

(No Model.)

2 Sheets—Sheet 1.

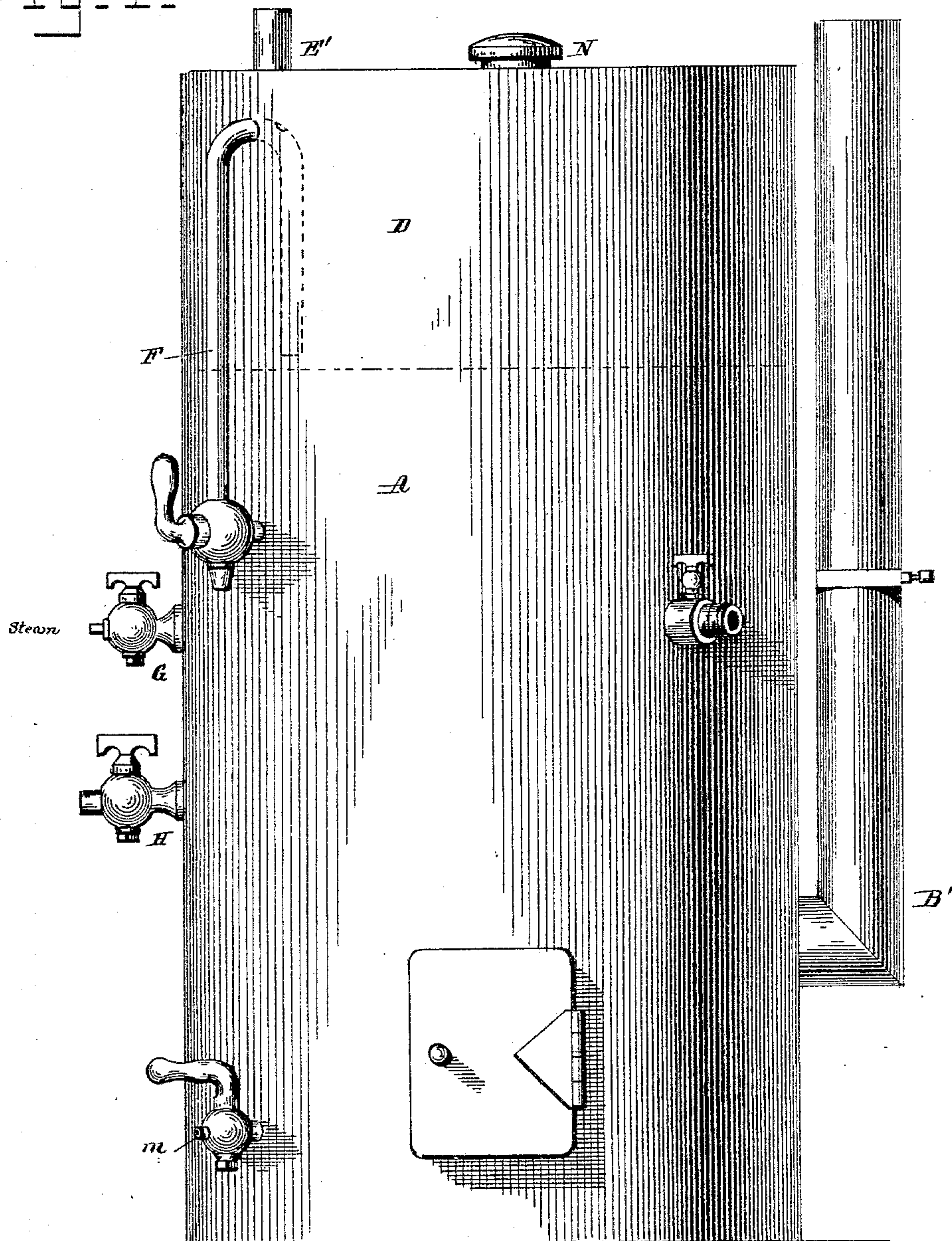
C. O. BLANKENBAKER & E. N. EDMONDS.

STEAM GENERATOR.

No. 303,910.

Patented Aug. 19, 1884.

