

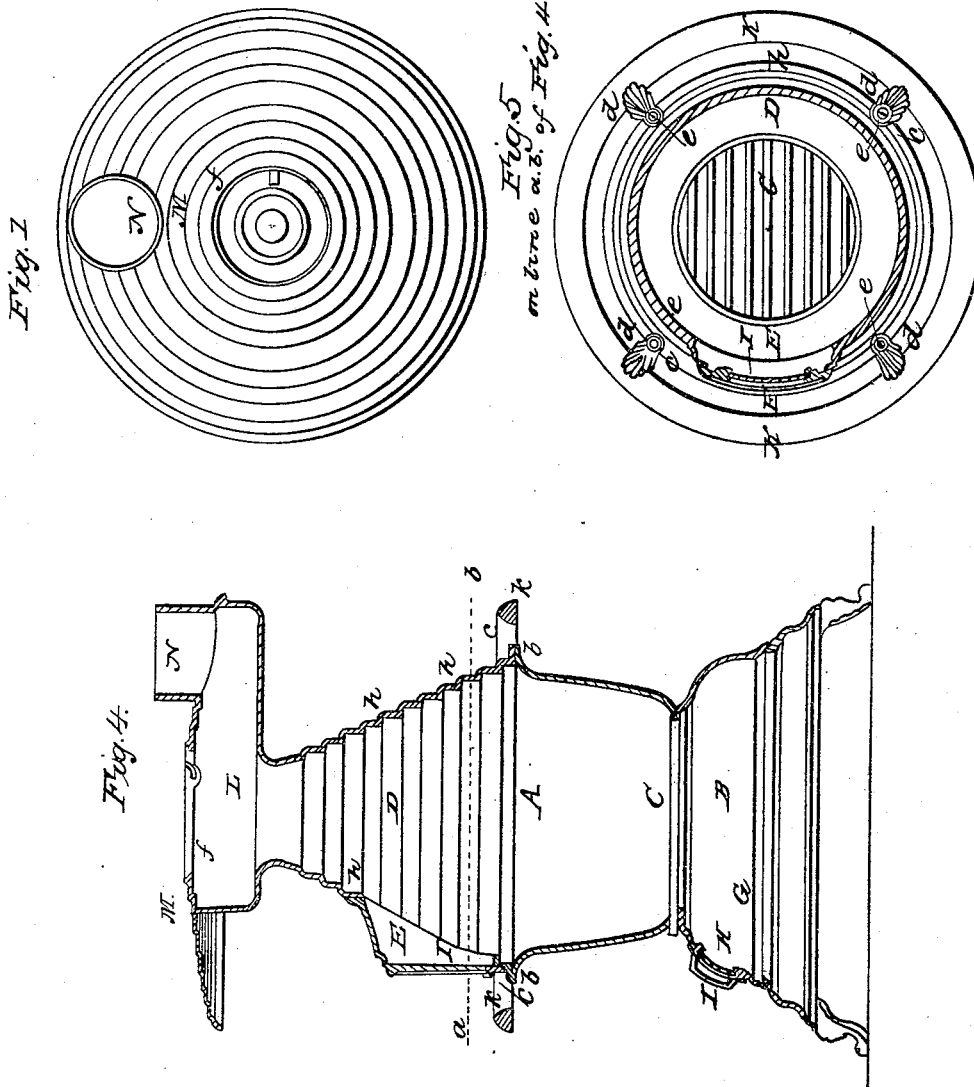
G. CHILSON.

2 Sheets—Sheet 1.

Coal Stove.

No. 51,424.

Patented Dec. 12, 1865.



Witnesses
Frederick Curtis
Geo. W. Martin

Inventor
Gardner Chilson
by his attorney
N. H. Eddy

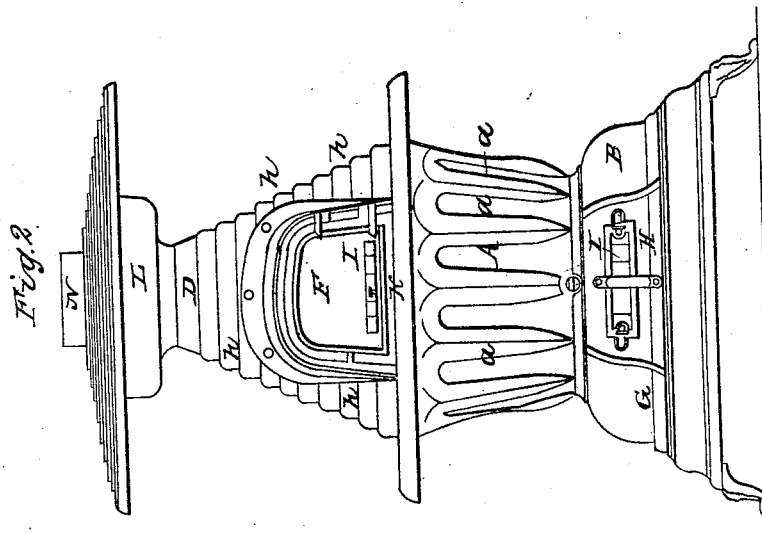
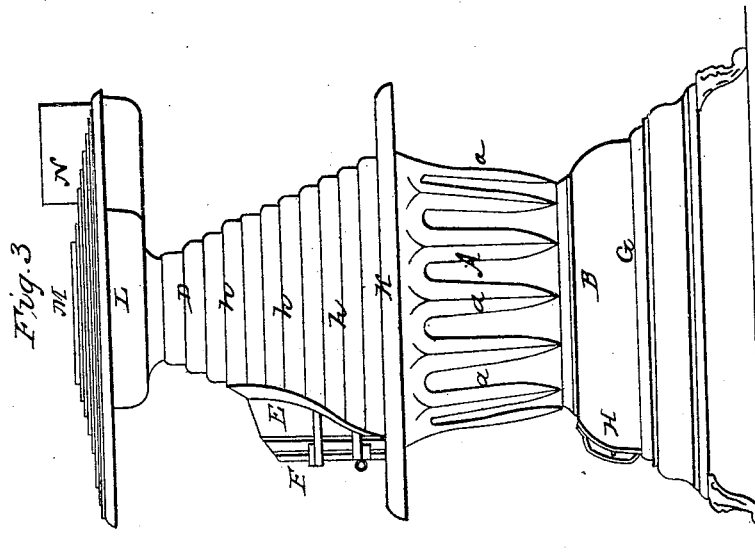
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UNITED STATES PATENT OFFICE.

