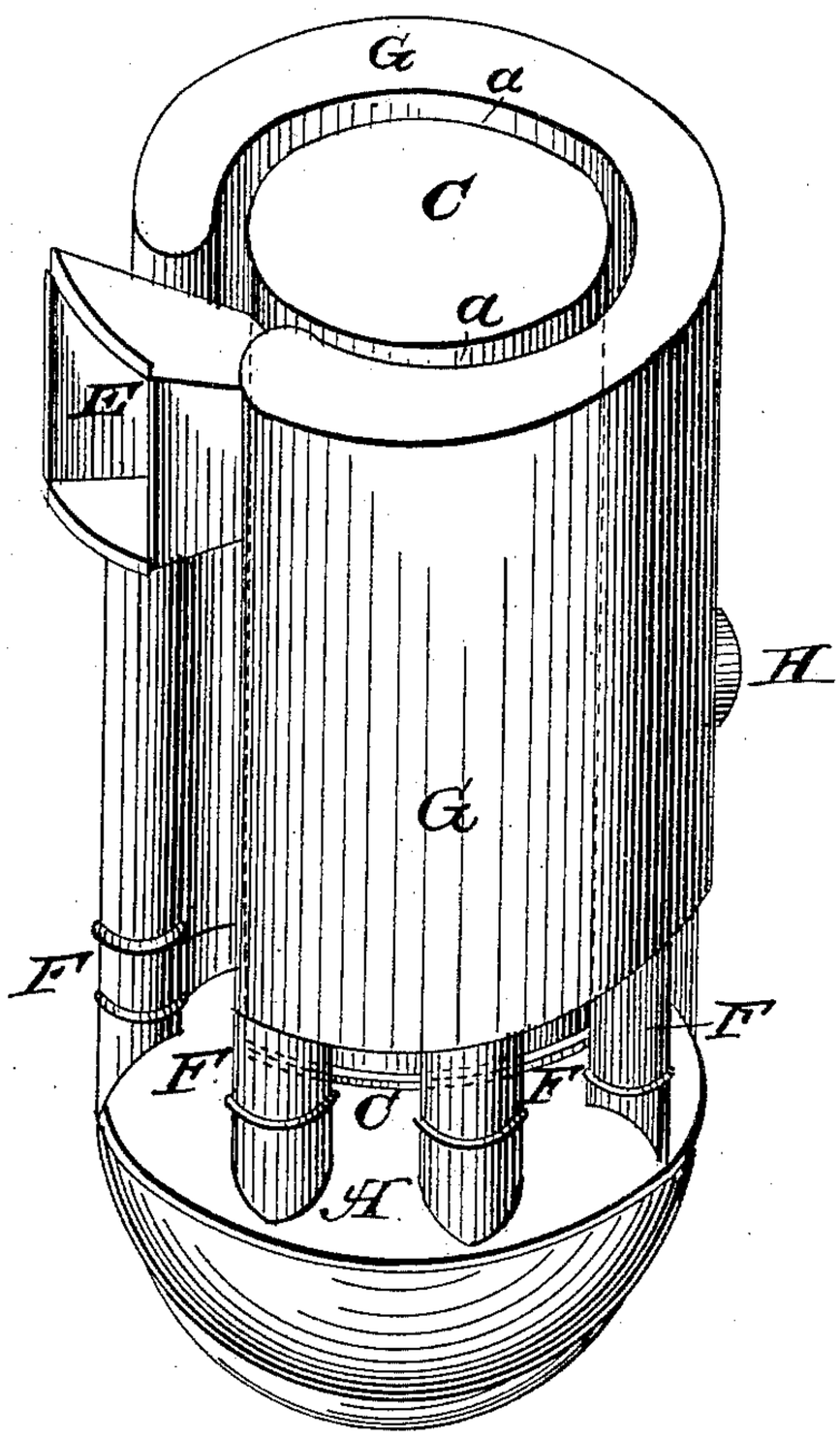
N. A. BOYNTON.

Magazine Hot Air Furnace.

No. 36,989. Patented Nov. 25, 1862.



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UNITED STATES PATENT OFFICE.

N. A. BOYNTON, OF NEW YORK, N. Y.

IMPROVEMENT IN HEATERS.

Specification forming part of Letters Patent No. **36,989**, dated November 25, 1862.

To all whom it may concern:

Be it known that I, N. A. BOYNTON, of the city, county, and State of New York, have invented a new and Improved Heater; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, which drawing is a perspective view of my improvement.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the fire-pot of the heater, stove, or furnace, which is made in spherical form, as shown.

C represents a cylinder or magazine, which is placed on the fire-pot A, and communicates with it at its lower end. This magazine forms the coal chamber or receptacle, and it is fed through the inclined feed-box E, which communicates with the magazine C. An aperture to feed the magazine may be made in the top thereof or at any other point when desired.

F represent a series of flues placed at equal distances apart and communicating at their lower ends directly with the upper part of the fire-pot A, as shown in the drawing.

The upper ends of the flues F communicate with a radiating-chamber, G, which is of annular form and nearly encompasses the upper part of the cylinder or magazine C, but is not in contact with it, an air-space, *a*, being allowed between G and C, as shown in the drawing.

The radiating-chamber G extends from the top of the magazine almost down to the top of the fire-pot, and thus a very large radiating-surface is obtained, with the advantage of a clear air-space between the magazine and radiator G from top to bottom of each. All the air which becomes heated by the radiation of the surfaces of magazine and radiator passes freely upward and out through the open space *a*. It will be observed also that the exterior of the radiator G also presents a large heating-surface, as the air comes in direct contact with both sides of the radiator throughout its entire length. The radiator may be made in the form of a complete circle, or its front part may be left open, as shown in the drawing.

H is the flue which conducts the products of combustion to the chimney. The fire is supplied with air through the box E, which is to be supplied with suitable doors and valves. An opening into the magazine above the fuel for the purpose of supplying air may be made at any other convenient point, and when the fire is well started and the quantity of admitted air is properly regulated all the combustible gases resulting from the burning of the fuel will be consumed.

As the air-draft through the magazine is downward, there will be no escape of gas when the magazine is opened for a fresh supply of fuel.

This heater may be inclosed within a metallic covering, so as to form a portable hot-air furnace; or it may be placed within a brick apartment, like the ordinary house-furnaces, or it may be made in the form of a common stove, and in either case it is to be properly mounted and provided with legs, doors, and such other fixtures and ornaments as are common to ordinary heaters.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The open air-space *a*, between the magazine C and the radiator G.

2. Having the radiating-chamber G made to extend from the top of the magazine nearly to the top of the fire-pot, in combination with the air-space *a*, as herein shown and described, so as to inclose or nearly inclose the magazine, but leaving an open space between the base of the radiator and the fire-pot for the entrance of air and its contact with the fire-pot, with room for the rise and discharge of the air through the space *a*, all as set forth.

3. The combination of the radiator G, made as above described, and the air-space *a*, with the magazine C, the fire-pot A, and the flues F, in the manner herein shown and described.

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