(No Model.)

J. H. ORWIG.

ANNEALING BOX.

No. 575,976. Patented Jan. 26, 1897.

Fig. 1.

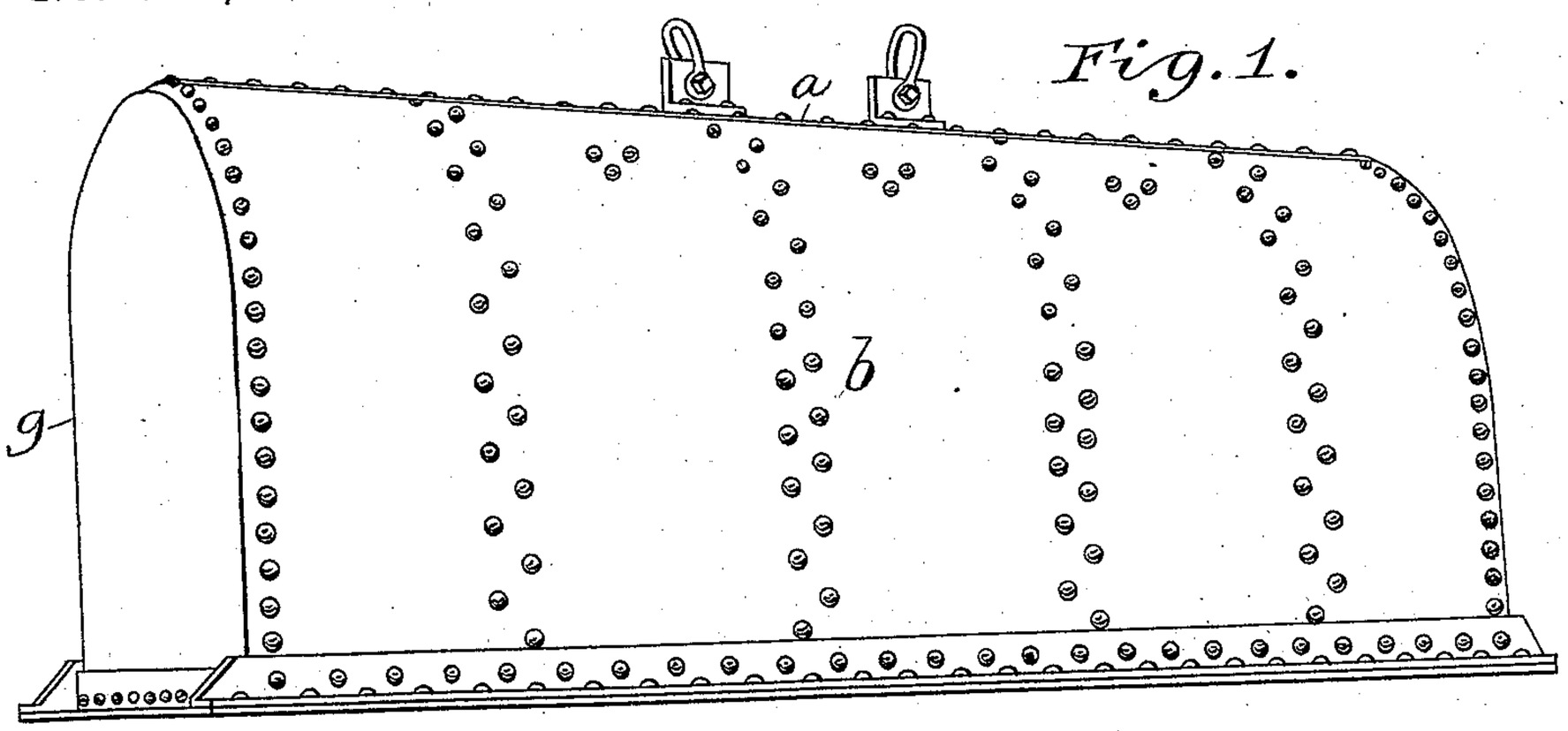


Fig. 2.

