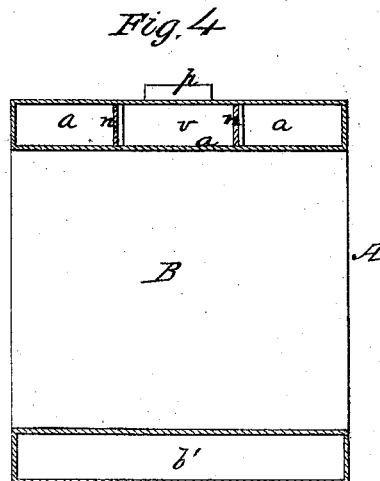
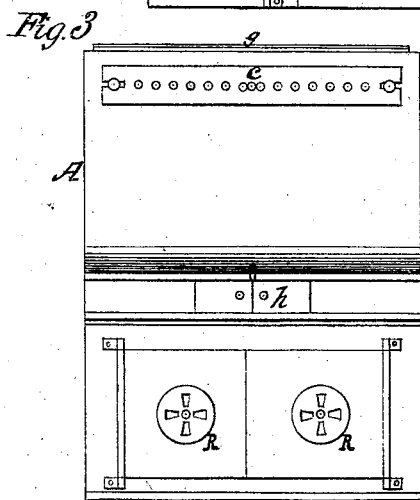
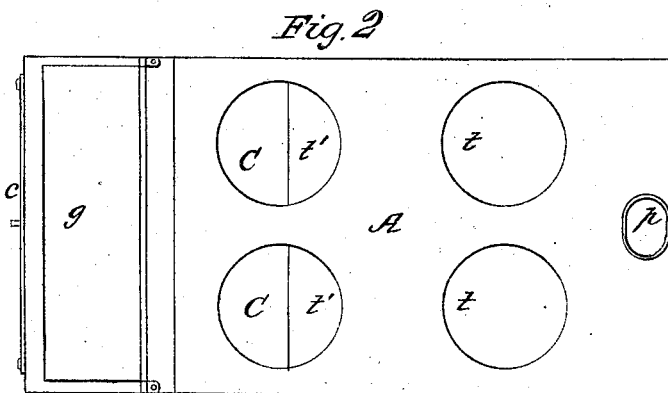
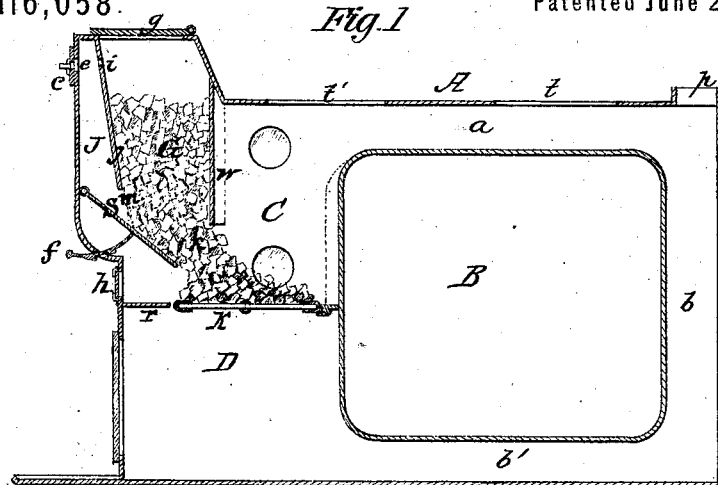


W. J. HOXWORTH & S. H. LA RUE.

Improvement in Cooking Stoves.

No. 116,058.

Patented June 20, 1871.



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UNITED STATES PATENT OFFICE.

WILLIAM JENKINS HOXWORTH AND SILAS HOFFMAN LA RUE, OF ALLENTOWN, PENNSYLVANIA.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 116,058, dated June 20, 1871.

To all whom it may concern:

Be it known that we, WILLIAM JENKINS HOXWORTH and SILAS HOFFMAN LA RUE, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain Improvements relating to Cook-Stoves; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a section through the improved stove taken longitudinally and vertically and centrally. Fig. 2 is a top view of the stove. Fig. 3 is a front view of the same. Fig. 4 is a section taken vertically and transversely through the oven and horizontal flues.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates particularly to cook-stoves, and is intended to practically carry out in such stoves the principle set forth in the schedule annexed to Letters Patent granted to SILAS HOFFMAN LA RUE on the 26th of July, 1870, reissued November 8, 1870.

The nature of our invention consists: First, in the combination, with the fire-chamber of a cook-stove, of a fuel-magazine, when arranged to one side of the center of said fire-chamber, and provided with a descending air-passage leading into it at a point between its upper and lower ends. Second, in an adjustable hinged plate, in combination with a fuel-magazine which is constructed with a descending air-chamber on one side, whereby the lower end of the magazine can be enlarged or contracted, or, when desired, completely closed.

