(No Model.) 2 Sheets—Sheet 1.

H. RUPPEL.

GAS RADIATOR.

No. 497,460. Patented May 16, 1893.

Fig. 1

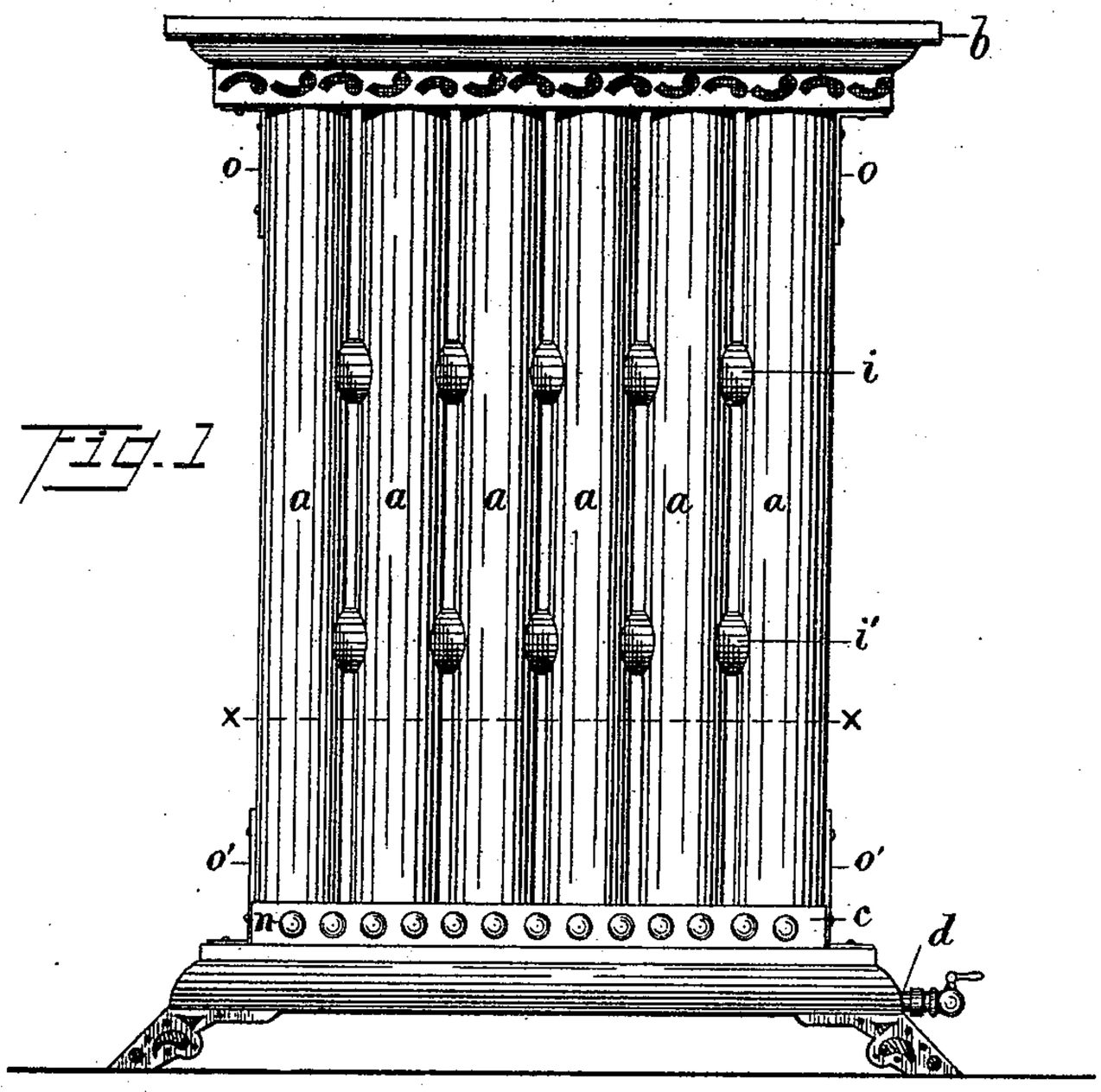
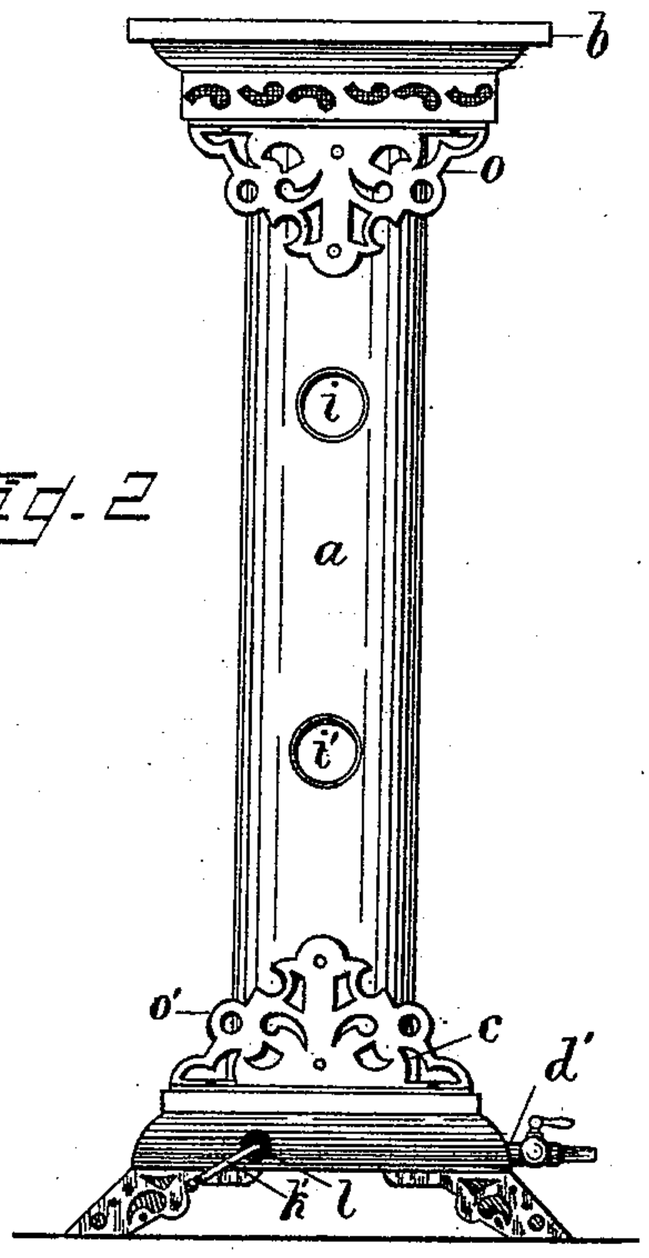