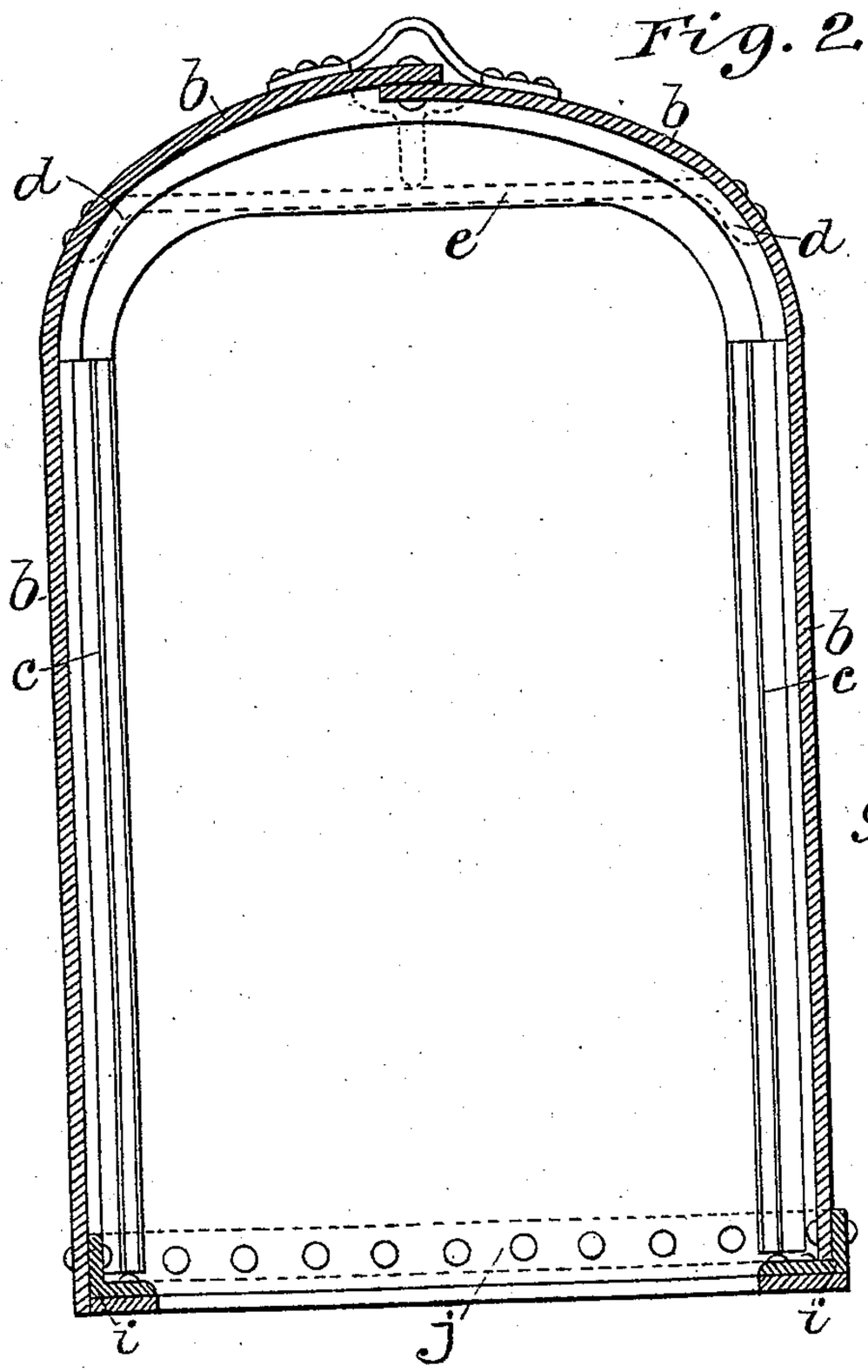