Fig. 1.



WITNESSES

Edwin L. Jewell.
J. J. McCarthy.

INVENTOR

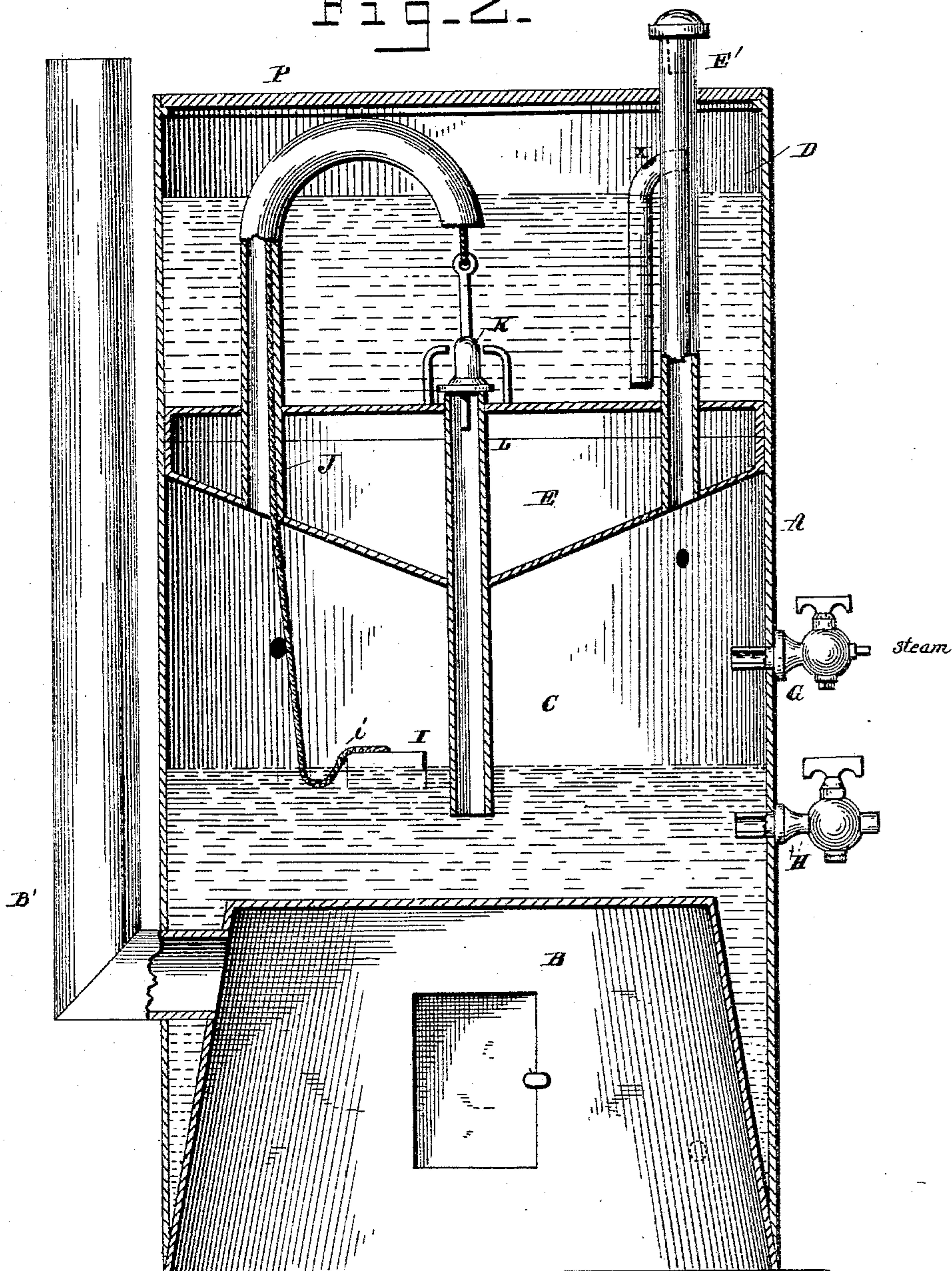
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2 Sheets—Sheet 2.