Fig. 2



Witnesses.
W. A. Biddle
L. F. Fisk.

Inventor.
H. Ruppel
By W. A. Burnaugh

(No Model.) 2 Sheets—Sheet 2.

H. RUPPEL.

GAS RADIATOR.

No. 497,460. Patented May 16, 1893.

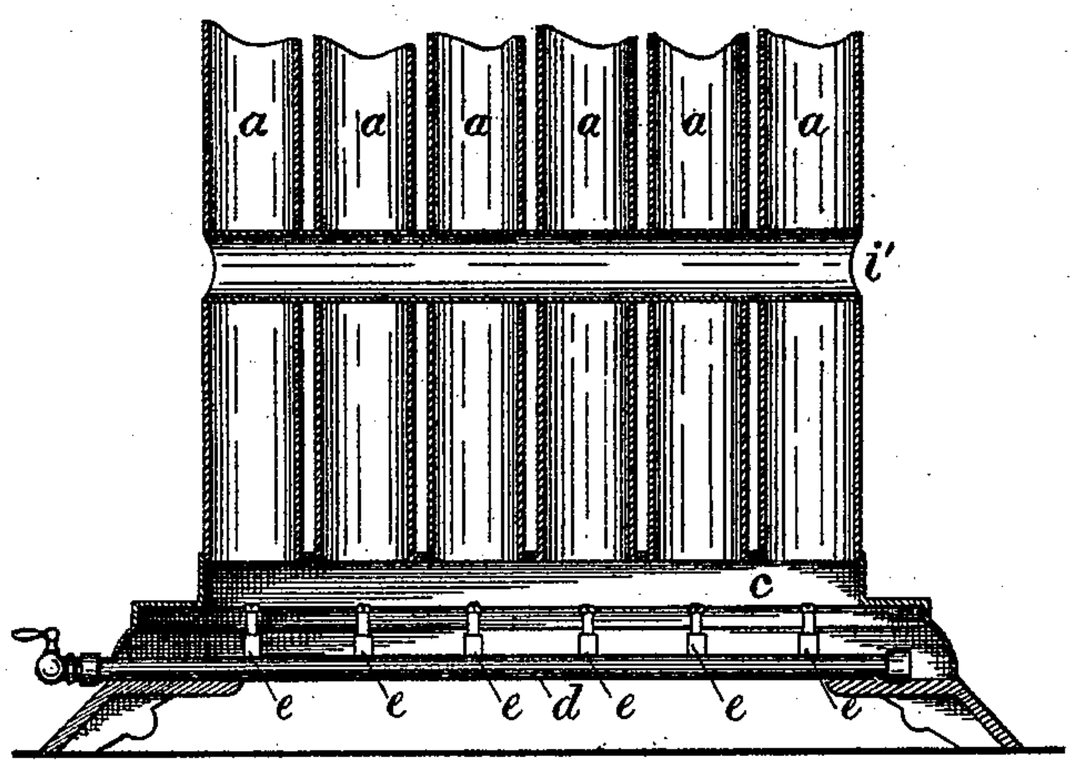


Fig. 3

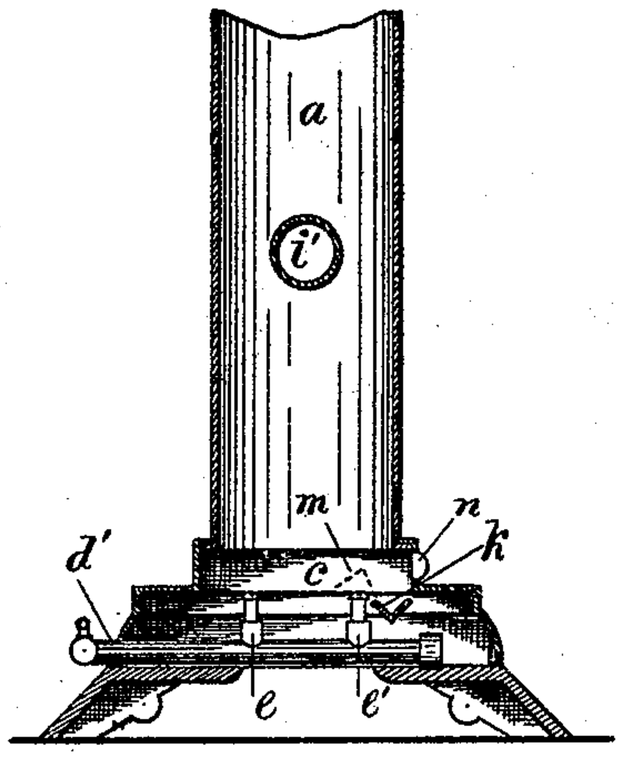


Fig. 4

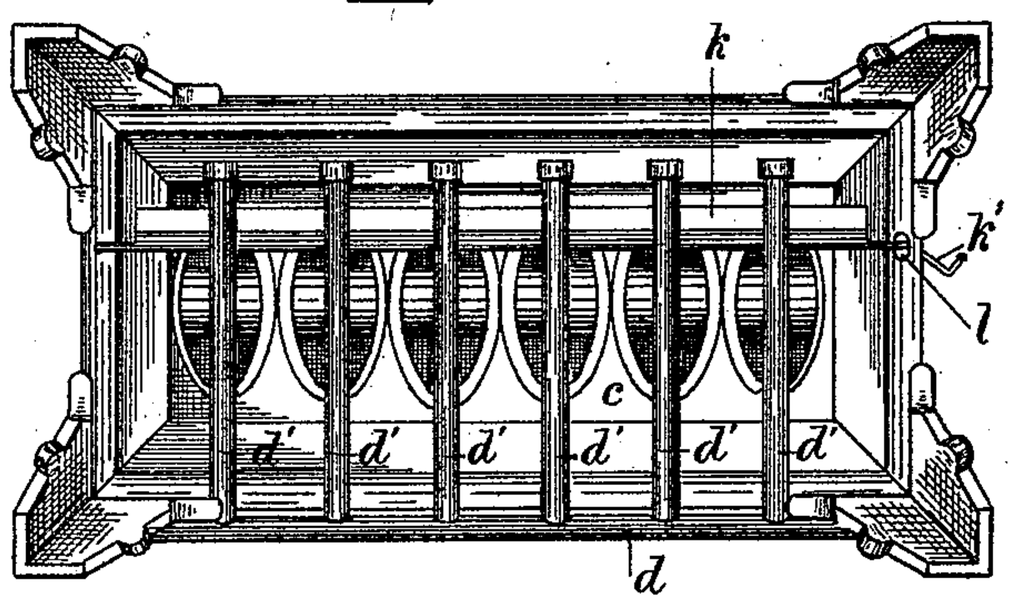