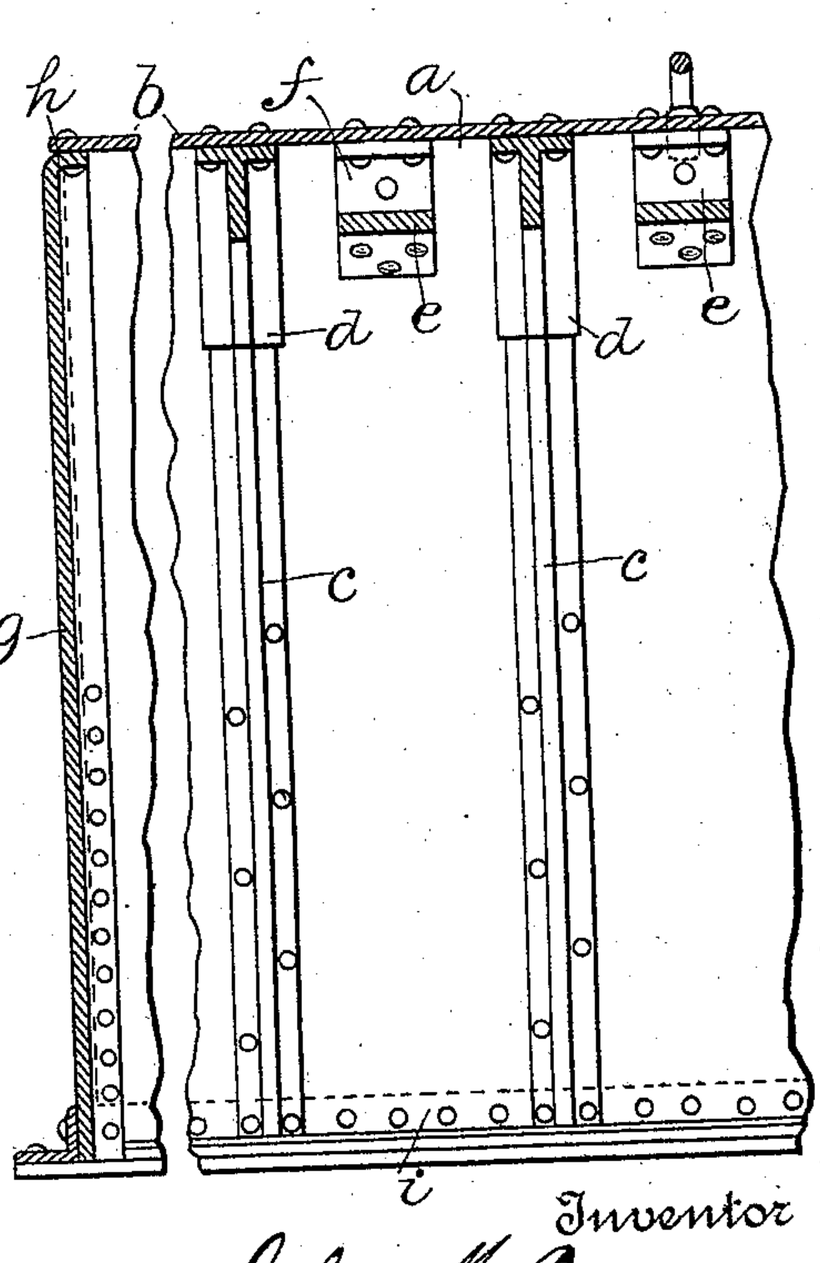