GARDNER CHILSON, OF BOSTON, MASSACHUSETTS..

COAL-STOVE.

Specification forming part of Letters Patent No. **51,424**, dated December 12, 1865.

To all whom it may concern:

Be it known that I, GARDNER CHILSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Stove for Heating Apartments or Warming Railway-Carriages; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Fig. 3 a side elevation, and Fig. 4 a longitudinal section of it. Fig. 5 is a horizontal section taken through the dome.

My improved stove, like others in use, has its fire-place or fire-pot, A, its ash-chamber, B, a grate, C, and a conical dome, D, the latter surmounting the fire-pot, and being provided with a throat, E, for the passage of fuel into the fire-pot. The mouth of such throat is provided with a door, F. The mouth of the ash-chamber, which is in the base part, G, of the stove, is also furnished with a door or cover, H, there being a sliding air register or valve, I, in each of the said doors.

The fire-pot A is an inverted frustum, having on its exterior surface a series of lance-heads, *a a a*, in relief, they being arranged at equal distances apart around it, and serving not only to strengthen the pot, but to ornament it, as well as be useful in other respects.

At its upper edge the fire-pot is provided with an annular lip or flange, *b*, which is capped by a similar lip or flange, projecting from the bottom part of the dome D.

An annular fender or ring, K, surrounds the flanges, *c*, and is supported by a series of arms, *d d d d*, which project from the fender to and upon the top of the said flange. A screw-bolt, *e*, going down through each arm *d* and the two flanges *b c*, and having a nut screwed on its lower end, serves not only to confine the fender in place, but the dome to the fire-pot.

The said dome D is a conic frustum, and opens at its top into a smoke space or chamber, L, which is surmounted by a circular cap or platform, M, which projects beyond the dome, and has a diameter about equal to that of the fender. This platform has a pot-hole, *f*, arranged over the chamber L, and for the reception of a boiling-vessel. A smoke-escape flue or conduit, N, leads out of the chamber L, and up through the platform M, as seen in the drawings.

The fire-dome is made with a series of horizontal annular corrugations, *h h h*, formed as

shown in the drawings, the greater part of each corrugation having a vertical, or nearly vertical, surface, the object of which is to radiate heat horizontally, the lines of radiation being usually perpendicular to the radiating-surface. The upper or horizontal surface of each corrugation within the interior of the dome serves to check and retain the heated gases as they ascend from the fuel, and thus facilitates the abstraction of heat from them.

The platform M not only answers the purpose of a fender to keep a person from accidental contact with the fire-dome, but it will operate to interrupt the upward flowage of the air heated by the outer surface of the dome, and will cause it to be spread more or less laterally in order to disseminate the heat to good advantage in the lower parts of the room or apartment in which the stove may be.

The said platform also operates as a radiating-disk, as it will absorb heat from the boiling-chamber and radiate it to good advantage.

The annular fender K not only serves to prevent the dress of a lady or gentleman from coming in contact with the fire-pot, and being burned thereby, but it answers as a useful support for the feet of a person when he may be desirous of warming them.

When my stove is employed in a railway-carriage, it will be found to possess the elements of safety beyond most other kinds of stoves, for the platform M and the fender will not only serve to protect the dresses of passengers from contact with the dome and fire-pot of the stove, but in case the carriage should be thrown off the track or be brought into collision with another carriage or object, so as to displace or overthrow the stove, such platform and fender would be very likely to prevent the fire pot or dome from being thrown against any object or part of the car and burning or setting fire thereto.

1. The improved stove as made with the conical dome, the boiler-chamber or smoke-flue, and the projecting cap or platform, arranged together and with the fire-pot substantially as specified.

2. The stove as made with the annular fender, combined with the fire-pot, the dome, and the cap or platform, substantially as set forth.

3. The improved conical dome as made with annular corrugations, arranged as set forth.

Witnesses: GARDNER CHILSON.

R. H. EDDY,

B. J. F. CROGGINS.