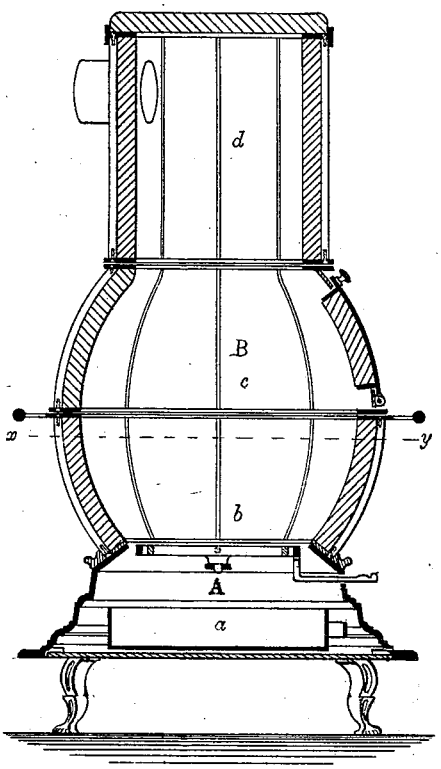
3 Sheets—Sheet 1.

T. GEMMELL.

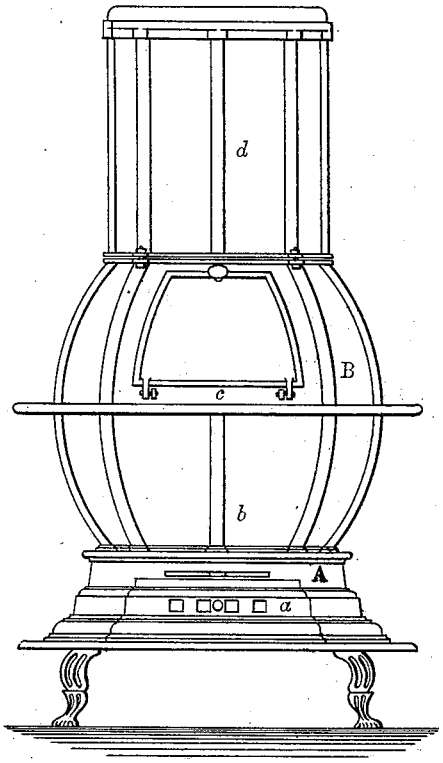
Heating-Stove.

No. 201,238. **Patented March 12, 1878.**

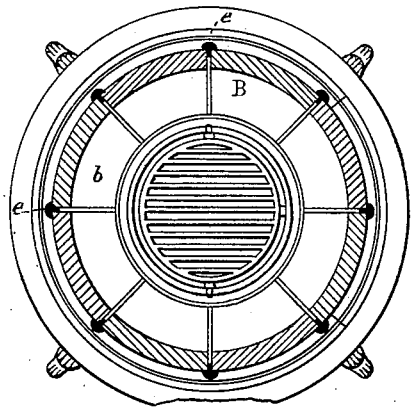
—FIG. I—



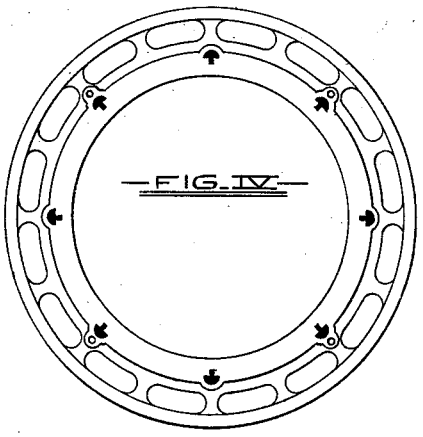
—FIG. II—



—FIG. III—



—FIG. IV—



—WITNESSES—

Wm. H. Towson

P. D. Dyer

—INVENTOR—

Thomas Gemmell

by Wm. T. Wood

Atty

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

3 Sheets—Sheet 2.

T. GEMMELL.

Heating-Stove.

No. 201,238. Patented March 12, 1878.

