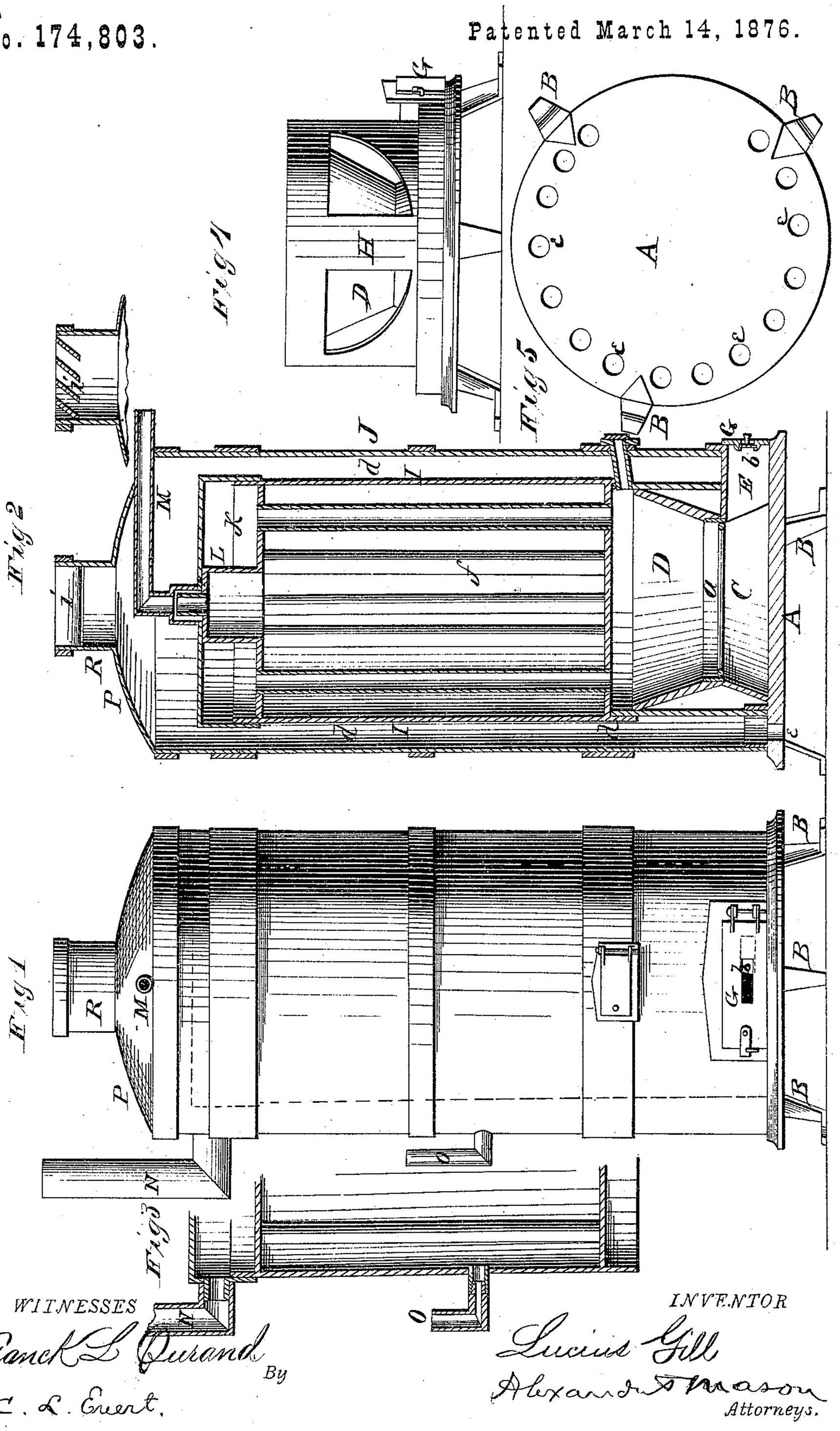
L. GILL.

HEATER.

No. 174,803. Patented March 14, 1876.



UNITED STATES PATENT OFFICE.

LUCIUS GILL, OF WATERTOWN, NEW YORK.

IMPROVEMENT IN HEATERS.

Specification forming part of Letters Patent No. **174,803**, dated March 14, 1876; application filed January 20, 1876.

To all whom it may concern:

Be it known that I, LUCIUS GILL, of Watertown, in the county of Jefferson and in the State of New York, have invented certain new and useful Improvements in Heaters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and general arrangement of a heating apparatus, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front elevation of my heating apparatus. Fig. 2 is a vertical section of the same. Fig. 3 is a detailed section of a part of the boiler. Fig. 4 is a side view of the base and fire-pot. Fig. 5 is a bottom view of the base.

A represents the base of my heater, supported upon suitable feet B, and having the ash-chamber C formed in the center thereof, and on the top of said ash-chamber is the fire-pot D, with grate *a*. E is the mouth of the ash-chamber, with door G, having suitable draft-slide or damper *b*. Surrounding the fire-pot D is an open cage, H, which is made fast to the base and fire-pot, and extends a little above the fire-pot to form a suitable support for the upright boiler I, placed thereon, and immediately over the fire-pot. The cage H thus not only forms a support for the boiler, but, being open, allows the air to circulate and come in contact with the outside of the fire-pot, so as to absorb the heat radiated therefrom. The base A extends beyond the cage H to form a support for the surrounding shell or jacket J, which extends a suitable distance above the boiler I, and forms an air-chamber, *d*, around the fire-pot and around and over the boiler, into which chamber air is admitted through a series of apertures, *e*, in the base A. The upright boiler I is provided with a series of vertical tubes, *f*, conducting the products of combustion upward into a chamber, K, on top of the boiler. In this chamber is the steam-dome L on the top of the boiler. M is the pipe for conducting the steam from the dome L to the radiators placed at any desired points in the building. N is the pipe for conducting the smoke from the chamber K to the chimney. O is the pipe conducting the water into the boiler. The top of the shell J is provided with a cap, P, having an opening with projecting collar R in the center. Within this collar are inclined bars I, as shown, forming a register for the escape of the heated air.

Suitable pipes are or may be connected with said collar R, to conduct the hot air to any or all parts of the building, and thus heat the same both by steam and hot air. The registers are to be so arranged that both the hot air and the heat from the steam-radiators will escape through the same openings into the room.

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

1. The open cage H, surrounding the fire-pot D, secured to the fire-pot and to the perforated base A, and extended above the fire-pot, in combination with the tubular boiler I, substantially as and for the purposes set forth.

2. The combination of the extended perforated base A, the ash-pit C, fire-box D, the open cage H, tubular boiler I, jacket J, forming air-chamber *d*, steam-dome L, chamber K, and the outlet-passages M N R, all constructed substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 16th day of December, 1875.

LUCIUS GILL. [L. S.]

Witnesses:

GEO. SMITH,

CLARK WITHERBY.