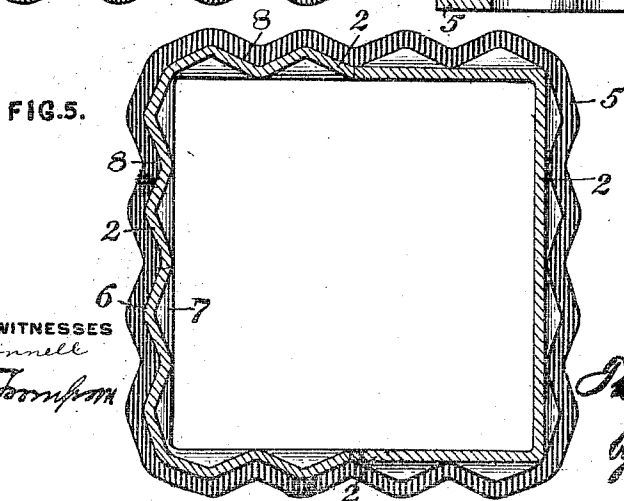
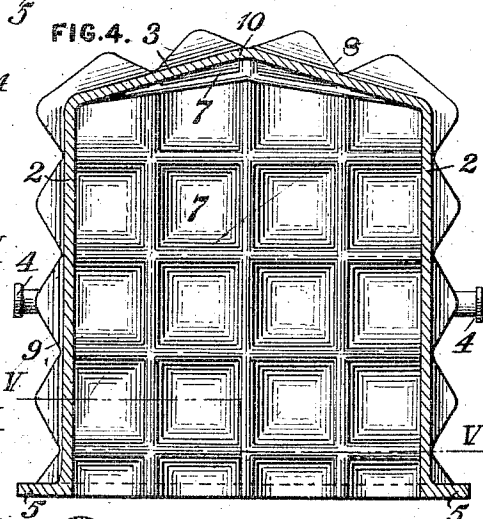
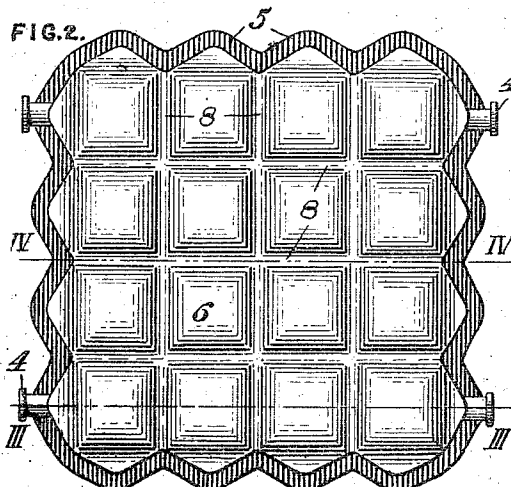
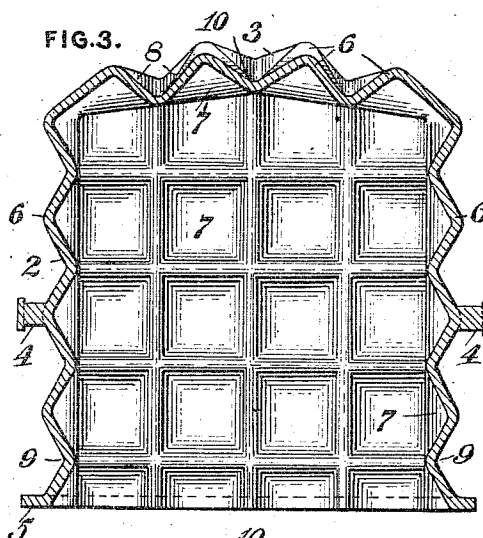
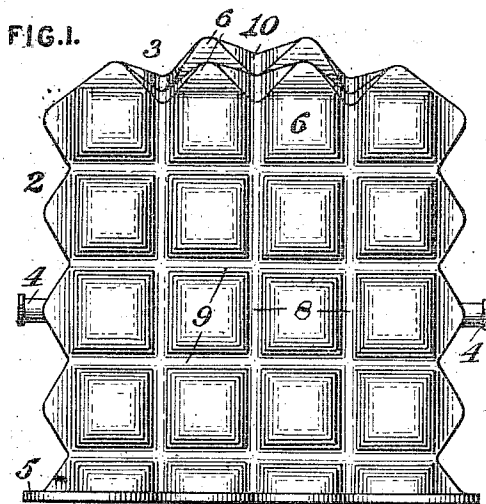


T. B. GRAY.
ANNEALING BOX.

APPLICATION FILED OCT. 20, 1910.