FIG. V

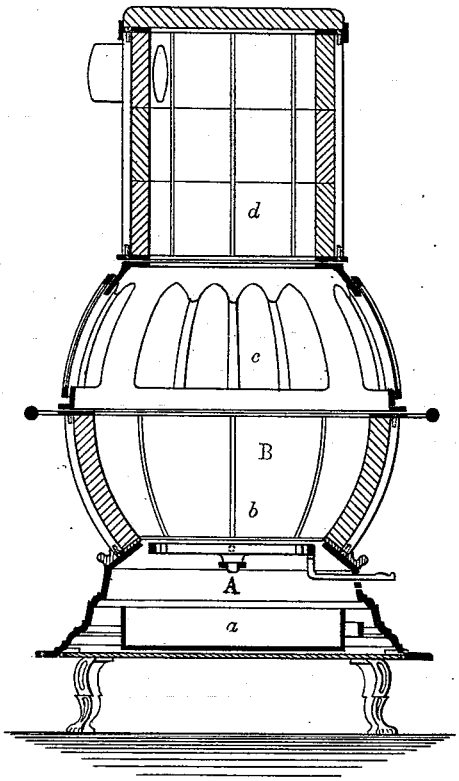


FIG. VI

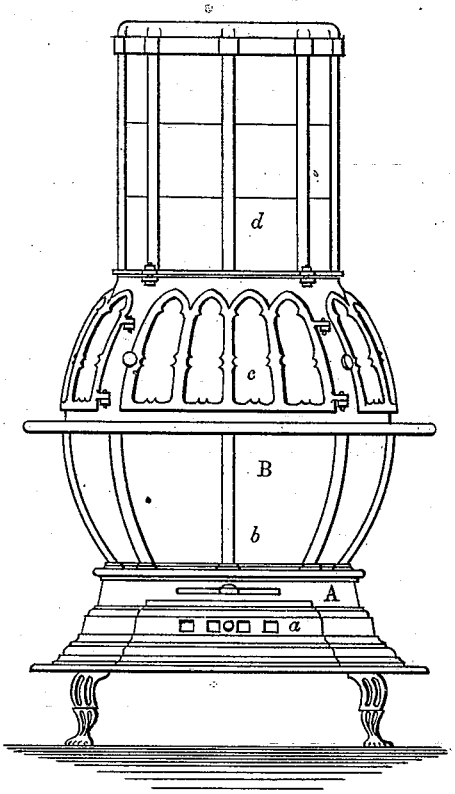
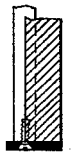


FIG. X



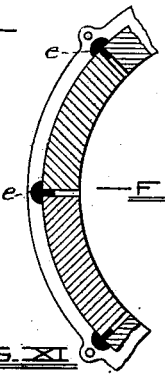
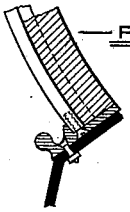


FIG. VII

FIG. VIII



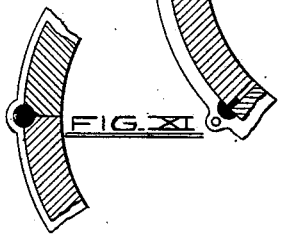


FIG. XI

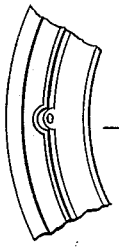


FIG. IX

WITNESSES.

Wm. W. Towson

P. D. Dyer

INVENTOR.

Thomas Gemmell

by Munn & Co

attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

3 Sheets—Sheet 3.

T. GEMMELL.

Heating-Stove.

No. 201,238. Patented March 12, 1878.

FIG. XII.

