

E. W. GRAM & J. NELSON.

Stove.

No. 159,919.

Patented Feb. 16, 1875.

Fig. 1.

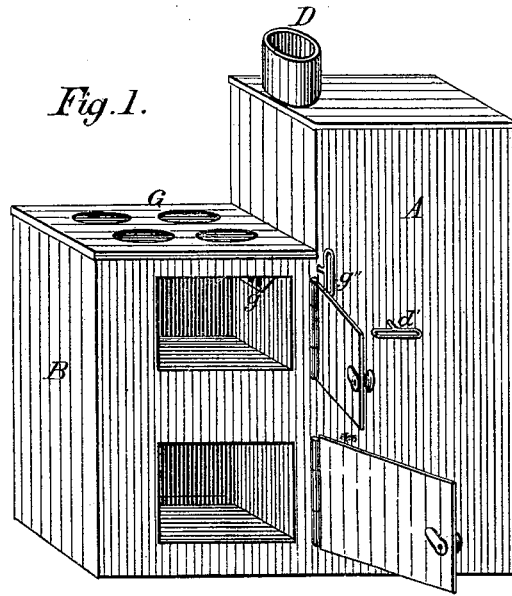


Fig. 2.

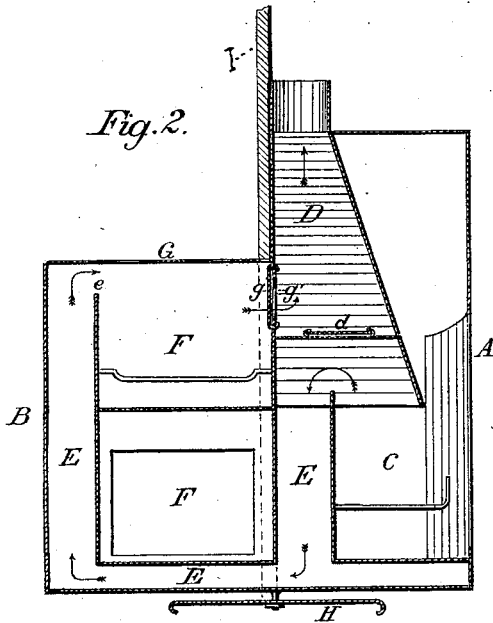
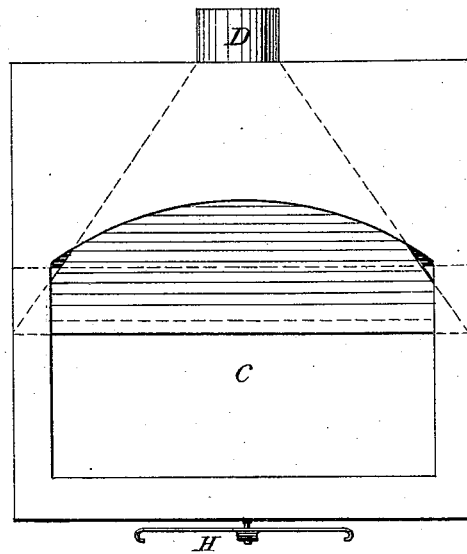


Fig. 3.



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UNITED STATES PATENT OFFICE.

ERNST W. GRAM AND JOHN NELSON, OF JONESTOWN, MISSISSIPPI.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. 159,919, dated February 16, 1875; application filed January 13, 1875.

To all whom it may concern:

Be it known that we, ERNST W. GRAM and JOHN NELSON, of Jonestown, in the county of Coahoma and State of Mississippi, have invented certain new and useful Improvements in Stoves for Household Purposes; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective of our device. Fig. 2 is a central section from front to rear. Fig. 3 is a front view, showing the heater.

By this invention it is designed to embody in a single device a heating and a cooking stove wherein by one fire the double functions of two independent stoves shall be accomplished; and to this end it consists more particularly in attaching to and combining with each other a heating-stove or fire-place and a cooking-stove, so that the two shall constitute one integral device, and in so placing said device in the partition between two rooms as that the said heater shall be in one apartment and the cooking-stove in another, and the two adapted to act in unison and by one fire, or to be used separately, each from the other, so that each may act independently of the other, all as will be now more clearly and distinctly set forth.

