

P. MEEHAN.
ANNEALING BOX.

(Application filed July 7, 1897.)

(No Model.)

Fig. 1.

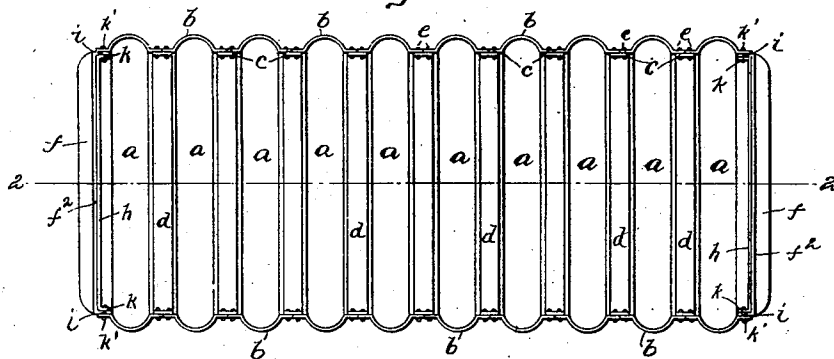


Fig. 2.

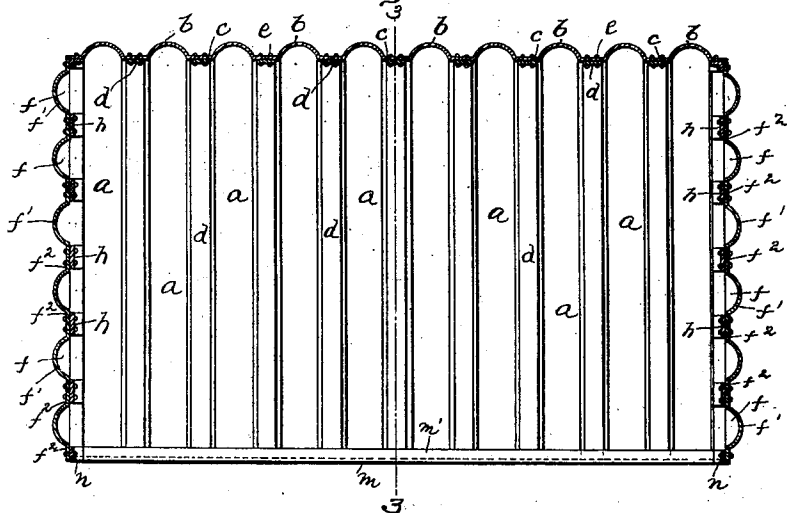


Fig. 3.

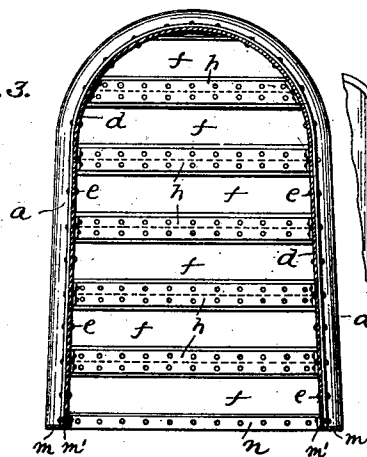
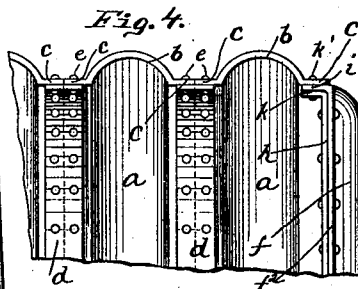


Fig. 4.



Witnesses:

Coates Tamariss.
Robert C. Totten

Inventor:

Patrick Meehan
By Kay Totten
Attorneys

UNITED STATES PATENT OFFICE.

PATRICK MEEHAN, OF NEWCASTLE, PENNSYLVANIA.

ANNEALING-BOX.

SPECIFICATION forming part of Letters Patent No. 689,735, dated December 24, 1901.

Application filed July 7, 1897. Serial No. 643,703. (No model.)

