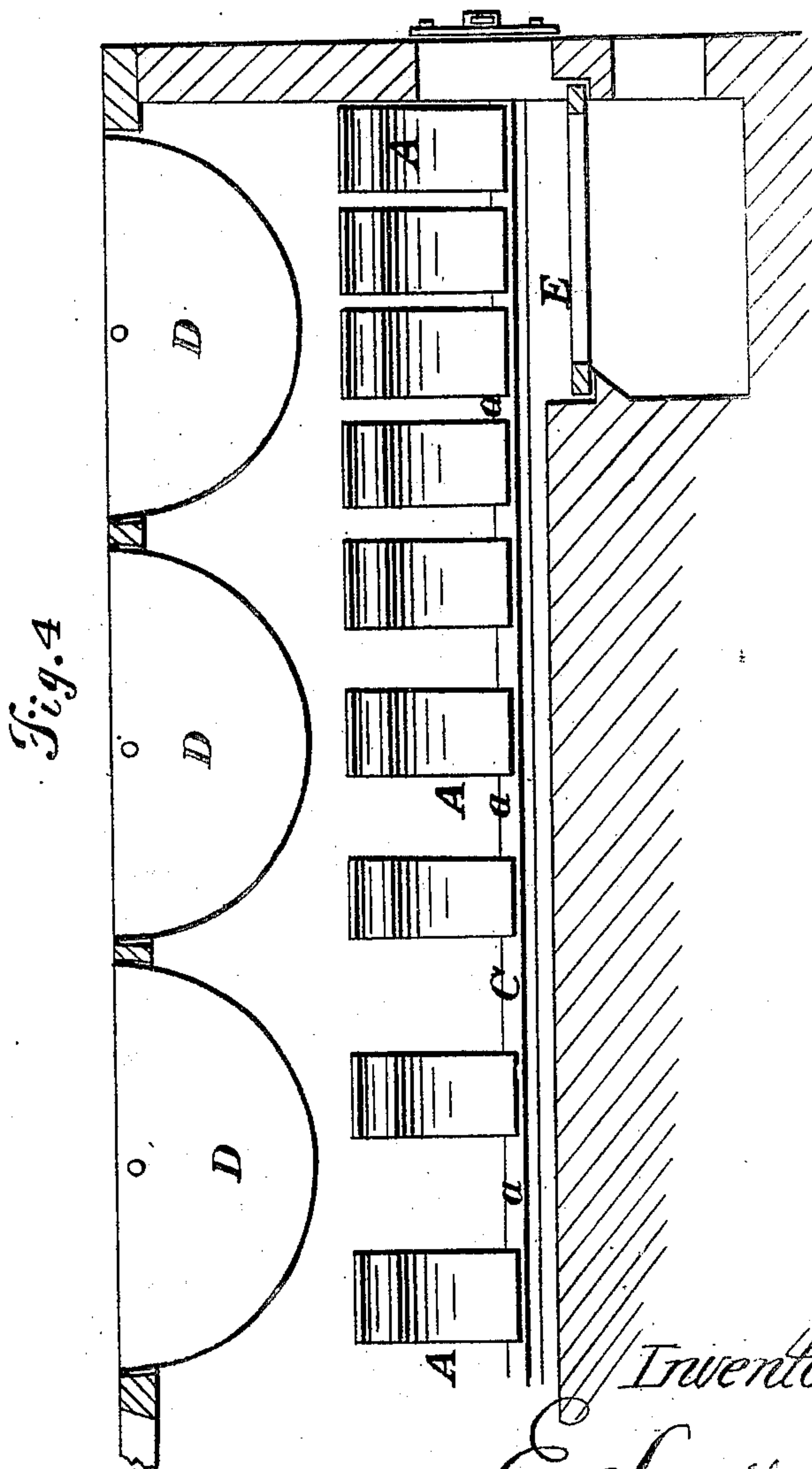
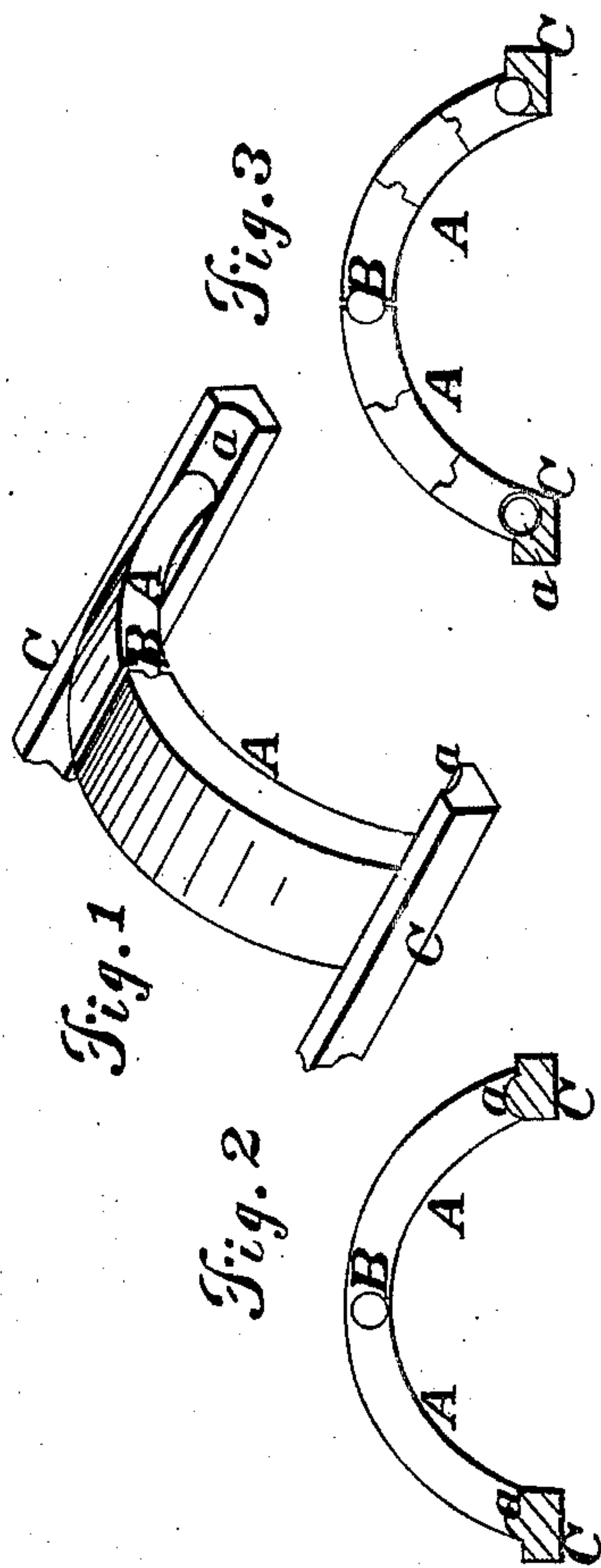


