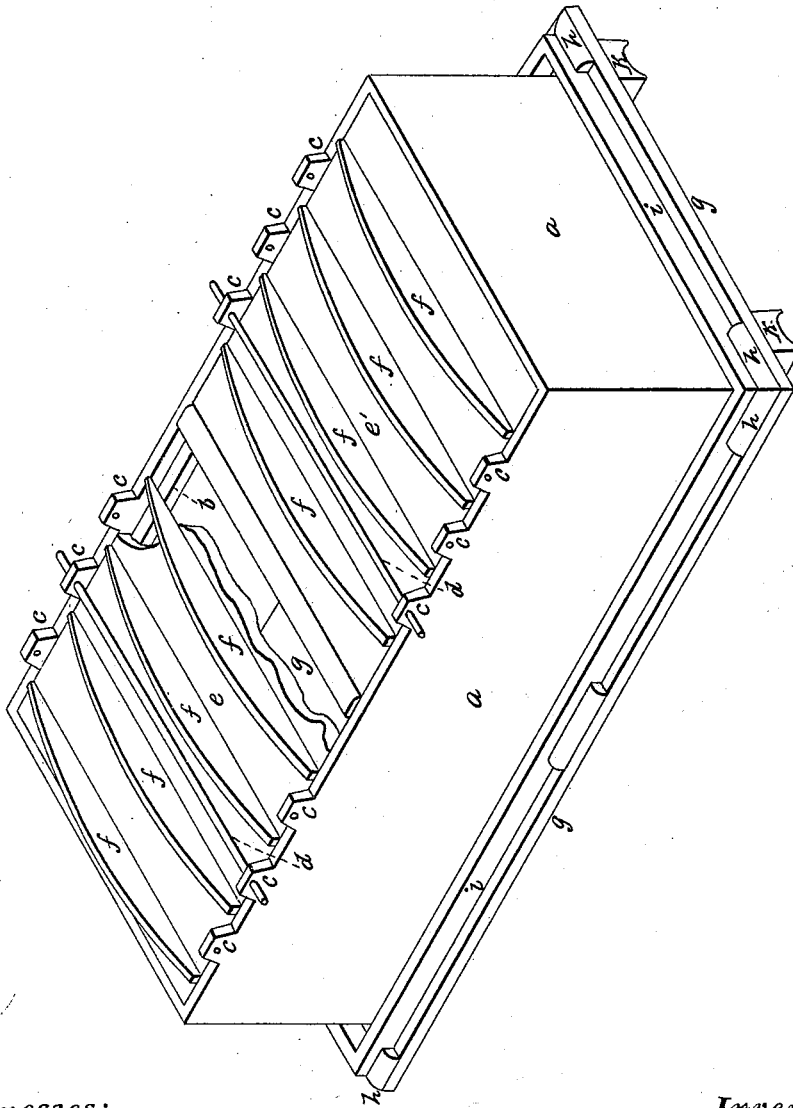


### Annealing Box.

No. 54,376.

Patented May 1, 1866.



*Witnesses:*

W. D. Lewis  
Allan G. Bakewell

*Inventor:*

James A. Lewis  
by his attorney  
W. Bakewell

# UNITED STATES PATENT OFFICE.

JAMES C. LEWIS, OF SHARPSBURG, PENNSYLVANIA, ASSIGNOR TO HIMSELF  
AND ROBERT C. TOTTEN.

## IMPROVED ANNEALING-BOX.

Specification forming part of Letters Patent No. 54,376, dated May 1, 1866.

*To all whom it may concern:*

Be it known that I, JAMES C. LEWIS, of the borough of Sharpsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Annealing-Boxes for Sheet-Iron; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawing, forming part of this specification, which is a perspective representation of my annealing-box with the covers on, one end of one of the covers being broken away so as to show the interior of the box.

In the process of annealing sheets of iron, it is customary to place them in heavy cast-iron boxes, the sheets being piled one above another, and the box, thus packed, being run into an annealing-oven, where it is exposed to a high heat, and then gradually cooled. These boxes are usually about seven feet in length, and three feet in width, and two feet in height, and weigh about five tons. They are made in two parts, the upper part consisting of four sides and a top, all in one piece, the other part being the bottom. The high heat to which these annealing-boxes are exposed causes them, after being used a short time, to warp, and yet so much out of shape as to become utterly useless for the purpose designed.

The object of my invention is to remedy this difficulty and construct annealing-boxes in such a manner as that they are not liable to become warped and misshaped.

In the drawing, *a* is the body of the annealing-box, being a rectangular frame of four sides with a flange, *b*, all around its interior near the top, to receive the cover or lid, and with lugs *c c* on the upper edge of two opposite sides, which lugs have holes through them to receive the bars *d* by which the covers are fastened down. The cover is made in two pieces, *e e'*, which fit in between the sides of the box-frame *a*, and rest on the flange *b*. The cover-pieces *e e'* have transverse ribs *f f* projecting from their upper surface, to prevent their warping.

The bottom *g* of the box is a separate piece having a plane surface on the upper side, excepting that at the corners and on either side is a bead, *h*, to give additional strength, and prevent the box being displaced from the bottom. On the under side of the bottom are the guttered rails *k k*, extending longitudinally and parallel to each other, which rest on rollers, to aid in moving the box in and out of the annealing-oven. On the upper surface of the bottom piece, *g*, is placed a flange, *i*, which surrounds the body *a* of the box at a distance of about two inches therefrom. The flange *i* is in one piece and rests on the bottom piece, *g*. It is kept in place when the box is put together by sand, which is packed in on the bottom all around between the flange *i* and the body *a*. All the pieces described are made of cast-iron.

When the several parts of the annealing-box are put together and the sheets of iron are packed in it, the covers *e e'* are put on and sand is put on top of the cover, so as to protect it and exclude the entrance of air at the joints. The annealing-box thus constructed will last for a long time without being materially warped or misshaped by the heat, which is a matter of great importance, not only on account of their costliness, but especially because when annealing-boxes become warped they cannot be made tight at the joints and become entirely useless.

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

Constructing cast-iron annealing-boxes, as described, having the body of the box in a separate piece from the bottom and top or cover, for the purpose of preventing its warping by the action of the heat of the annealing-oven.

In testimony whereof I, the said JAMES C. LEWIS, have hereunto set my hand.

JAMES C. LEWIS.

Witnesses:

A. S. NICHOLSON,  
W. BAKEWELL.