A. S. SHONTZ.

Improvement in Heating-Stoves.

No. 114,055. Patented April 25, 1871.

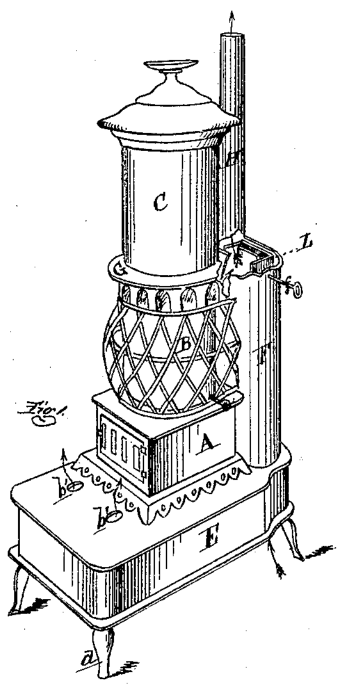

Fig. 1.

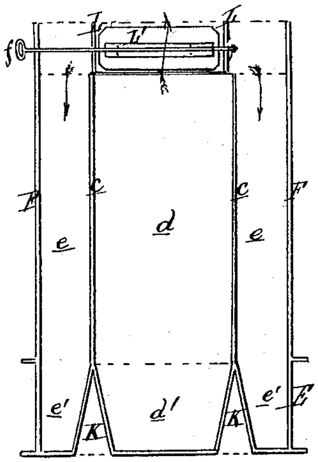

Fig. 2.

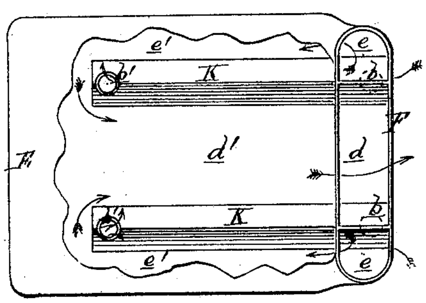

Fig. 3.

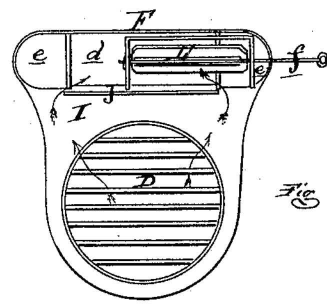

Fig. 4.

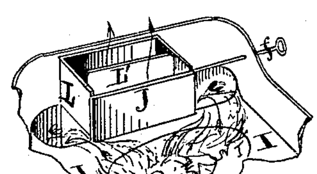

Fig. 5.

ATTEST

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United States Patent Office.

ABSALOM S. SHONTZ, OF QUINCY, ILLINOIS.

Letters Patent No. 114,055, dated April 25, 1871.

IMPROVEMENT IN HEATING-STOVES.

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

To whom it may concern:

Be it known that I, ABSALOM S. SHONTZ, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Heating-Stoves; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of my stove with the top of the back flue partially broken away to show the damper;

Figure 2 is a vertical transverse section of the back flue;

Figure 3 is a plan of the double base with the top-plate thereof broken away to show the air-flues;

Figure 4 is a plan of the fire-pot and back flue at the plane of the base of the magazine; and

Figure 5 is a perspective view of the upper part of the fire-pot, with the damper in position to revert the draught.

Like letters indicate like parts in each figure.

The nature of this invention relates to an improvement in the construction of heating-stoves, wherein a greater heating and heat-radiating surface is obtained by means of a reverted draught through the base portion of the stove.

The invention consists in the combination, with a fire-pot and magazine, of a peculiarly-constructed back flue and double base, and in connection therewith of a novel and peculiar damper and sliding case, whereby the draught may be reverted through return flues in the base of the stove at will.

In the drawing—

A represents an ash-pit, on which is erected a fire-pot, B, surmounted by a magazine, C.

D is a grate in the bottom of the fire-pot, and all of the foregoing parts are of ordinary construction.

E is a double base of any convenient form, and is mounted on proper legs *a*.

From the back of the base, and behind the above-named parts, which are mounted thereon, rises the flue-chamber F, as shown.

The top of this flue-chamber rises a little above the fire-pot, around which it is carried, being covered by a rim-plate, G, on which the magazine and smoke-pipe H rest.

Within the casing, and on a plane with the top of the fire-pot, is a plate, I, carried back to the front wall of the flue-chamber F.

From this plate I rises a diaphragm, J, to the rim-plate, directly in front of the entrance of the smoke-pipe.

In the base are two hollow partitions, K, extending from the back nearly to the front thereof.

In the bottom plate of the base are openings *b*, leading in the back part of the hollow partitions, and in the upper plate are other openings *b'*, communicating with the front part of said partitions.

In the back flue are two vertical partitions, *c*, dividing said flue-chamber into a central flue, *d*, and two side flues, *e*, which communicate with corresponding flues *d'* and *e'* in the base.

L is a damper-case, having two end walls and a back wall sliding in the space between the plates G and I behind the diaphragm J, whose length it equals.

L' is a damper hung in said case on a rod, *f*, which projects through the side of the flue-chamber.

When it is desired to have a direct upward draught the damper-case is drawn to one side, as shown in figs. 1 and 4, whereupon the products of combustion will proceed up the smoke flue as indicated by the arrows in said figures; but to retard the process of combustion and abstract from them their caloric, the damper-case should be pushed behind the diaphragm J, which then closes the direct passage to the smoke-pipe, compelling them to descend the flues *e* into the base, moving to the front thereof through the flues *e'*, returning through the flue *d'*, and up through the flue *d* to the smoke-pipe H, but passing through the damper-case, where they may be checked if desired by the damper L'. This course of the heated products of combustion brings them in contact with a large area of radiating surface, which absorbs and transmits their caloric to the external atmosphere in contact therewith.

The course taken by the products of combustion when reverted through the base of the stove is fully shown by the arrows in figs. 2, 3, and 5.

By making the partitions K in the manner described an additional circulation of heated air is obtained, as shown by the arrows in figs. 1 and 3.

By making the ash-pit separate from the top plate of the base the bottom of the former becomes available for radiating purposes.

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

1. The diaphragm J, sliding damper-case L, damper L', and rod *f*, arranged and operating substantially as and for the purpose set forth.

2. The construction and arrangement of the ash-pit A, fire-pot B, magazine C, rim-plate G, plate I, diaphragm J, damper-case L, damper L', rod *f*, back-flue-chamber F, double base E, flues *d d' e e'*, and smoke-pipe H, substantially as described, for the purpose specified.

ABSALOM S. SHONTZ.

Witnesses:
THOMAS WHITE,
D. MCAFEE.