

(No Model.)

G. WITTBOLD.

HEATER.

No. 302,305.

Patented July 22, 1884.

Fig. 1.

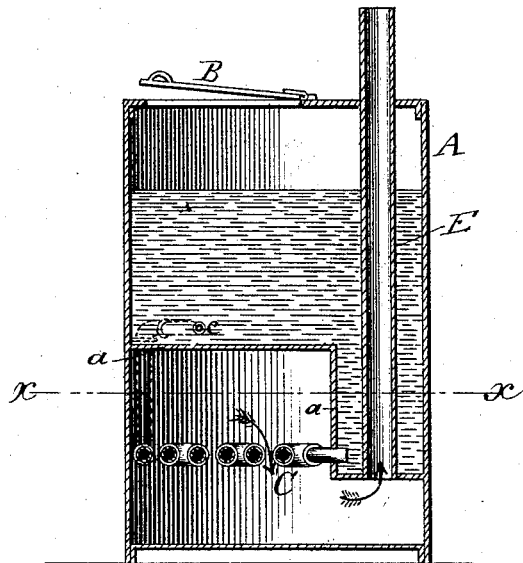


Fig. 2.

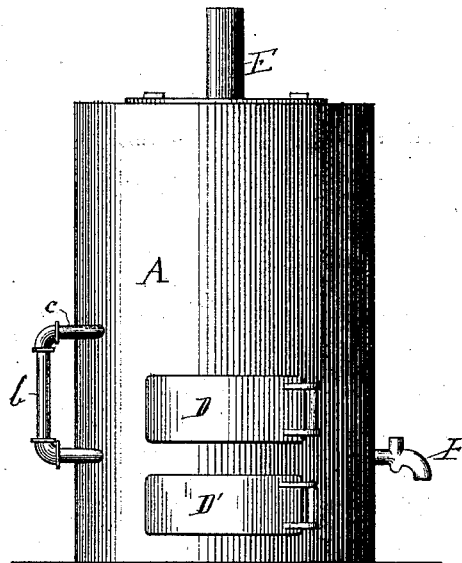
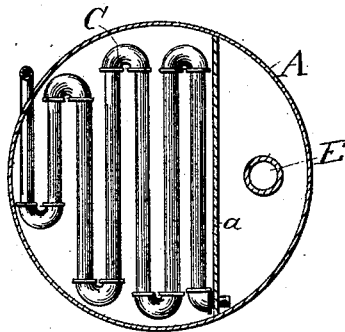


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE WITTBOLD, OF CHICAGO, ILLINOIS.

HEATER.

SPECIFICATION forming part of Letters Patent No. 302,305 dated July 22, 1884.

Application filed November 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WITTBOLD, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Heaters, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to heating apparatus, and is more especially adapted to use in the construction of buildings, &c., where the radiation of heat is desired for the purpose of drying the plaster, &c.

The invention consists of the novel devices and combination of devices, as will be described and claimed.

Reference will be made to the accompanying drawings, in which Figure 1 is a vertical section of the heater; Fig. 2, a front elevation of the same, and Fig. 3 a section in line *x x* of Fig. 1.

Like letters refer to like parts in each view.

A represents the shell or casing of the heater, provided with suitable feet or supports, and having an opening in its top closed by a hinged cover, B. The interior of the heater is divided into compartments by a partition, *a*, which extends from the front to a point near the rear of casing A, is then bent at right angle, and extends a short distance down, when it is again bent at right angle, and extends to rear of the heater. The space above partition *a* forms a water-tank, while the space below said partition is divided into a fire-box and ash-pit by a fire-grate, C. Grate C is formed of a coil of pipes, which open at one end through the vertical wall of partition *a* into the water space or tank, while at its opposite end it protrudes through the wall of the heater, and, by suitable couplings, is connected with a short vertical pipe, *b*, coupled at its upper end to a pipe, *c*, inserted through the heater, and opening into the interior thereof at a point above partition *a*. The heater is provided with fire and ash pit doors D D', suitably located. A smoke-stack, E, rests upon the lower horizontal extension of partition

a, and opens through said partition into the ash-pit. Smoke-stack E passes up through the water-space, and is suitably connected for the discharge of smoke, and is surrounded by water when the tank is filled.

The operation will be readily understood. The water-space is filled or partially filled, and the water passing therefrom fills the coil which forms the grate. A fire being then kindled on said grate, the water therein contained is heated, and a circulation is obtained, the heated water entering the lower end of the coil, and being discharged, after passing there- through, out of the upper end into the tank again. The smoke is carried through stack E, and said stack is gradually heated thereby, and by being surrounded by the water heated by passing through the grate-coil. A cock, F, may be tapped into the water-tank for withdrawing said water.

The course of the draft is indicated by arrows, and is as follows: After passing down through the grate, it then passes up through the smoke-stack.

What I claim is—

1. In a heater, the combination, with the shell A and smoke-stack E, of the partition *a*, bent twice at a right angle to form the water-chamber, fire-box, and ash-pit, and supporting one end of the grate C, substantially as described and shown.

2. In a heater, the combination, with the water-chamber and ash-pit formed by the partition *a*, bent twice at a right angle, of the smoke-stack E, passing through the deepest part of said chamber, and communicating with the ash-pit, and the grate C, composed of a coiled pipe communicating with the deepest part of the water-chamber, and again with the same above the fire-box, substantially as described and shown.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE WITTBOLD.

Witnesses:

M. J. CLAGETT,
LOUIS NOLTING.