994,995.

Patented June 13, 1911.



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UNITED STATES PATENT OFFICE.

THOMAS B. GRAY, OF PITTSBURG, PENNSYLVANIA.

ANNEALING-BOX.

Specification of Letters Patent. Patented June 13, 1911.

994,995.

Application filed October 20, 1910. Serial No. 538,124.

To all whom it may concern:

Be it known that I, THOMAS B. GRAY, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Annealing-Boxes, of which the following is a specification.

My invention relates to cast metal annealing boxes and more particularly to those comprising an integral structure. In devices of this kind as heretofore constructed various expedients, of a more or less complicated nature, have been resorted to, to prevent the structure from becoming distorted or cracked, to such a degree as to render it useless, under the severe service to which such articles are necessarily subjected.

The primary object of my invention is to provide a cast metal annealing box which will not be injuriously affected when subjected to such severe usage and be generally of a much more durable and economical construction than those heretofore employed.

The invention includes a roof and side walls which may expand and contract in any direction without injury, and consists in certain novel features of construction hereinafter fully described and claimed, and illustrated in preferred form in the accompanying drawings, wherein:—

Figure 1 is a side elevation of a cast metal annealing box embodying my improvements. Fig. 2 a plan view of the same. Figs. 3 and 4, vertical sections taken on lines III—III and IV—IV of Fig. 2, and Fig. 5 a horizontal section on line V—V of Fig. 4.

As illustrated in its preferred form my device consists of an integral cast metal structure comprising side walls 2 and a connecting top wall or roof 3. Walls 2 may be provided with trunnions 4 of any preferred construction, and at their lower ends with outwardly extending supporting flanges 5.

To permit of the free expansion and contraction of the structure in any direction, each of the side walls and roof consists of a series of outwardly extending bulges 6 and corresponding interior depressions 7 arranged in parallel rows. Each of the side walls 2 is formed with a series of vertically disposed corrugations 8 arranged in parallel rows and continued across the roof to inter-

sect each other at right angles, as shown in Fig. 2. The side walls are also formed with a series of horizontally disposed corrugations 9 arranged in parallel rows intersecting corrugations 8 to provide a wall in accordance with the above description, and the intersection of corrugations 8 upon the roof provides a similar construction therefor. In order to permit of a still greater amount of expansion and contraction the roof may slope upwardly toward its center, as shown at 10, in Figs. 1, 3 and 4.

The corrugations may be V-shaped, to give an approximately pyramidal bulge as shown in the drawings or they may be of any preferred contour and arranged at other than right angles to each other without departing from the nature of my invention and while I have shown my invention in connection with an annealing box approximately square in cross section it will be obvious that it is equally applicable to annealing boxes having cylindrical side walls or those of any other preferred form.

I claim:—

1. An annealing box comprising side walls and a roof, the walls and roof each formed with two sets of corrugations extending across them in rows, one set of corrugations intersecting the other set thereon at an angle to form outwardly extending bulges and corresponding interior depressions.

2. An annealing box comprising side walls and a roof, the walls and roof each formed with two sets of corrugations extending across them in parallel rows, one set of corrugations intersecting the other set thereon at right angles.

3. An annealing box comprising side walls and a roof, the walls and roof each formed with two sets of V-shaped corrugations extending across them in parallel rows, one set of corrugations intersecting the other set thereon at right angles.

4. An annealing box consisting of side walls and a roof comprising an integral structure, the walls and roof each formed with two sets of corrugations extending across them in parallel rows, one set of corrugations intersecting the other set thereon at approximately right angles.

5. An annealing box comprising side walls and a roof, the roof sloping upwardly to-

ward its center, the walls and roof each
formed with two sets of corrugations ex-
tending across them in parallel rows, one
set of corrugations intersecting the other set
5 at an angle to form outwardly extending
bulges and corresponding interior depres-
sions.

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

THOMAS B. GRAY.

Witnesses:

CHAS. I. MOORE,
F. E. GAITHER.