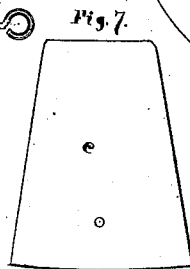
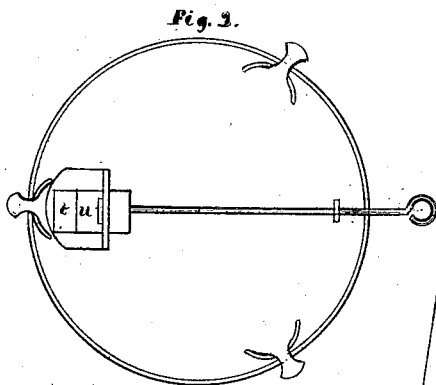
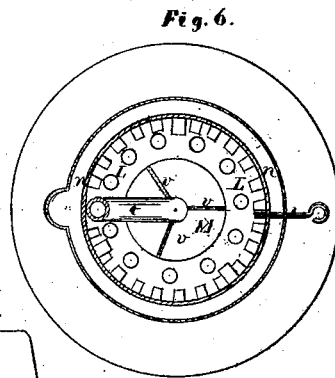
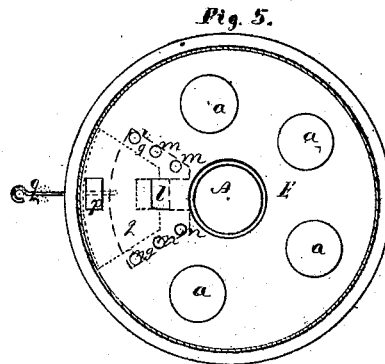
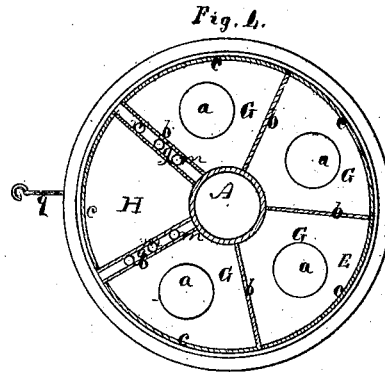
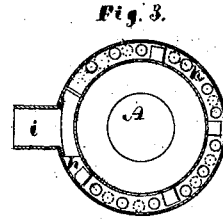
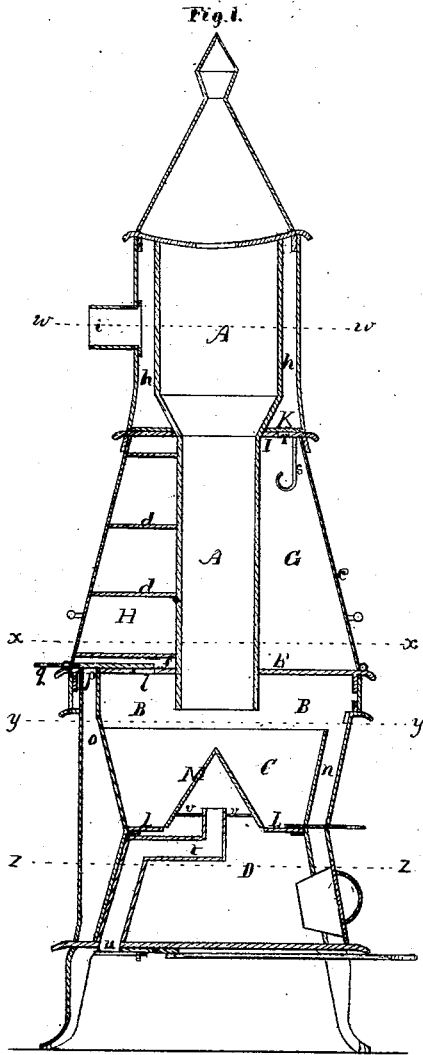


S. SPOOR.
Magazine Stove.

No. 111,485.

Patented Jan. 31, 1871.



