

D. STUART & L. BRIDGE.
Heating-Stove.

No. 197,680.

Patented Nov. 27, 1877.

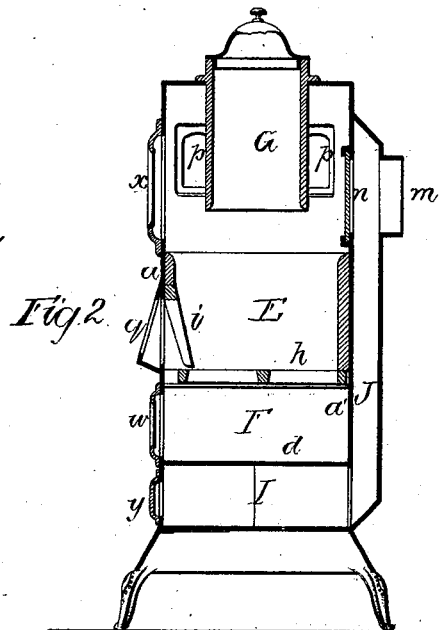
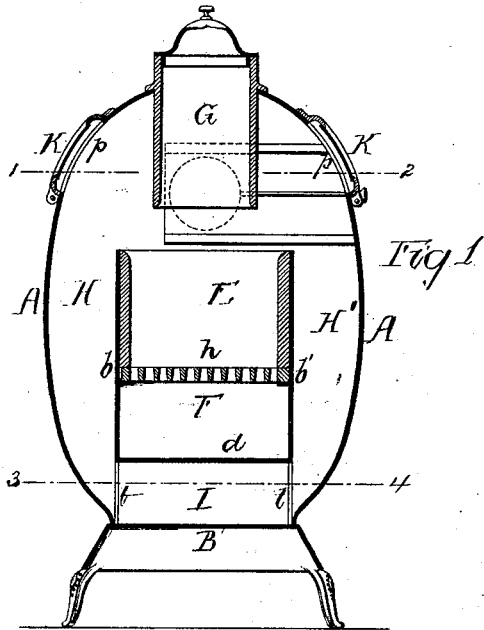


Fig 3

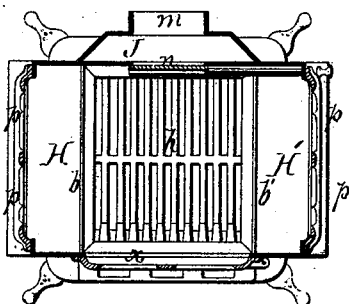
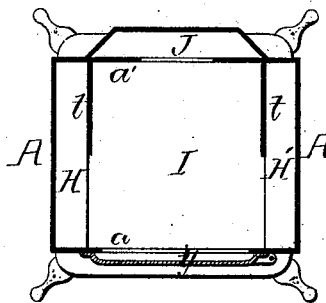


Fig 4



Witnesses
Harry A Crawford,
Harry Smith

Inventors
David Stuart
and
Lewis Bridge
by their Attorneys
Howson and n

UNITED STATES PATENT OFFICE.

DAVID STUART AND LEWIS BRIDGE, OF PHILADELPHIA, PA., ASSIGNORS
TO DAVID STUART AND RICHARD PETERSON, OF SAME PLACE.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 197,680, dated November 27, 1877; application filed June 9, 1877.

To all whom it may concern:

Be it known that we, DAVID STUART and LEWIS BRIDGE, both of Philadelphia, Pennsylvania, have invented a new useful Improvement in Heating-Stoves, of which the following is a specification:

The object of my invention is to make a cheap heating-stove, by combining a casing, having flat front and rear of oval shape with sides conforming thereto, with a fire-place, grate, and ash-chamber extending from front to rear of the casing, all as described hereinafter.

In the accompanying drawing, Figure 1 is a vertical section of our improved stove; Fig. 2, a transverse vertical section; Fig. 3, a sectional plan on the line 1 2; and Fig. 4, a sectional plan on the line 3 4.

The outer shell A of the stove is made oval in shape, and has opposite flat sides *a* and *a'*. Within this outer shell is contained a casing composed of opposite plates *b b'* and bottom plate *d*, all of which plates extend from the front *a* to the back *a'* of the outer shell. This inner casing is separated by a grate, *h*, into the quadrangular fire-pot E, which is lined with refractory tiles, as usual, and the ash-chamber F.

Immediately above the fire-pot is the magazine G, which passes through and is secured to the top of the outer shell.

Two diving-flues, H H', are formed by and between the outer shell and inner casing, and these flues unite with the flue I between the bottom plate *d* of the said casing and the base B, the products of combustion from the diving-flues passing through this bottom flue, thence through the vertical flue J, formed by a projection on the back plate of the stove, and thence through the exit-opening *m*, directly opposite which, and in the back plate *a'*, is an opening furnished with a damper, *n*, an opening through which the products of combustion may take a direct course to the said exit-opening.

In the opposite edges of the outer shell are doorways *p*, which are furnished with hinged doors or frames K, having mica-panels or windows, the openings being in such a position that the flames, as they pass from the

fire-pot to the diving-flues, at which point they are most brilliant, will be seen through the said windows.

The communications of the diving-flues with the bottom flue are not as wide as the outer shell of the stove, otherwise the products of combustion would take too direct a course to the flue J, to prevent which we arrange at the junctures of the said flues deflectors *t t*, Fig. 4, which serve to direct the products of combustion outward toward the front of the stove, where they are most needed before they pass into the bottom flue I.

These deflectors *t t* are, in the present instance, continuations of the opposite side plates *b b'* of the inner casing.

We prefer to arrange a grate, *i*, Fig. 2, at the front of the fire-pot, and to make an opening in the front plate *a* of the stove directly opposite this grate, a door or frame, *q*, with mica windows, being fitted to the opening, so as to give the stove as cheerful an aspect in front as it has at the opposite edges.

There are also in the front plate of the stove doors *x*, *w*, and *y*, the first adapted to an opening through which access can be had to the combustion-chamber, the second for the ash-drawer opening, and the third for the opening through which access may be had to the bottom flue I.

It will be seen, without further description, that although the stove is simple and inexpensive as regards construction, it presents an extended heating-surface.

We claim as our invention—

A stove in which a casing, consisting of a flat front and rear of oval shape, or shape approximating thereto, and sides conforming therewith, a fire-place, E, grate *h*, and ash-chamber F contained within the casing, and extending from front to rear of the same, are combined, all substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

DAVID STUART.
LEWIS BRIDGE.

Witnesses:

HERMANN MOESSNER,
HARRY SMITH.