J. K. BABCOCK.

Heating-Stove.

No. 164,899. Patented June 29, 1875.

Fig. 2.

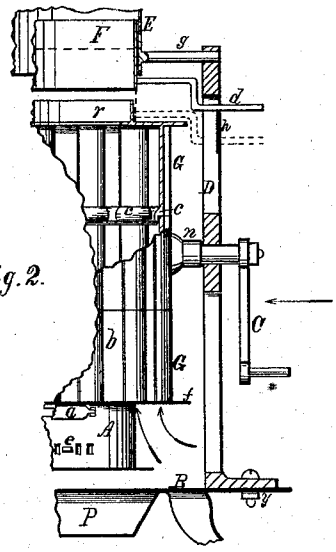


Fig. 1.

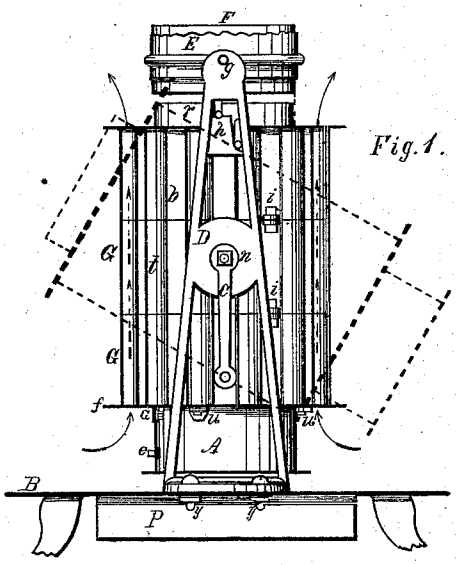


Fig. 3.

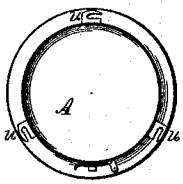
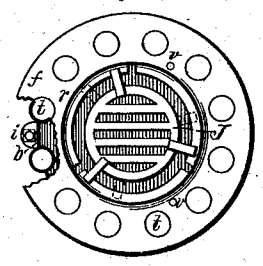


Fig. 4.



Witnesses:

E. B. Whitmore

J. Chase

Inventor:

Jabez K. Babcock

by Wm. S. Coughborough

Atty

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JABEZ K. BABCOCK, OF PHELPS, NEW YORK.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **164,899**, dated June 29, 1875; application filed March 22, 1875.

To all whom it may concern:

Be it known that I, JABEZ K. BABCOCK, of Phelps, in the county of Ontario and State of New York, have invented a new and useful Inversible Heating-Stove; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a transverse sectional elevation. Fig. 3 is a top view of one of the ash-chambers, A, detached. Fig. 4 is an inverted view of the fire-pot or cylinder, with the ash-chamber A removed, and having a section of the flange *f* broken away, to show the end of the tubes *t*, and the connecting-web *b*.

The object of this invention is to provide the fire-pot of heating-stoves with a series of vertical air-heating flues or tubes, and to mount such fire-pot upon suitable trunnions, whereby it may be used either end upward. It consists in the employment of a fire-pot composed of one or more annular sections, formed of a series of vertical air-heating tubes, and mounting the same, by trunnions, in a suitable frame or support, whereby it may be inverted or turned end for end.

I preferably form the body of my improved heating-stove of three annular sections, G, each composed of a series of flues or tubes, *t*, more or less separated by a web or plate, *b*; or they may be arranged close together, if desired. The end sections may be formed at one end with a flange, *f*, and rim, *r*, and at the opposite end with a sort of joint-lip, *c*, Fig. 2, and at two or more points with projecting lugs *i*, by means of which the sections are bolted together. The trunnions *n* are formed upon the central section. Said trunnions have a bearing in the standards D, which are bolted to the base-plate B by the bolts *y*. The base-plate B has a sunken ash-pit, P. The ash-box A is detachably connected to the flange *f* by the open-slotted lugs *u*, which slip over the head formed on the studs *v*. Any suitable grate, J, may be used, and should be detachable. The rims *r* act as centering-guides to the ash-box A, and the adjustable section F of the smoke-pipe E. The latter is firmly held in position by means of the arms *g* of the yoke, which grasp the base of the pipe, said arms being supported in the top of the standard D. The adjustable section F is provided on each side with a bent hanger-arm, *d*, by which it may be raised to the position shown in full lines in Figs. 1 and 2, and held there by their being placed upon the upper grade of the plate *h*. This permits the stove to be tilted or swung, as indicated by the heavy dotted lines in Fig. 1, or entirely inverted; but when the section is dropped down, as shown by the dotted lines in Fig. 2, the upright position of the stove is thereby securely fixed. The ash-box A and grate J should be duplicated. The former may be provided with the ordinary draft-damper *e*, and a hinged plate, *a*, to cover the slot through which the shaker-bar is worked.

The furnace is charged by first swinging the stove toward the position indicated by the dotted lines in Fig. 1, when the kindling is deposited upon the grate, and afterward the coal, when it is placed in its vertical position and locked there by dropping section F over the rim *r*. The fire is lighted from beneath.

It will be seen that the air in the tubes *t* becomes heated, producing a current through each, as indicated by the arrows. The hot air being thrown up tangentially against the ceiling of the room and toward the outer walls, and downward, as the temperature becomes reduced, and it is again drawn toward the stove and into the lower end of the flues or tubes, to supply the established current constantly being discharged from their upper end.

It is obvious that the body or barrel of the stove may be formed of any desired number or size of tubes.

When the fire happens to go out while there is still a quantity of coal in the furnace unburned, as is frequently the case, it is only necessary to tilt the stove, place a quantity of kindling on the top of the coal, insert the duplicate grate and adjust the extra ash-box upon that end, invert the stove, and remove the ash-box and grate previously in use; light the fire, as before shown, and thus the necessity of dumping the stove, as required in other stoves in such cases, is avoided. The fire-pot is easily tilted or inverted by means of the crank C. The tubes may be polygonal,

diamond, or oval-shaped, instead of round, if desired.

What I claim as my invention is—

1. The inversible fire-pot or cylinder, having a detachable grate, J, for heating-stoves, composed of one or more annular sections, G, of vertical air-flues *t*, and provided with suitable trunnions *n*, substantially as and for the purposes shown and described.

2. In combination with the inversible fire-pot, and pipe E, the vertically-adjustable pipe-section F, operating conjointly, substantially as and for the purposes set forth.

3. In combination with the inversible fire-pot, provided with a detachable grate, J, constructed and arranged to be operated substantially as shown and described, the detachable ash-box A, as and for the purposes set forth.

JABEZ K. BABCOCK.

Witnesses:

WM. S. LOUGHBOROUGH,

E. B. WHITMORE.