Witnesses,
D. J. Brown
Chas. A. Hartness

Stephen Spoor,
By his attorney,
J. A. Brown

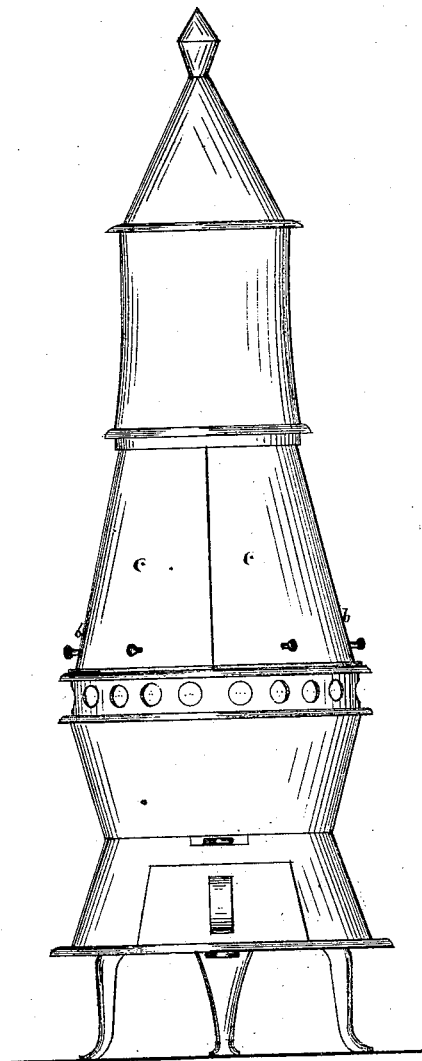
S. SPOOR.
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2 Sheets—Sheet 2.

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Fig. 8.



Witnesses,
D. J. Brown
C. M. Jean

Stephen Spoor,
In his atty.,
J. A. Brown.

United States Patent Office.

STEPHEN SPOOR, OF PHELPS, NEW YORK.

Letters Patent No. 111,485, dated January 31, 1871.

IMPROVEMENT IN BASE-BURNING STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, STEPHEN SPOOR, of Phelps, in the county of Ontario and State of New York, have invented Improvements in Base-Burning Heating-Stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a central vertical section of a base-burning heating-stove, provided with my improvements.

Figure 2, a view of the bottom thereof.

Figure 3, a horizontal section of the same in a plane indicated by the line *w w*, fig. 1, looking downward.

Figure 4, a horizontal section, in a plane indicated by the line *x x*, fig. 1, looking downward.

Figure 5, a horizontal section in a plane indicated by the line *y y*, fig. 1, looking upward.

Figure 6, a horizontal section in a plane indicated by the line *z z*, fig. 1, looking upward.

Figure 7, a front view of a part detached.

Figure 8, a front elevation of the stove.

Like letters designate corresponding parts in all of the figures.

Let A represent the magazine or reservoir;

B, the combustion-chamber;

C, the fire-pot; and

D, the ash-chamber of a base-burning heating-stove.

Around the lower part of the magazine A, and immediately over the combustion-chamber B, is a division-plate, E, covering the entire diameter of the stove at that height, and provided with a set of holes, *a a*, for admitting boilers and other cooking-utensils, as in a cooking-stove. These boiler or cooking-holes are located at regular intervals around the magazine, and open upward respectively into spaces G G, which are separated one from another by vertical radial partitions *b b*, and are inclosed by removable covers *c c*, as shown, or by doors arranged in any suitable manner. These covers or doors conform with the outer contour of the stove, and together, when in place, form the outer case of that part of the stove, entirely inclosing and concealing all of the cooking arrangements inside, so as to remove every appearance thereof. But when in the act of cooking one or more of the covers may be removed, as required.

The spaces G G may serve as well for small ovens as for mere cooking recesses. But the rear space H is constructed and arranged especially for an oven, to be provided with shelves or grates *d d*, like ordinary cooking-stove ovens. Beneath this oven there is no boiler-hole; but there is under it a flue, *f*, and at its sides, by the adjacent partitions *b b*, there are vertical flues *g g*, which convey the products of combustion upward into an annular space, *h*, reaching around the

magazine A, above the cooking-spaces and ovens G G and H, from which annular space the draught has its exit into the smoke-pipe at *i*. Thus the oven H has at all times a continual circulation of heat around it sufficient to make it effective for baking whenever there is any considerable activity of combustion going on in the stove.