Fig. 5

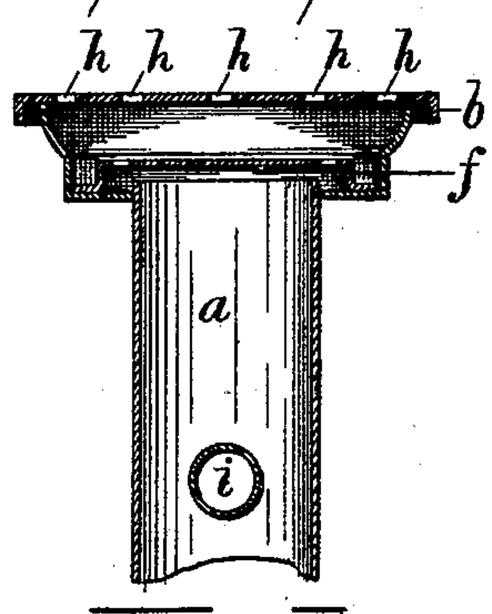


Fig. 7

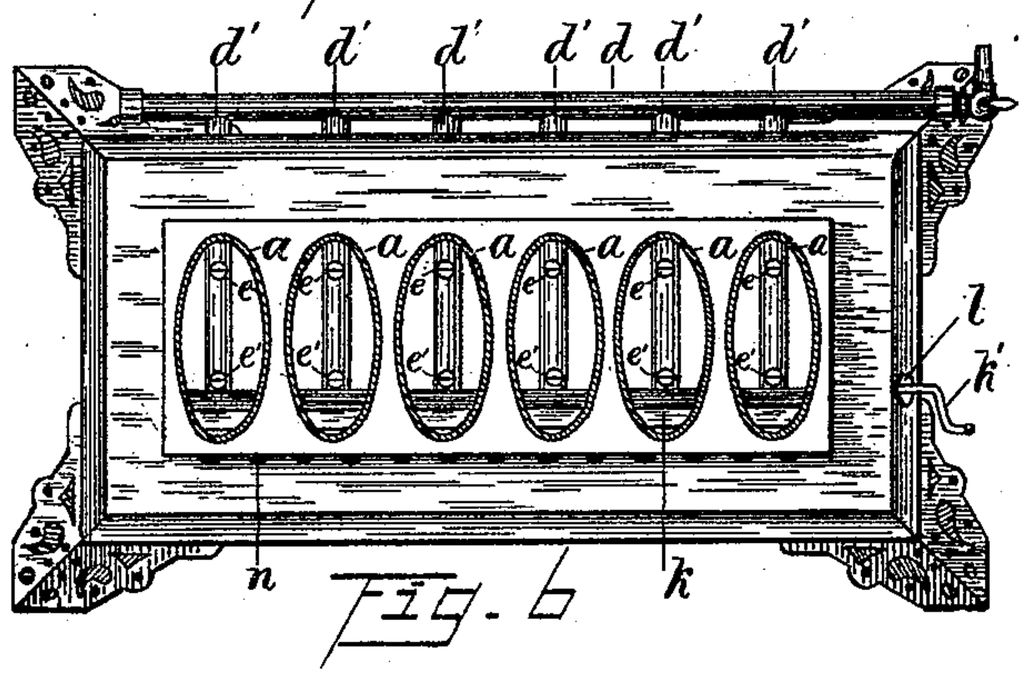


Fig. 6

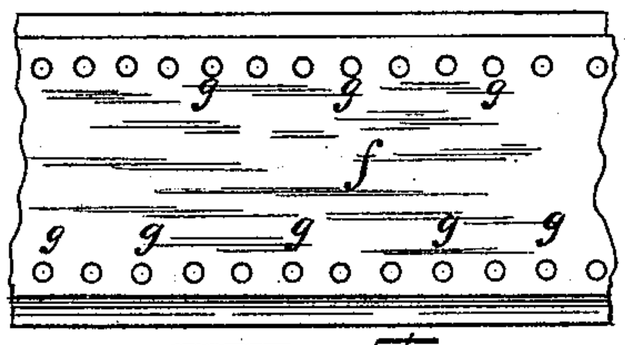


Fig. 8

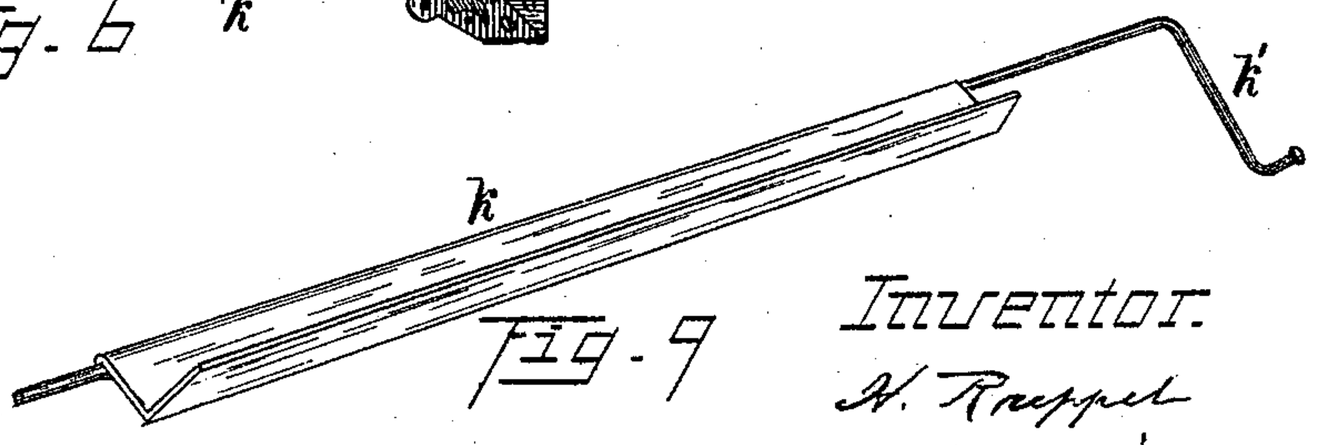


Fig. 9

Witnesses.
W. A. Biddle
L. L. Fish.

Inventor.
H. Ruppel
By W. H. Burridge Atty

UNITED STATES PATENT OFFICE.

HENRY RUPPEL, OF CLEVELAND, OHIO, ASSIGNOR TO THE DANGLER STOVE AND MANUFACTURING COMPANY, OF SAME PLACE.

GAS-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 497,460, dated May 16, 1893.

Application filed November 30, 1892. Serial No. 453,605. (No model.)

