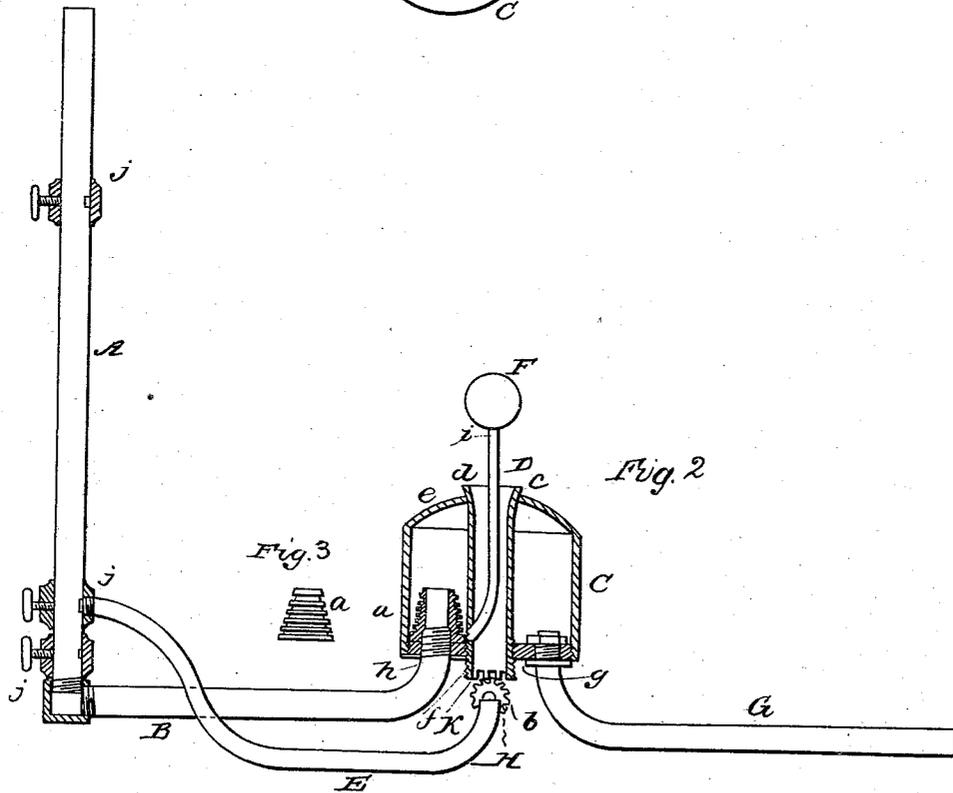
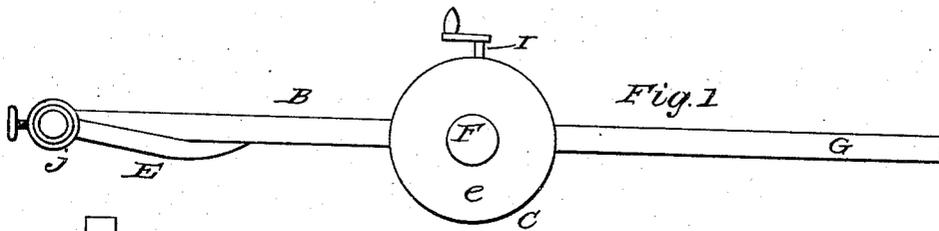


C. GEISSE.
Gas Heater.

No. 56,204.

Patented July 10, 1866.



Witnesses
Stephen Wicks.
John White.

Inventor
Charles Geisse.

UNITED STATES PATENT OFFICE.

CHARLES GEISSE, OF TAYCHEEDAH, WISCONSIN.

IMPROVEMENT IN GAS-HEATERS.

Specification forming part of Letters Patent No. 56,204, dated July 10, 1866.

To all whom it may concern:

Be it known that I, CHARLES GEISSE, of Taycheedah, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Heating Apparatus; 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 annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of a portion of the apparatus for heating. Fig. 2 is a vertical section of a portion of the same, being the generator and burner.

The nature of my invention mainly consists in combining and arranging a fixed receiver for inflammable oil, fluid, or any liquid equivalent applicable for heating purposes with a gas or vapor generator and burner in all the places where heat is applied by means of pipes or tubes fitted with such necessary cocks or valves and appliances as may be required. The said receiver is elevated above all the points of combustion, so as to supply all the heaters with the combustible liquid by means of its specific gravity and percolation, and is so far laterally distant therefrom as to prevent accident or danger from fire.