The passage of the draught from the combustion-chamber B into the flues *f* and *g g* is either direct or indirect—direct through a valve-aperture, *l*, into the flue *f*, and through apertures *m m* directly into the side flues *g g*, all these apertures being through the plate E; and indirectly, first downward into an annular space, *n*, around the fire-pot C and ash-chamber D, and thence into the lower end of a flue, *o*, at the back side of the stove, and upward therein into the flue *f*, through an aperture, *p*, in the plate E.

The apertures *m m* might be dispensed with. The draught may be allowed to pass out directly through the valve-apertures *l m m* when desirable, as when kindling a fire in the stove, or when it is not desired to use the full heating power of the stove. At other times the draught may pass down through the annular space *n* in the base of the stove, thereby conveying and radiating the heat close down to the floor, and increasing the radiating surface.

The exit of the draught by either way is determined and regulated by a sliding valve or damper, *q*, which is shoved in to close the apertures *l m m* and open the aperture *p*, as shown by heavy dotted lines in fig. 5; and is drawn out to open the apertures *l m m* and close the aperture *p*, as shown by light dotted lines in the same figure and seen in fig. 1.

The spaces or recesses G G and H are separated from the annular flue-space *h* above them by a horizontal plate, I, which has perforations through it, as shown at *r r*, figs. 1 and 3, to be opened or closed by a register or valve-plate, K, with corresponding holes therein. The object of these holes and valve is to carry off any smoke or steam from the cooking recesses or ovens into the draught-space, and to clear the latter of accumulating soot or ashes.

The valve-plate K may be moved and regulated by means of a handle, *s*, fig. 1, projecting down into one of the recesses G G.

The magazine A may be enlarged above the said recesses, as shown, so as to give it as much capacity as possible, and yet make it small as desired within the recesses.

The fire-pot C is provided with an annular grate, L, at the bottom, with a central open space in the same, covered by a close cone, M, as shown. In connection with this cone I introduce the draught air, to support the combustion of the coal, into the ash-chamber D, through a pipe or close passage, *t*, the inner end of

which extends centrally, or nearly so, up into the hollow of the cone, as shown in fig. 1. The air is thus caused to impinge against the lower surface of the cone, to prevent its becoming too hot and burning away, and also to heat the draught for improving the combustion of the coal.

The admission of the air into the pipe *t* is regulated by a valve, *u*, under the bottom of the stove, as represented in figs. 1 and 2.

The cone *M* may be supported by the pipe *t*, by means of connecting arms *v v*, figs. 1 and 6. The grate *L* vibrates around the cone.

The partition-plates *b b*, between the recesses *G G*, serve to support firmly the upper part of the stove, and, together with the covers or doors *c c*, give a proper external form to that part of the stove, as well as inclose, divide, and conceal the cooking recesses or ovens.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The separate, inclosed recesses *G G H*, situated around the magazine *A* of a base-burning heating-stove, in combination with a plate, *E*, situated be-

neath said recesses and over the combustion-chamber *B*, and provided with cooking-holes *a a*, substantially as and for the purpose herein specified.

2. The radial partition-plates *b b*, separating the recesses or ovens *G G H*, and the inclosing covers or doors *c c*, in combination with the said cooking recesses or ovens, substantially as and for the purposes herein set forth.

3. The arrangement and combination of the valve-apertures *l m m*, leading directly to the flues *f g g*, and the annular diving space *n*, pipe or flue *o*, and valve aperture *p*, leading indirectly to the said flues, in combination with a regulating damper, *q*, substantially as and for the purpose herein specified.

4. The perforated plate *I* and valve *K*, arranged between the recesses *G G* and flue-space *h*, substantially as and for the purpose herein set forth.

STEPHEN SPOOR.

Witnesses:

S. M. RUSSELL,
WM. M. SPOOR.