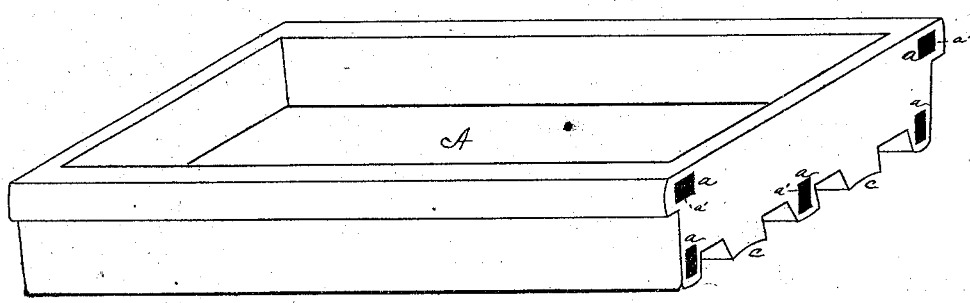
C. A. McNISH.

Annealing Boxes.

No.149,875.

Patented April 21, 1874.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES A. McNISH, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN ANNEALING-BOXES.

Specification forming part of Letters Patent No. **149,875**, dated April 21, 1874; application filed March 17, 1874.

To all whom it may concern:

Be it known that I, CHARLES A. McNISH, of Pittsburg, in the county of Allegheny 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, reference being had to the accompanying drawing, forming a part of this specification, which illustrates my invention by a perspective view.

My invention consists in forming the bottoms of annealing-boxes, such as are used in the manufacture of sheet-iron, with ribs of wrought-iron placed in or extending through them.

To enable others skilled in the art to make and use my invention, I will describe it at large.

Heretofore these articles have been made by casting; but, on account of their own weight and the extreme weight of the pack of sheet-iron placed in them, and of the cover or lid, and on account of the intense heat to which they are exposed, such boxes have, as a general thing, lasted about two weeks, being used only for about four heats. The effect of the great weight and of the variations of temperature upon the granular structure of the cast-iron fractures it and causes the boxes to break. I have discovered by actual experience that by forming ribs of wrought-iron, or other like metal, in the sides and bottom, as indicated at *a* in the drawing, the bottom A is greatly strengthened, and rendered very much less liable to break, and that if the cast portions of the same do fracture the whole is held together by the more elastic ribs *a*.

The method of forming these ribs is by placing bars of wrought-iron in the mold in suitable cavities, or by placing them just above the flat bottom of the mold, so that when the cast-iron is poured in it will flow around them and form the ribs *a*, or incorporate the rods *a'* in the sides of the bottom itself without forming ribs thereon. These bottoms do not rest directly on the floor of the oven, but on rollers or balls, which fit in the circular grooves *c*, and which are for the purpose of running the boxes in or out of the ovens.

It has been my experience that by this means I am enabled to use an inferior quality of metal for casting these boxes, and that instead of their lasting but two weeks, as when made entirely of cast-iron, they last for several months.

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

A bottom for annealing-boxes having ribs or bars of wrought-iron, or other metal of a similar fibrous elastic nature, extending through it, substantially as described.

In testimony whereof I, the said CHARLES A. McNISH, have hereunto set my hand.

CHAS. A. McNISH.

Witnesses:
T. B. KERR,
JAMES I. KAY.