To all whom it may concern:

Be it known that I, HENRY RUPPEL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Gas-Radiators, of which the following is a full, clear, and complete description.

My invention relates to the construction of a heater or radiator provided with flues and gas jets, a means for readily lighting all the jets at the same time, and a spreader for diffusing the heat after it ascends through the flues. The object of the invention is to provide a light, easily handled radiator for heating by means of gas flames.

That the invention may be seen and fully understood by others, reference will be had to the following specification and annexed drawings forming a part thereof.

Figure 1 is a front elevation of my improved heater; Fig. 2 an end elevation; Fig. 3 a vertical section with the top broken away and showing the gas pipe and burners in elevation; Fig. 4 a vertical, sectional end view with the top broken away; Fig. 5 a view of the under side of the radiator; Fig. 6 a cross section on line *x. x.* Fig. 1; Fig. 7 a vertical sectional end view of the upper portion of the radiator showing the position of spreader. Fig. 8 is a plan view of the spreader detached, and Fig. 9 is an enlarged perspective view of the lighting device.

Like letters of reference designate similar parts in the drawings and specification.

Referring to the drawings, *a.* represents the flues or radiating tubes which are of light metal. The tubes are arranged in juxtaposition to each other as shown in Figs. 1. 3. 5 and 6. and are surmounted by a cap *b.* The lower ends of the tubes are in open communication with a mixing chamber *c.* A pipe *d.* extends along the rear exterior of the radiator and has branches *d'* extending therefrom beneath the mixing chamber *c.* and under each of the radiating tubes. The branch pipes *d'* are provided with burners *e. e'.* preferably two under each radiating tube, or the branch pipes and burners may be located intermediate of said tubes. A spreader *f* of essentially the shape shown in Fig. 8 is placed in the cap *b*, over the upper terminals of the tubes *a* but not in contact therewith, as shown in Fig. 7. The air passes into the mixing chamber from below, (the lower part of the radiator being open) becomes heated, passes up through the radiating tubes *a*, is diffused by the spreader *f*, and passes out through the openings *g.* in the spreader and the openings *h* in the cap *b*. One or more cross tubes *i. i'* extend through the radiating tubes *a.* laterally. These tubes *i i'* strengthen the radiator and also provide more radiating surface.

One of the most important features of my invention is the means for lighting the burners. A conduit *k* Figs. 4, 5 and 6 is pivoted below the mixing chamber, the crank *k'*, an integral part of said conduit extending out through a hole *l*, said conduit being pivoted in such a position relative to the burners *e'*, that by raising the crank *k'* the conduit will assume the position shown by dotted line *m* in Fig. 4, forming a continuous hood over all the burners *c'*. The gas coming through said burners from the pipe *d* and branches *d'* will follow under the hood, and consequently a light being applied from the exterior at the opening *l* will ignite the gas, the flame running from burner to burner, lighting the burners *c* at the same time owing to their close vicinity to the burners *c'*, thus all the burners are lighted simultaneously. The conduit *k* will drop to its normal position by its own weight, when released.

Glass "bulls' eyes" *n* of plain or colored glass are inserted in the front of the mixing chamber *c* for ornamentation and for showing the light.

The radiator is held firmly together by the brackets *o. o.* and *o'. o'.*

The herein described lighting device may be used to advantage in gas stoves in any place where it is difficult to reach the burners for lighting direct, without departing from the nature of my invention.

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

1. The burners *e* and *e'* below a mixing chamber, in combination with a lighting device consisting of a conduit, with a crank ex-

tending through the opening *l* in the casing, and pivoted laterally below said mixing chamber, whereby the lifting of said crank will cause one row of the burners to be hooded by said conduit, substantially as and for the purpose set forth.

2. The conduit *k* having a crank projecting through the opening *l* in the casing and pivoted below a mixing chamber, in combination with said mixing chamber, the pipe *d*, branch pipes *d'* provided with burners, and a series of flues or tubes for radiating heat, substantially as specified.

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

HENRY RUPPEL.

Witnesses:
A. E. GILBERT,
E. T. BUTLER.