I usually place the receiver in a loft or upper room of the building to be heated; but it may be located in a separate building when desired.

To enable others skilled in the art to which my improvement appertains to make and use my invention, I will proceed to describe its construction and operation.

I place a receiver (which is not shown in the drawings) in a permanently-fixed position, elevated above all the heaters and sufficiently laterally distant from the nearest to prevent accident and danger from fire. This receiver is filled with inflammable oil or fluid, which, by its specific gravity, is conveyed to all the points at which heaters are used by the main pipe A and suitable branch pipes, the said main pipe A being connected at its upper end in a permanent manner with the said receiver, and its lower end with the heater at the lowest point of combustion by means of the branch pipe B, which supports it and supplies it with inflammable fluid.

The heater C, into which the pipe B projects,

is provided with an adjustable central tube, D, which serves as an air-passage through its central opening, *b*, and to form an adjustable annular space, *c*, between its upper and conically-expanded end, *d*, and the inner periphery of the bell-shaped cap *e* of the heater, the said space being enlarged, contracted, or entirely closed, as required, by means of the screw *f* on the lower end of the said tube, which is operated through the female screw *g* in the bottom *h* of the heater C. Through the said annular space *c* the gas or vapor escapes, and, being fired, heats the globular radiator F, which is supported by the stem *i*, attached to the central tube, D, of the heater C. A portion of the heat of the radiator being thrown on the cap *e* of the burner C, the heat of the burner is augmented and its capacity for generating gas is thereby increased.

The branch pipe B has on its connecting end with the heater C a conical mouth-piece, *a*, which has annular grooves, as shown in Figs. 2 and 3, to interrupt the rapid flow of oil or other fluid as it issues from said pipe over the periphery of the said mouth-piece, so that it may be well spread when it reaches the base of the cone, and thereby susceptible of instantaneous conversion into gas or vapor.

G is a portion of a pipe for conveying vapor or gas from the heater to another part of the building. Supplementary pipes may also be used in connection with the said pipe G, to supply different heaters in other parts of the building, all the pipes being supplied with stop-cocks.

E is a branch pipe supplied with a cotton wick, and is connected with the main pipe A, or any branch thereof, by means of an adjustable sliding socket, *j*, fixed over an opening in the pipe at the point of connection, where the pipe is loosely filled with cotton or wool. When not covered by the sliding socket *j* the opening is clamped by the loose socket *j'* and stop-cocks and feed-gages are used where required, but are not shown in the drawings. The said pipe is so adjusted as to bring its burner (of any known kind) directly below the tube D of the heater C, so that the flame from such burner shall pass upward through said tube, which acts as a chimney, and the heat so supplied, having heated the chamber of the heater C to the necessary degree, converts the in-

flammable fluid, as it is supplied through the cone *a*, into gas or vapor, and fires the same as it escapes through the annular space *c*, as before described, and thus maintains within the chamber of the heater, by transmission, radiation, and the freeing of latent heat, a sufficient degree of heat to continue the combustion and the means of feeding it. Then the branch pipe *E* should be removed from its connection with the heater *C*, so as to dispense with the use of its burner.

Similarly arranged, and provided as above described, branch pipes, or pipes supplementary thereto, may be connected with the main pipe *A*, and employed for like use, as before described.

The central tube, *D*, may be elevated or depressed by means of the pinion *H*, on the shaft *I*, gearing into the teeth *k* on the lower end of the tube, as represented in the drawings. (See Figs. 1 and 2.)

The arrangement described, when applied in boats, vessels, and other places, may be modified as occasion and place may require, particularly as to size and proportional parts.

Having thus fully described my improved heating apparatus, what I claim therein as new is—

1. The combination and arrangement of the central tube, *D*, with the heater *C*, substantially in the manner described, and for the purposes set forth.

2. The combination of the movable branch pipe *E* with the heater *C*, for starting the generation of gas in the latter, substantially as described.

3. The combination and arrangement of the globular radiator *F* with the central tube, *D*, of the heater *C*, substantially in the manner described.

4. The combination of the conical mouth-piece *a* with the branch pipe *B*, when constructed and arranged to operate, in relation to the heater *C*, substantially as described.

5. Constructing the central tube, *D*, with cog-teeth, as represented, when used in connection with a pinion, for elevating and depressing said tube, substantially as described, and for the purpose specified.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal.

CHARLES GEISSE. [L. S.]

Witnesses:

STEPHEN USTICK,
JOHN WHITE.