To all whom it may concern:

Be it known that I, PATRICK MEEHAN, a resident of Newcastle, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Annealing-Boxes; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to annealing-boxes such as are employed in connection with the manufacture of sheet-iron, tin-plate, &c., although I do not wish to limit myself in its use. These annealing-boxes are ordinarily made of cast-iron, and in view of the intense heat to which they are exposed when in the annealing-furnaces the expansion and contraction are very sudden and very great, so that said boxes warp and break under the strain, and the life of such a box is accordingly very short.

The object of my invention is to provide an annealing-box so constructed as to permit of the expansion and contraction of the metal with comparatively little injury to the box and at the same time a box which is strong and durable.

My invention comprises certain novel features, all of which will be fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is an inverted plan view of my improved annealing-box. Fig. 2 is a longitudinal section on the line 2 2, Fig. 1. Fig. 3 is a cross-section on the line 3 3, Fig. 2. Fig. 4 is an enlarged view of a portion of the box.

Like letters indicate like parts in each of the figures.

The sides and top of my improved annealing-box are composed of a plurality of arched plates or sections *a*, of wrought metal, said plates being formed with the corrugations or grooves *b* and the flanges *c*. These arched plates *a* are connected by means of the corresponding arched metal strips *d*. The flanges *c* of the adjoining plates *a* are riveted to the strips *d* by means of the rivets *e*, the edges of said flanges abutting and with the strips *d* forming a close tight joint.

When the body portion of the box has, by connecting the plates *a* in the manner described, been extended to the proper or desired length, the ends are then secured in place. The ends are preferably arranged with the corrugations running at right angles to the corrugations of the plates *a*. Accordingly the end plates *f* are provided with the corrugations *f*¹ and the flanges *f*². The strips *h* connect the flanges *f*² of the adjacent plates *f*, so as to secure a close joint between the said plates *f* in the same manner as above.

In order to make a strong joint at the corners of the box where the ends are joined to the body of the box, the end plates *f* are formed with the inwardly-projecting flanges *g*, which are held between the flanges *c* and the flanges *h* at the ends of the strips *h* by means of the rivets *k*.

An angle-plate *m*, having the upwardly-extending flange *m*¹, forms the base-plate of the box. The flange *m*¹ is riveted to the flanges *c* of the plates *a*, while the plate *m* extends out horizontally and covers the openings at the lower ends of the corrugations *b*. By closing the lower ends of the corrugations in this manner I guard against the entrance of air. The joints are also luted with clay in the ordinary manner before the box is placed in the annealing-furnace. A strengthening-strip *n* is also secured to the flanges *f*² at the base of the ends. I do not wish to limit myself to the exact construction illustrated, but wish to include all equivalent constructions.

When my improved annealing-box is in use and it is placed in the annealing-furnace, where it is exposed to intense heat, the action of the heat will tend to expand the metal composing said box. Owing to its construction, however, it will expand more readily without severe strain on the metal, and likewise when it is removed from the furnace and is allowed to cool the contraction will take place with less strain on the metal. Accordingly the wear and tear on the box are greatly reduced and there is less liability of the warping and cracking of the metal. Owing to the corrugations on the sides, top, and ends of the box the expansion and contraction are possible without undue strain. The different plates

or sections composing the box are strongly secured together, and in case one of the sections becomes worn out a new one may be substituted, and the life of the box is thus
5 greatly increased.

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

1. An annealing-box comprising a body of arch shape having a plurality of corrugations
10 extending up the sides and across the top thereof, and end pieces secured to said body, said end pieces having a plurality of horizontal corrugations extending across the same.

2. An annealing-box comprising a series of
15 arched corrugated plates secured together to form the body of the box with the corrugations extending up the sides and across the top thereof, and end pieces secured to said body,

said end pieces having a plurality of horizontal corrugations extending across the same. 20

3. An annealing-box comprising a body of arch shape having a plurality of corrugations extending up the sides and across the top thereof, plates secured to the bottom of the sides of said body and closing the lower ends
25 of said corrugations, an end piece secured to said body, said end piece having a plurality of horizontal corrugations extending across the same.

In testimony whereof I, the said PATRICK
MEEHAN, have hereunto set my hand. 30

PATRICK MEEHAN.

Witnesses:

ROBT. D. TOTTEN,
ROBERT C. TOTTEN.