The following description of our invention will enable others skilled in the art to understand it.

In the accompanying drawing we have represented our improvements applied to a cook-stove having a single oven, B, inclosed between two horizontal flues, *a b'*, and a vertical back flue, *b*, with the well-known partitions *n n* and valve *v* for regulating the direction of the products of combustion from the fire-chamber C to the exit-pipe *p*. But it will be obvious from the following description that our improvements are equally applicable to stoves or ranges having several ovens. Under this petition we do not lay claim to a fuel-magazine

stove wherein air is admitted into the fuel-magazine above its lower end, so as to obtain partial combustion of the fuel therein, as this feature is fully explained in the Letters Patent to which we have above referred; neither do we claim, broadly, the combination of a fuel-magazine with a cook-stove, as this is well known. G represents the fuel-magazine, part of which extends above the plane of the top plate of the stove and part extends down into the fire-chamber C nearly to the grate K. This magazine is formed in front by a vertical wall, *w*, which may have its surfaces that are exposed to the direction of the fire covered with fire-brick. Behind is a wall, *j*, which, with part of the front wall of the stove, forms an air-passage, J. The two sides or ends of this magazine are formed by the side walls of the stove. The wall *w* may be vertical, but we prefer to have the wall *j* inclined a little, as shown in Fig. 1. This latter wall *j* does not extend as far down as the wall *w*, and below it is arranged a plate, S, which is hinged to the front wall of the stove and inclined toward the fire-chamber C, thus forming a continuation of the wall *j* and affording a chute for directing the fuel forward upon the center of the grate K, as shown in Fig. 1. Between the inclined plate S and the lower end of the wall *j* is a space, *m*, which is the lower termination of the descending passage J. Near the upper end of the air-passage J openings *e* are made through the front wall of the stove, which can be completely or partially closed by means of a slide, *c*. Opposite the openings *e* a number of small gas-vents, I, is made through the wall *j* for allowing the escape into passage J, and thence into the combustion-chamber, of any gas which may accumulate in the space above the fuel in the magazine. By means of the openings *e* and their register-slide *c* air in proper quantities can be admitted into passage J, from which it will be drawn into the lower part of the magazine and thence into the combustion-chamber by the common draught of the stove. The upper end of the magazine is provided with a tightly-fitting cover, *g*, which should exclude air as far as practicable. Fuel can be supplied to the magazine by raising this cover *g*; or, if desired, fuel may be supplied to the combustion-chamber through the front pot-holes *t t'*,

The inclined plate S is adjustable, and is provided with a toothed arm, *f*, which passes through a hole made through the front plate of the stove, and will sustain the plate S in different planes. By means of the plate S and its arm *f* the lower end of the magazine can be enlarged or contracted at pleasure; and when it is desired to clean the grate *k* the said plate S can be adjusted so as to prevent the descent of coal from the magazine, while the coal on the grate can be tilted into the ash-pit D below. Below the plate S is a shelf, *r*, which is in the same plane with the grate *k*, and just above this shelf *r* openings are made through the front wall of the stove and provided with slides *h*. The grate is constructed with its bars running in a direction from before backward, and this grate is pivoted, so that it can be tilted forward when it is desired to empty or clean it. The opening, which is provided with slides *h*, is so arranged with reference to the grate that a poker can be introduced through this hole and conveniently used to clear the grate of cinders and partially-burned coal. Another object of this opening will be presently explained. When heat is required at the top of the stove air is allowed to enter through openings *e*, *h*, and R and pass through the fuel on the grate. In this case the valve *v* will be partly or entirely open, and the products of combustion will pass over the oven through the flue *a*. For baking or roasting the heated products are taken below the oven, when the registers R R will be closed.

It will be seen from the above description

that the fire is not checked while being replenished with fuel. The smoke and gas are consumed and the stove-flues kept comparatively free from soot. The grate is readily cleaned of cinders by raking them from its upper side, during which operation the coal in the magazine is prevented from descending, but afterward is let down in a state of combustion. There is great economy in fuel, owing in part to the free supply of heated air above and below the grate, and also to the fact that the fuel is more or less coked in the lower part of the magazine and the gases therefrom conducted through the incandescent fuel on the grate. If desirable, windows of mica may be inserted through the side walls of the stove at the end of the fire-chamber C, above and below the grate, for exposing to view the interior thereof.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The fuel-magazine G, arranged on one side of the center of the fire-chamber C, and provided with a passage, J, leading into it at a point above its lower end, substantially as described.

2. The adjustable inclined plate S, arranged at the lower end of the fuel-magazine G, and adapted to operate substantially as described.

WILLIAM JENKINS HOXWORTH.

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Witnesses:

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