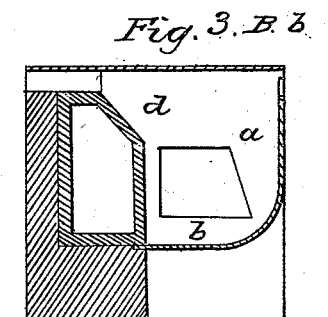
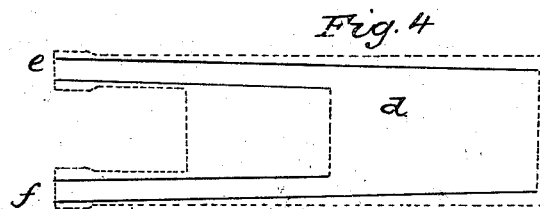
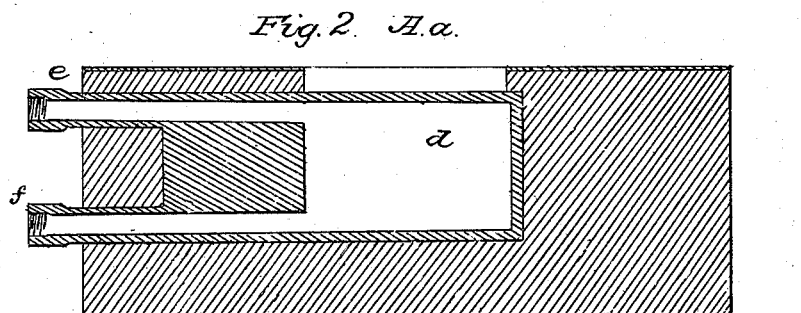
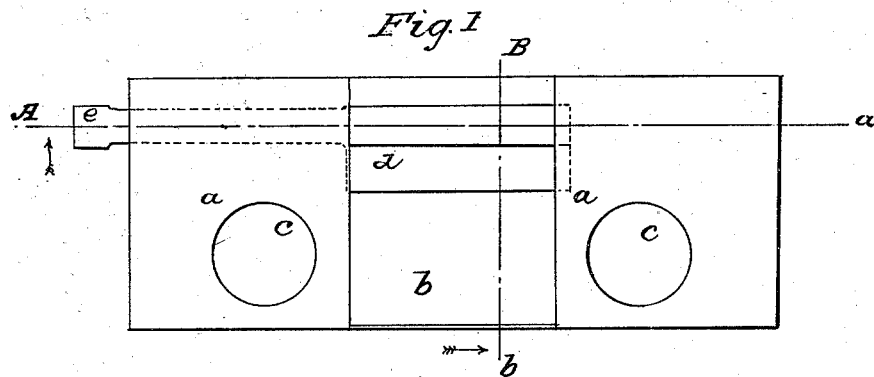


H. H. & F. H. STIMPSON.
Water Back of Cooking Ranges.

No. 7,401.

Patented May 28, 1850.



UNITED STATES PATENT OFFICE.

H. H. STIMPSON AND F. H. STIMPSON, OF BOSTON, MASSACHUSETTS.

WATER-BACK FOR COOKING-RANGES.

Specification of Letters Patent No. 7,401, dated May 28, 1850.

To all whom it may concern:

Be it known that we, HERBERT H. STIMPSON and FREDERICK H. STIMPSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in the Water-Backs of Cooking-Ranges, and that the following is a full, clear, and exact description of the principle or character which distinguishes our invention from all other things before known and of the method of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of our improved water back and connections as applied to a range; and Figs. 2, and 3 vertical sections taken at the lines (A, *a*.) and (B, *b*) of Fig. 1.

The same letters indicate like parts in all the figures.

The object of our improvements is so to construct the water-back of ranges as to avoid the difficulty now attendant upon necessary repairs of the pipes and their connections with the back itself, owing to the intervening brick-work, and also to construct them in such a manner as to avoid the choking up of the pipes from sediment deposited in the back and pipes from the water.

Our invention consists in providing a means of preventing the pipes and back from choking with sediment and insuring a ready flow of the water throughout, by casting the pipes into the hollow back, each with a convergence toward the other, when the inside of the top and bottom of the hollow back converge with the same angle, and coincide respectively with the induction and eduction pipes, whereby air is prevented from collecting in the hollow back over the water and producing the snapping noise so often heard in such backs, and whereby, also, a ready flow of the water is secured.

In the accompanying drawings (*a*) represents a cooking range of the ordinary construction with fire place (*b*) and boiler holes (*c*). The hollow back (*d*) forms as usual the back of the fire chamber. The induction and eduction pipes (*e*) and (*f*) are cast in one piece with the back (*d*), by which the coupling of them with the main water pipes are brought outside of the brick work of

the range, and when repairs of them are necessary, they can be accomplished without removing the brick work.

The water is admitted to the hollow back by means of any ordinary way cock through the induction pipe (*e*) and, because the line of this pipe and the line of the inside of the top of the hollow back are coincident and form a very acute angle with a horizontal line (such, for instance, as the outside of the bottom of the box,) the water will flow toward and fill first the farther end of the hollow back by which air is prevented from accumulating there and producing the cracking noise so often heard in such backs.

The line of the inside of the bottom of the water back forms a very acute angle with a horizontal line, and also with the line of the inside of the top of the back, in order that the water may have a tendency to flow toward the near end of the box and back, through the eduction pipe (*f*) carrying with it the sediment which may have been deposited at the bottom, which may be removed by opening the valves in both pipes and permitting the water to flow freely through. The relative position of the lines of the hollow back are shown clearly in Fig. 4 which is a distorted view thereof, the dotted lines being parallel.

We are aware that water backs have been constructed in various forms—as, for instance, they have been made perfectly rectangular inside and outside, and with the induction and eduction pipes horizontal and parallel to each other; but this arrangement is objectionable on account of the very defects which are remedied by our improvements, viz: the current is not sufficient to remove the sediment, and, as the hollow back cannot be always full of water, air will find an entrance and the cracking noise, before referred to, be produced; but never, as we believe have the pipes been cast in one piece with the hollow back. Therefore,

What we claim as our invention and desire to secure by Letters Patent is—

1. Casting the induction and eduction pipes of the hollow back of cooking ranges each with a convergence towards the other, when the lines of the inside of the top and bottom of the hollow back converge with

the same angle and coincide respectively with the lines of the induction and eduction pipes, for the purpose and in the manner described.

- 5 2. We also claim constructing the hollow back itself with the lines of the inside of the top and bottom converging toward each other for the purpose of preventing the ac-

cumulation of air and securing a ready flow of water, as described.

H. H. STIMPSON.
FRED. H. STIMPSON.

Witnesses:

JAMES D. HALL,
ASA MAYO.