STEAM GENERATOR.

Patented Aug. 19, 1884.

Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES O. BLANKENBAKER AND ED. N. EDMONDS, OF OTTAWA, KANS.

STEAM-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 303,910, dated August 19, 1884.

Application filed February 28, 1884. (No model.)

To all whom it may concern:

Be it known that we, CHARLES O. BLANKENBAKER and ED. N. EDMONDS, citizens of the United States, residing at Ottawa, in the county of Franklin and State of Kansas, have invented certain new and useful Improvements in Steam-Generators, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to apparatus for furnishing steam or hot water for culinary or other similar purposes. One object we have in view is to provide hot water for moistening or steam for cooking animal food, while it is evident it may be used for many household purposes.

In the accompanying drawings, making part of this specification, Figure 1 represents a side elevation, and Fig. 2 a vertical section, of our invention.

In the figures, A represents a metallic shell or case, in which are formed a water, a water and steam, and air-chamber, and a fire-box, as will be hereinafter more particularly described, with their connections.

D represents the water-chamber, situated at the upper end of the case, and having a supply-pipe leading to it, marked N.

E represents an air-chamber beneath the chamber D.

C represents a chamber which is intended to contain both steam and water, and beneath and partially within this is a fire box. The fire-box is so formed that the water from chamber C covers its top and surrounds its sides, forming a water-jacket. This fire-box is of course provided with a suitable grate and door and an escape-pipe, B'.

L represents a pipe which connects chamber C to chamber D. In the upper end of this pipe is a valve, K.

J is a pipe curved at its upper end, which also connects the chambers C and D.

i represents a cord, one end of which is passed up through the pipe J and then connected to a stem on top of the valve K. The other end of this cord is connected to a float, I. When the water in the chamber C falls to a given point, the float by its weight causes the cord i to open the valve K, and supply water from the chamber D.

E' represents a pipe, which passes up from chamber C and through the top P to the open air. This pipe is provided with a plug or valve at its upper end, which will be blown out or lifted when the pressure of steam becomes too great in chamber C.

F represents a pipe upon the outside of the case, but having one end enter the chamber C and the other chamber D. The upper end of this pipe which enters chamber D is curved and extends to very near its bottom. It has a perforation, X, near the point of entrance into the chamber to prevent the pipe from acting as a siphon. The pipe is provided on the outside with a stop-cock. The object of this pipe is to allow steam to pass up from the chamber C to D, in order to keep the water in chamber D hot, so that it may not diminish the temperature in the chamber or boiler C in keeping it supplied. The air-chamber is to prevent any diminution of the temperature of the steam by reason of its being in contact with the bottom of the chamber D.

G represents a pipe with a stop-cock leading from the steam-chamber to any point where the steam is to be used.

H represents a pipe, which is also provided with a stop-cock. This pipe leads from the water of the boiler to any point where hot water is to be utilized.

m represents a pipe provided with a stop-cock, and which is intended for blowing out sediment or mud from the bottom of the boiler. The shape of the fire-box may be either that of a cone or the frustum of a cone. In practice this perforation is so small as not to allow the escape of any material quantity of steam above the water, even when the necessary resistance of the said water is taken into account.

The operation of the device is based on the fact that admission of a comparatively small quantity of air at the uppermost portion of a siphon-tube is sufficient to counteract the said siphon tendency.

A valve other than an automatic one may in some instances be used for feeding the boiler.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a steam-generator, the combination of a boiler or steam and water chamber, a wa-

ter-supply chamber above it, an interposed
dead-air chamber, and a fire-box or furnace
below the boiler, the whole arranged within a
casing, substantially as and for the purpose
5 set forth.

2. The pipe L, connecting the water-cham-
ber D and the boiler, and provided at its up-
per end with a valve, in combination with a
cord and float for operating the valve, sub-
10 stantially as and for the purpose set forth.

In testimony whereof we affix our signatures
in presence of two witnesses.

CHARLES O. BLANKENBAKER.
ED. N. EDMONDS.

Witnesses:

N. S. BROWN,
F. A. WILKINSON.