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN HARRISON ORWIG, OF ALLIANCE, OHIO.

ANNEALING-BOX.

SPECIFICATION forming part of Letters Patent No. 575,976, dated January 26, 1897.

Application filed March 25, 1896. Serial No. 584,838. (No model.)

To all whom it may concern:

Be it known that I, JOHN HARRISON ORWIG, a citizen of the United States, residing at Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Annealing-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in annealing-boxes especially adapted for annealing large iron and steel sheets and other articles of large size.

Annealing-boxes of this class as heretofore constructed are liable to become easily warped or distorted, owing to the imperfect construction of the boxes.

The objects of my invention are to obviate this serious trouble and at the same time to provide a simply-constructed and efficient annealing-box.

Having these ends in view my invention consists, in general terms, of an inverted-U-shaped annealing-box of any desirable width, length, and height made of two arched plates forming the side walls and arched top, said plates butt or lap jointed longitudinally on top, flanged heads riveted to the body of the box, internal braces, and internal and external bracing riveted to the bottom of the side walls and to the heads, said bracing crossing each other at the corners of the box, all as more fully hereinafter described and particularly claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view; Fig. 2, a vertical transverse section, and Fig. 3 a vertical longitudinal sectional view.

Referring to the drawings, *a* indicates the inverted-U-shaped annealing-box; *b*, the straight and curved plates forming the side walls and the arched top. The ends of plates *b*, at their upper curved portion, are joined. This may be lap-jointed longitudinally, as shown in Fig. 2, or the ends may be butted together. *c* are internal vertical braces riveted to the side walls and extend from near the bottom of said walls up to the point where the plates *b* commence to form the arch. These braces may be made of any desirable shape and size, but in the drawings I have shown these braces made of standard railroad-rails.

d are arch-braces made of heavy castings of iron or cast-steel, the ends of which rest on the vertical braces *c* and follow the contour of the arched portion of the box and are securely riveted thereto.

e are flat metal bars or tie-rods running crosswise of the arch and are placed between the arch-braces *d*. These cross-ties *e* are securely riveted to the sides of the box, and for this purpose I employ separators *f*, made of angle-bars, T-bars, or other special shapes. The heads or ends *g* of the box are made of a single iron or steel plate and are provided with an inwardly-projecting flange *h*. The heads are riveted to the body of the box, the rivets passing through the side walls and arch portion and the flange *h*. Around the bottom of the box, on the side walls and heads or ends, I employ longitudinal and transverse bracing.

i is the longitudinal bracing, made of angle-bars, T-bars, or flat bars riveted to the side walls *b*. Transverse bracing *j* is riveted to the heads *g*. The longitudinal bracing *i* runs along the lower edge of the side walls, and when it is placed on the outside of the box I prefer that it should extend out a short distance beyond the side walls. The transverse bracing *j* extends across the heads at their lower edge and meets the longitudinal bracing at the corners of the box. I have shown this bracing as placed both on the inside and outside of the box. It may be all on the outside or all on the inside without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. An inverted-U-shaped annealing-box, consisting of two plates forming the side walls and arch, said plates longitudinally joined on top, front and rear heads, each provided with an inwardly-projecting flange and riveted to the body of the box, internal vertical braces riveted to the side walls, and arch-braces rigidly secured to the arched portion of the box, substantially as described.

2. An inverted-U-shaped annealing-box,

consisting of two plates forming the side walls and arched top, said plates longitudinally joined on top, end heads each provided with an inwardly-projecting flange and riveted to the body of the box, internal vertical braces riveted to the side walls, arch-braces rigidly secured to the arched portion of the box, tie-rods, *e*, between the arch-braces, internal and external longitudinal and transverse braces around the bottom of the box, substantially as described.

3. An inverted-U-shaped annealing-box, consisting of two plates forming the side walls and arched top, said plates longitudinally joined on top, end heads, each provided with an inwardly-projecting flange and riveted to the body of the box, internal vertical braces riveted to the side walls, arch-braces rigidly secured to the arched portion of the box, tie-rods, *e*, between the arch-braces, external longitudinal and transverse braces around the bottom of the box, substantially as described.

4. An inverted-U-shaped annealing-box, consisting of two plates forming the side walls and arched top, said plates longitudinally joined on top, end heads, each provided with an inwardly-projecting flange and riveted to the body of the box, internal vertical braces riveted to the side walls, arch-braces rigidly secured to the arched portion of the box, tie-rods, *e*, between the arch-braces, internal longitudinal and transverse braces around the bottom of the box, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN HARRISON ORWIG.

Witnesses:
ALICE FORDING,
H. W. HARRIS.