E. LAASS.

Furnace for Evaporating Pans.

No. 78,527.

Patented June 2, 1868.



Witnesses;
J. R. Valle
Geo. H. Miatt

Inventor;
E. Laass
by
J. Fraser & Co.,
Atty.

United States Patent Office.

EMIL LAASS, OF SYRACUSE, NEW YORK.

Letters Patent No. 78,527, dated June 2, 1868.

IMPROVEMENT IN ARCHES OF FURNACES FOR EVAPORATING-KETTLES, &c.

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, EMIL LAASS, of Syracuse, in the county of Onondaga, and State of New York, have invented a certain new and useful Improvement in Portable and Adjustable Arches for Furnaces, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figures 1, 2, and 3 are equivalent forms of my improved arch.

Figure 4; a view representing a furnace with a series of the arches in use.

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

My invention consists of an arch constructed in sections, connected at the centre by a loose cylindrical keystone, and resting at the base on straight abutments or ways, the whole so arranged that the arch may be moved out or in to any position, or taken apart, at pleasure. This construction is more especially adapted to use in furnaces for equalizing the heat, as will presently be described.

In the drawings, A A represent the sections of the arch jointed at the crown by a loose cylindrical keystone, B, which fits in half sockets of the sections, and allows each section to move independently of its fellow, either vertically or longitudinally. If desired, each of these sections may consist of more than one piece, as shown in fig. 3.

The bases or ends of the sections are made either convex, to rest in the concave ways *aa* of the abutments C C, as shown in fig. 1, or concave, to rest upon the convex ways of the abutments, as in fig. 2, or with a cylindrical block interposed, as in fig. 3; the bearing-surfaces in either case being formed in such a manner as to allow the arch to be moved forward or back on the ways.

The arches thus constructed and arranged are both portable and adjustable, and therefore are specially adapted to use in an evaporating-furnace, E, as shown in fig. 4, in which it is desirable to equalize the heat under the kettles D D. Over the fire-grate the arches are moved close together, so as to obstruct the fire, while farther in they are adjusted to a greater distance apart, to allow a free heat.

It is only by making the arches in sections, and arranging them loosely at both the crown and spring, that they can be made available for this purpose, since they are to be slid out and in frequently, and it is sometimes necessary to move one side or section of an arch without moving its fellow. It will be seen that this is accomplished without difficulty, for the keystone is a straight cylinder, which allows both a turning motion and a sliding one to either section, independent of the other.

This adjustability allows the arches to be inserted or removed beneath the kettles without taking the kettles from place, and the loose connection both at top and bottom allows each section to be shaken or moved out or in independently, to the proper degree to remove ashes that collect on the top. When the arches fit close together, it is necessary to keep them free of ashes, otherwise, under a great heat, the arches will cement together.

In addition to the above, this loose connection, both at bottom and top, allows the arches to adapt themselves to place, as the furnace-walls expand or contract under different temperatures.

I do not claim a fixed arch made in sections, as I am aware that the same is not new.

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

The arch made in sections, A A, jointed at the crown by the cylindrical keystone B, and resting at the spring loosely upon the ways *aa*, the whole so arranged that the arch, or either section thereof, can be adjusted bodily in or out without elevating, and can be readily taken apart, as herein set forth.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses:

O. E. LAASS,
J. A. BODMORE.

EMIL LAASS.