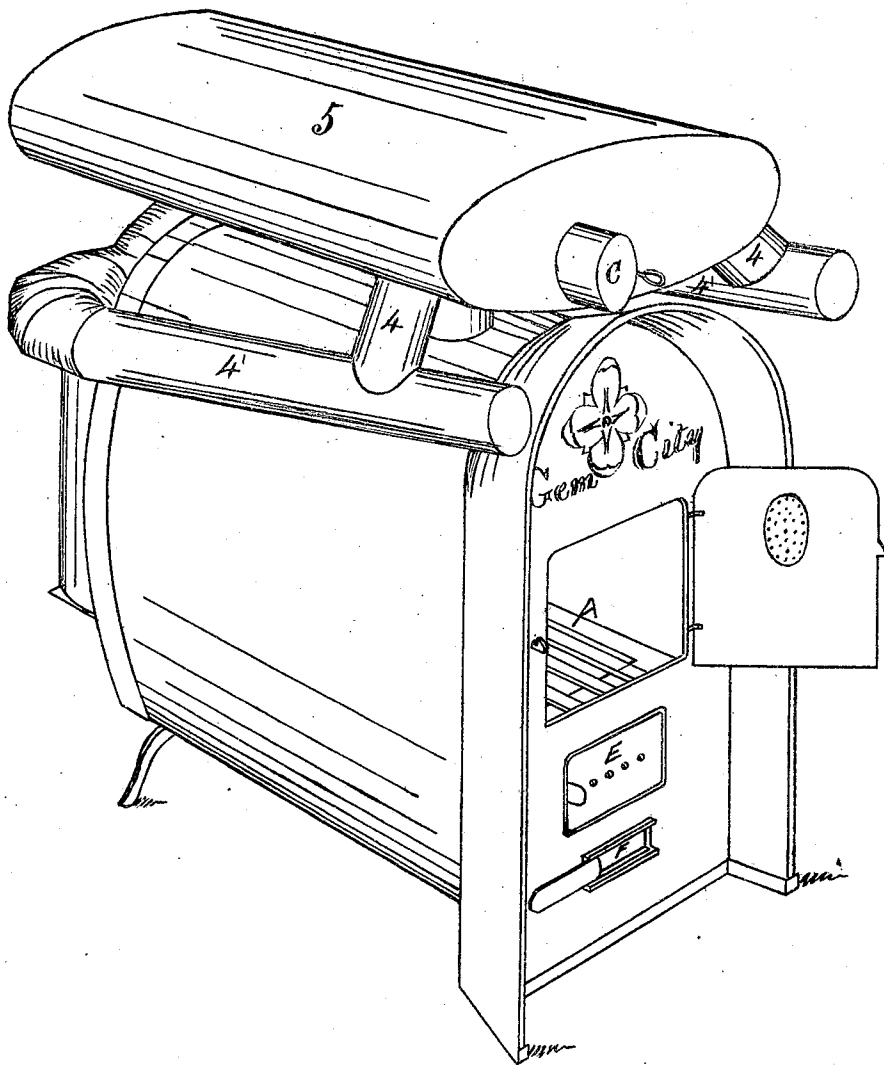


Henry Randalls No. 1
Improvement in Heating Furnaces

117814

Sheet 1. 3. Sheets
PATENTED AUG 8 1871



Perspective View

Witnesses
L E Emmons
John Hutton

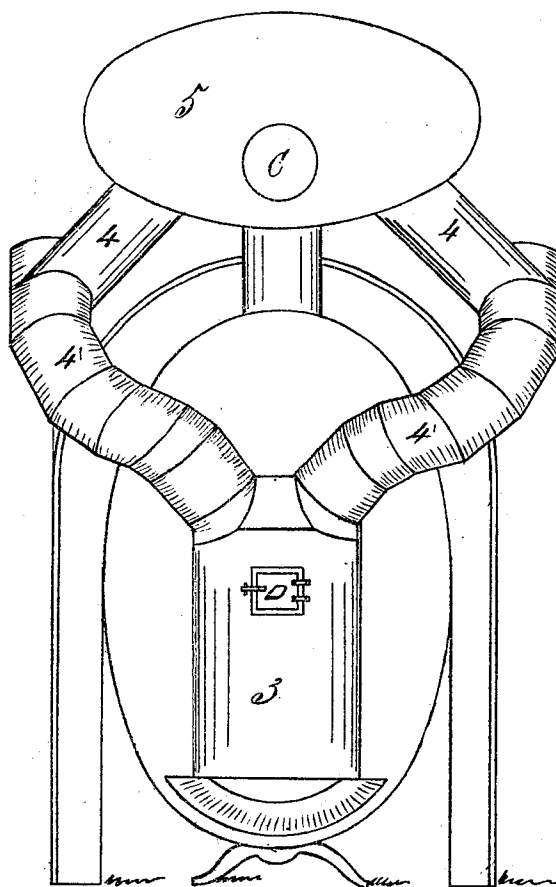
Inventor
Henry Randall

Henry Randall's
Improvement in Heating Furnaces

No. 2

117814

Sheet 2. 3 Sheets



Rear Elevation

Witnesses
L E Emmons
John Hutton

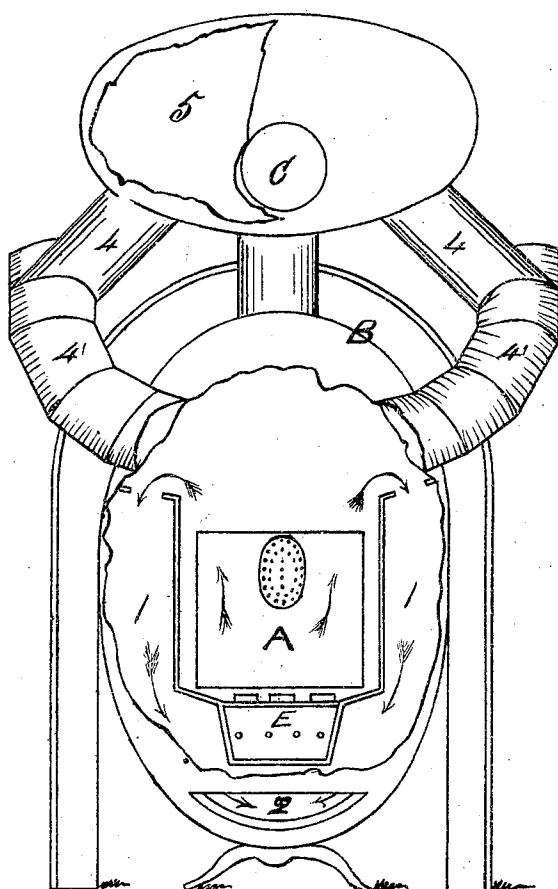
Inventor
Henry Randall

Henry Randall's
Improvement in Heating Furnaces

N^o 3

Sheet. 3. 3 Sheets

117814



Rear Section

Witnesses
L E Emmons
John Hutton

Inventor
Henry Randall

UNITED STATES PATENT OFFICE.

HENRY RANDALL, OF QUINCY, ILLINOIS.

IMPROVEMENT IN HOT-AIR FURNACES.

Specification forming part of Letters Patent No. 117,814, dated August 8, 1871.

To all whom it may concern:

Be it known that I, HENRY RANDALL, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Heating-Furnaces, of which the following is a specification:

My invention relates to the construction of a fire-place, being formed, as shown, in a cylinder, with bars and a pit below it. From the furnace the flame and smoke will follow the course of the arrows down flues between the fire-box and the body of the furnace, and into opening at rear of furnace up flue-shaft into side flue-pipes; thence to heating-drum immediately over body of furnace, which will have the effect of causing the whole body of the furnace, flue-pipes, and drum to become a heating-surface, the whole being inclosed in a case, either brick or in portable form.

No. 1 is a perspective view of my invention. No. 2 is a rear elevation of my heating-furnace, showing the construction of the smoke-shaft and smoke-flues into drum. No. 3 is a rear section of my heating-furnace, showing portion of the interior.

A is the fire-place to heat my furnace. B is the case inclosing my fire-place, which is heated by the flame and smoke following the course of the arrows down flues 1 and through aperture 2 into shaft 3, and continued from there through flue-pipes 4' and 4 into drum 5, thus making the whole surface a radiating heater. C is the smoke-pipe to carry smoke from drum into a chimney provided for that purpose. D is a door to clean out bottom of shaft, &c. E is the ash-pit door to let air in and take out ashes. F is a door to clean out accumulated dust and ashes between fire-box and body of furnace.

I claim as my invention—

The arrangement of the flue-pipes 4, in combination with the construction of flues 1 in the body of the furnace and the opening 2 in rear of furnace, with rear shaft 3, side flues 4', and drum 5, as a combination to generate heat, substantially as and for the purposes hereinbefore set forth.

HENRY RANDALL.

Witnesses:

L. E. EMMONS,
JOHN HUTTON.