W. BURROWS.

Joints for Furnaces, &c.

No. 149,570. Patented April 14, 1874.

Fig: 1

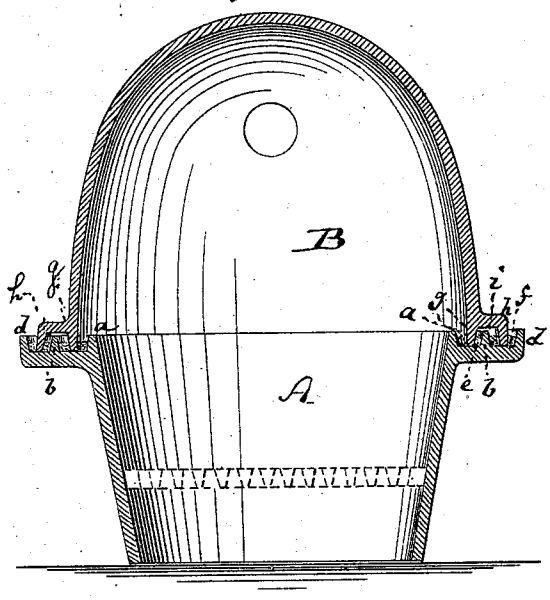


Fig: 3

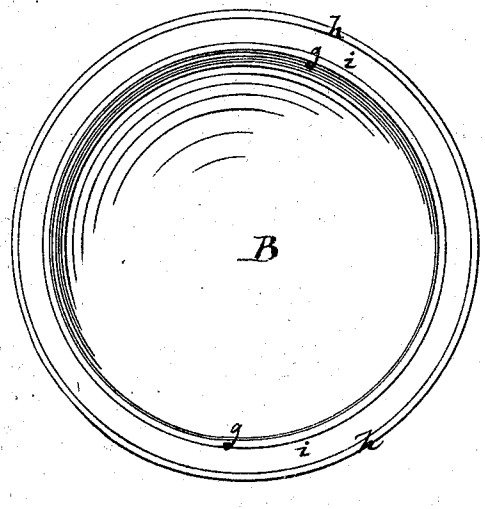
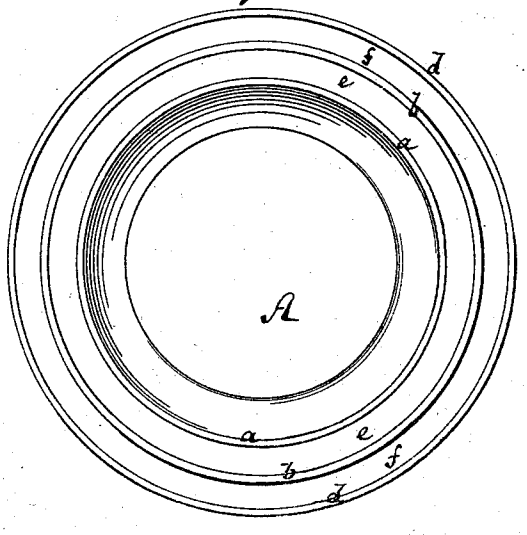


Fig: 2



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM BURROWS, OF WILLIAMSBURG, ASSIGNOR TO PHILIP ROLLHAUS, JR., OF BROOKLYN, NEW YORK.

IMPROVEMENT IN JOINTS FOR FURNACES, &c.

Specification forming part of Letters Patent No. **149,570**, dated April 14, 1874; application filed March 18, 1874.

To all whom it may concern:

Be it known that I, WILLIAM BURROWS, of Williamsburg, in the county of Kings and State of New York, have invented a new and Improved Joint for Furnaces, Stoves, Ranges, &c., of which the following is a specification:

Figure 1 is a vertical central section of a furnace, showing my improved joint. Fig. 2 is a top view of the lower part of the furnace; and Fig. 3, a bottom view of the upper part of the same.

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

This invention relates to a new construction of joint between the parts of a furnace, stove, or range, being more particularly applicable to furnaces for heating houses. These furnaces are usually constructed of two parts that are placed one upon the other, and joined with cement or other matter at their contiguous surfaces. It has, however, always been found that the joint connecting the lower and upper part of the furnace is exposed to the fire, and therefore likely to leak under the direct influence of the expansion and alternate contraction to which it is thereby subjected.

My invention consists in extending the upper portion of the lower shell of the furnace, and the lower portion of the upper shell, outwardly in form of grooved flanges, and in constructing a tight and secure joint on these two flanges around the outside of the furnace. In this manner the joint will be removed from the fire, and more fully secured against leakage, being moreover additionally protected by a duplicate system of grooves and flanges, as will be hereinafter more fully described.

In the accompanying drawing, the letter A represents the lower part of a furnace; B, the upper part of the same. The upper part of the shell A is extended outwardly, and on its edge are formed three upwardly-projecting flanges, *a*, *b*, and *d*, and two channels, *e* and *f*, between these flanges, respectively. The lower part of the upper shell B is also extended outwardly, as shown, and on its edge are two projecting flanges, *g* and *h*, and an intervening channel, *i*. These two parts are put together in the manner indicated in Fig. 1. The flanges *g* and *h* of the part B enter the channels *e f*, respectively, of the part A, and produce thus a treble joint as the gas, in order to escape from the shell through the joint into the surrounding space, would have to pass first under the innermost flange *g* of the part B, then over the central flange *b* of the part A, and finally under the outer flange *h* of the part B. If sand or cement should be packed into the channels, the joint will be made still more secure; but, even without, if the surfaces are only properly ground or smoothed, the escape of gas will be almost impossible.

I am aware that it is not new to make a joint in a furnace by forming two grooves or channels in one part, and three or more flanges to enter said grooves on the other part; but I believe it to be new with me to place these grooves and flanges on outwardly-extending rings of the furnace-shells, and in removing them in this manner away from the influence of the fire within the furnace.

I claim—

In a furnace, stove, or range, the part A, having the projecting flanges *a b d* and intervening channels *e f* on an outward projection, combined with the part B, having projecting flanges *g h* and the intervening channel *i* on an outward projection, so that the joint is removed from the direct influence of the fire, substantially in the manner herein shown and described.

WILLIAM BURROWS.

Witnesses:
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