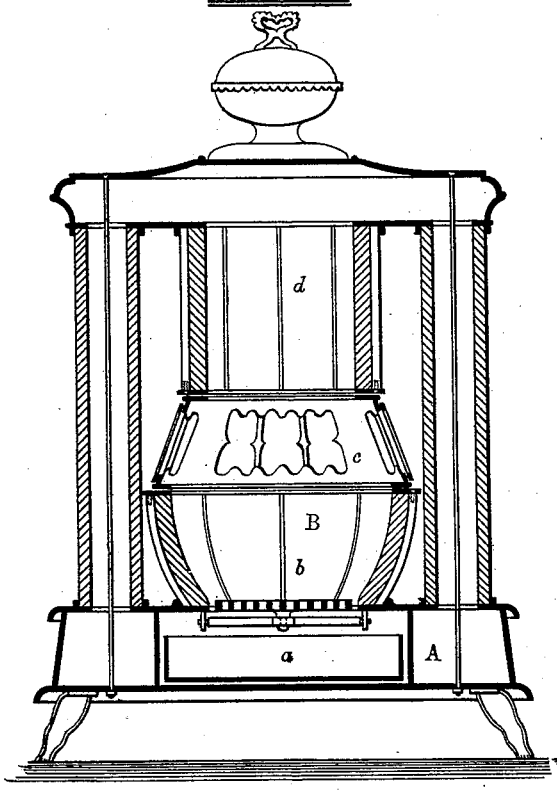


FIG. XIII.

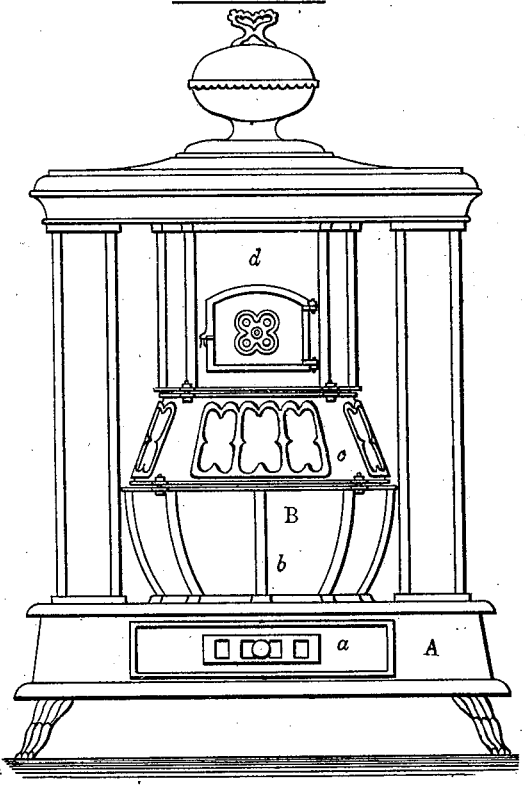
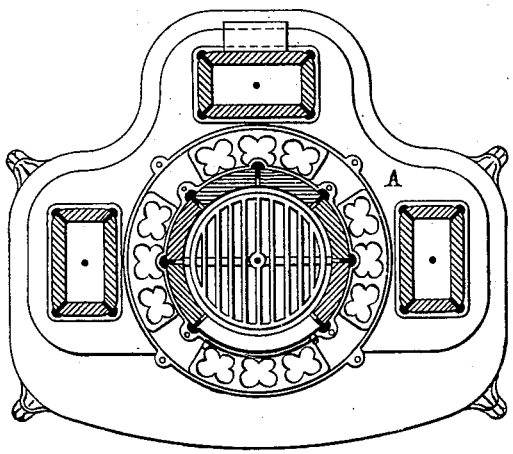


FIG. XIV.



WITNESSES.

Wm W. Towson

P. H. Dyer

INVENTOR.

Thomas Gemmell

by Wm. W. Howard

Atty.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

THOMAS GEMMELL, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **201,238**, dated March 12, 1878; application filed January 23, 1878.

To all whom it may concern:

Be it known that I, THOMAS GEMMELL, of the city of Baltimore and State of Maryland, have invented certain Improvements in Heating-Stoves, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The said invention consists in a novel construction of the stove body or casing, heating-chamber, and pipes, which are composed mainly of terra-cotta, fire-brick, soap-stone, or other like heat-retaining substance, whereby the same are complete in themselves, and may be either all combined together in the construction of a stove, or any one of the said parts may be applied to an ordinary metallic stove in place of the corresponding part or section thereof, in order to improve its heating qualities, and to facilitate the application to the stove of decorative art designs, to which the materials employed by me are adapted.

