming apparatus.

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