In the drawings, A denotes the heater; B, the cooking-stove; C, the fire-place of the heater. In present illustration we have shown this as an open fire-place; but it is evident that it will make no material or essential difference whether a fire-place or close stove is used. The said heater, then, is constructed and used in any usual and ordinary manner, so far as its general constitution and detail are concerned. D is the exit-pipe, communicating freely with the said heater, and having a damper, *d*, actuated by damper-handle *d'* in any usual manner. The direct draft of the heater is checked and controlled by said damper. When open the smoke and products of combustion find their direct vent up the pipe D; but when closed they descend the flue E, and follow this and its continuations around the back, bottom, and front of the oven F, and at the opening *e*

in its front wall escape into chamber G. The top of this chamber, at G', is provided with pot-holes in the usual manner. The apertures *g* afford ready opportunity for the escape of said products of combustion into the exit-pipe D. The said apertures *g* are regulated by damper *g'*, having handle *g''*. Access may be had readily to the oven F, through door F', in the usual manner; so, also, the space or chamber G is provided with a door, G'', by means of which its interior can be reached at any time at will. This said chamber can also at any time be used as a fire-chamber, when so desired.

This device, as above made, is designed and adapted to be placed in a partition, I, between two apartments, so as that into one of said apartments (the kitchen, for instance) the cook-stove shall extend, while into the other (the sitting-room, for instance) the heating-stove may extend. When only a very small and quick fire is needed, as in summer, it can be kindled in fire-chamber G of the cooking-stove. When a fire is kept constantly alive in the heater C there will ordinarily be sufficient heat from the escaping products of combustion on their way to the exit-pipe for all ordinary and usual purposes of domestic cooking in or upon cook-stove B; especially so in cold weather, when it is necessary to have a large fire in the heater for the usual office for which it is designed.

As stoves are now made and used, it has been found that a very large per cent. of the heating power of the fuel is lost and wasted by its escape from the stove before it has expended its force; so that our device, in utilizing what has heretofore been the spent or useless products of combustion, affords the means of producing a large economy of fuel; nor is this the only advantage presented by use of present device. It only requires, under any ordinary condition, the use of one fire. This, whether more or less fuel is consumed, is a great gain—saving in the dust and dirt created, in the annoyance and worry of attending to the fire, and preventing danger or exposure from fire.

We can make our device, so far as mere form is concerned, in any convenient shape; and we do not limit ourselves to the mere form

now adapted for illustration of our invention. We can also provide for the revolving of our stove, by so balancing and pivoting it on a platform or support, H, that it can be readily moved round horizontally, so as to present in one apartment either the cook or the heating side or portion of the stove. The details for carrying out this would be merely mechanical, and do not now need to be any more particularly described.

Having thus at some length and with particularity described this invention, its use will be readily comprehended.

When the fire is built in fire-chamber C the heater A can be used merely to warm the apartment into which it protrudes, by having the damper *d* opened. When it is desired to divert the products of combustion into the cooking-stove this damper is closed, and the said products of combustion circulate through passage E and chamber F, as above described, and escape into exit-pipe D.

The heat imparted to the oven is sufficient for baking purposes, and likewise the vessels in the pot-holes in the top plate are sufficiently warmed for all usual purposes.

The two parts of our device can at any time be used separately and independently of each other, by arranging the damper so that the products of combustion from the grate in C shall escape directly into the exit-pipe, and likewise so arranging that the fire, which may be built in chamber G, shall have its vent directly into the same exit, as above set forth.

Having thus described our said invention, what we consider new, and wish to secure by Letters Patent, is—

The heater A and cook-stove B, having a common exit-pipe, D, and adapted to be used separately or together, substantially as herein described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

ERNST W. GRAM.
JOHN NELSON.

Witnesses:

J. L. ALCORN,
A. O'NEAL.