The said invention consists, further, in certain details of construction in the stove body or casing, heating-chamber, and pipes, as will hereinafter fully appear.

In the further description of the invention which follows, reference is made to the drawing, forming a part of this specification, and in which—

Figures 1 and 2 are, respectively, a vertical section and an elevation of a stove embodying the present invention. Fig. 3 is a sectional plan of the invention on the dotted line *x y*. Fig. 4 is a top view of a ring forming a part of the stove hereinafter more fully referred to. Figs. 5 and 6 are, respectively, a vertical section and an elevation of a stove of composite construction—that is to say, certain portions of the invention are applied to a part of an ordinary stove to form a complete structure. Figs. 7, 8, 9, 10, and 11 are views of portions of the stove on an enlarged scale. Figs. 12, 13, and 14 are, respectively, a vertical section, a front elevation, and a sectional plan of a stove made in accordance with the present invention, but differing slightly in construction from the stoves shown in preceding figures.

Similar letters of reference indicate similar parts in all the views.

A is the base of the stove, containing the ash-drawer *a*, and provided with the usual adjustable draft-apertures. The said base supports the stove body or casing B, which is divided into three sections—viz., the fire-pot *b*, gas-combustion chamber *c*, and the heating-chamber *d*. The said sections of the stove-body consist of blocks or slabs of terra-cotta or soap-stone, or of fire-brick, contained in and by a sectional frame-work of metallic rings and ribs or bars, secured together and to the base A. The ribs or bars before referred to, and which are represented in the drawing by *e*, are preferably formed as shown in Letters Patent No. 196,007, granted to me October 9, 1877—that is to say, with their outer edges flanged or beaded, so as to form shoulders by means of which the heat-retaining blocks are held in place. The said ribs or bars may, however, be constructed of cylindrical bars, curved where necessary, as shown in Figs. 10 and 11 of the drawing. The ring forming the upper part of the fire-pot *b*, and of which a plan view is shown in Fig. 4, extends considerably beyond the exterior of the fire-pot to form an ornamental finish to the stove.

The ribs and rings which hold the blocks together are united by screws, which are shown in several of the figures, but particularly in Figs. 8 and 10.

I am aware that blocks have been held together by rings and tie-rods, and that a radiating case has been made of sections thus tied together; but my invention involves the use of intervening ribs, to which the rings are secured, which ribs insure strength, accuracy of finish, and neatness. As in my invention the soap-stone or terra-cotta blocks are exposed to the direct action of the fire and products of combustion, it becomes necessary to unite them more firmly than the blocks of an outer casing to the stove.

In Figs. 5 and 6 a fire-pot and heating-chamber constructed in accordance with the present invention are shown as applied to a mica-lighted gas-combustion chamber of an ordinary stove, by which means a pleasing illuminative effect is produced without materially

reducing the heat-retaining properties of the stove. In some cases a heat-retaining heating-chamber may be applied to an ordinary stove by merely substituting it for the metallic one. This manner of substitution may be employed in a large variety of existing stoves with beneficial results as to their heat-retaining properties.

In Figs. 12, 13, and 14 a stove is shown in which the gases and products of combustion may be forced to pass indirectly to the stove-pipe. With this view the upper part of the stove and the base thereof are connected by means of heating pipes or columns, which pipes or columns, to increase their heat-retaining properties, are covered or cased with terra-cotta, or other substance having similar heat-retaining properties.

The stoves shown herein are supplied with the usual feed-doors and smoke-pipes, and with the various dampers and other devices ordinarily employed to regulate the draft and control the consumption of fuel.

I do not claim an outer casing of a stove made in sections of soap-stone which are not exposed to the immediate action of fire, the several sections employed in the construction of my improved stove being in actual contact with the fuel and products of combustion.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

A heating-stove formed of independent and portable sections, each of which is constructed of blocks of terra-cotta or similar substance, embraced by metallic ribs, and upper and lower metallic rings secured to said ribs, substantially as specified.

In testimony whereof I have hereunto subscribed my name this 9th day of January, in the year of our Lord 1878.

THOMAS GEMMELL.

Witnesses:
WM. T. HOWARD,
THOS. MURDOCH.