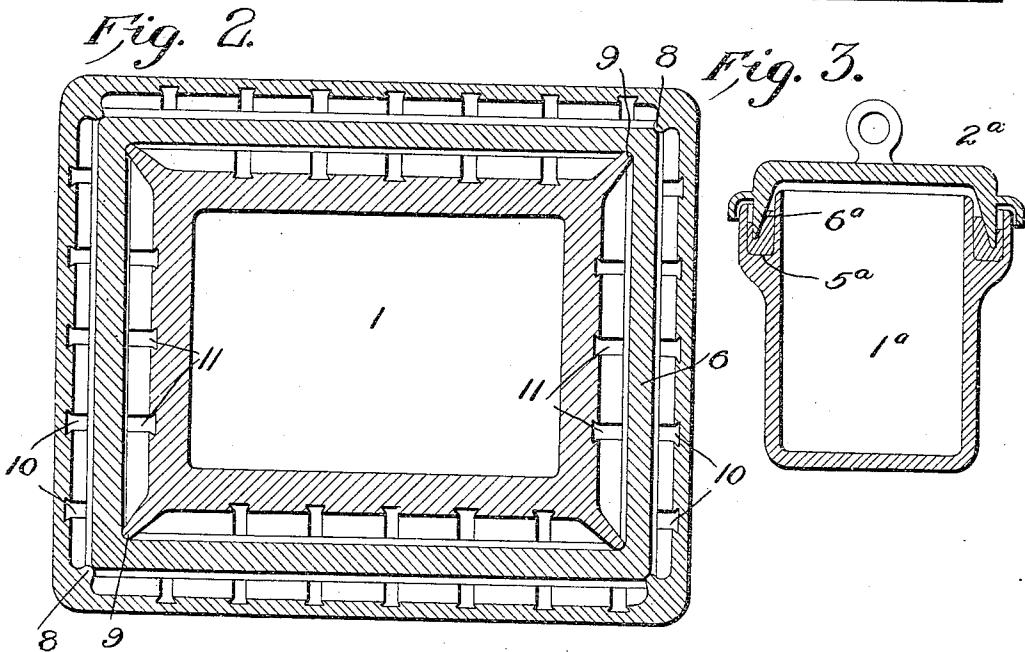
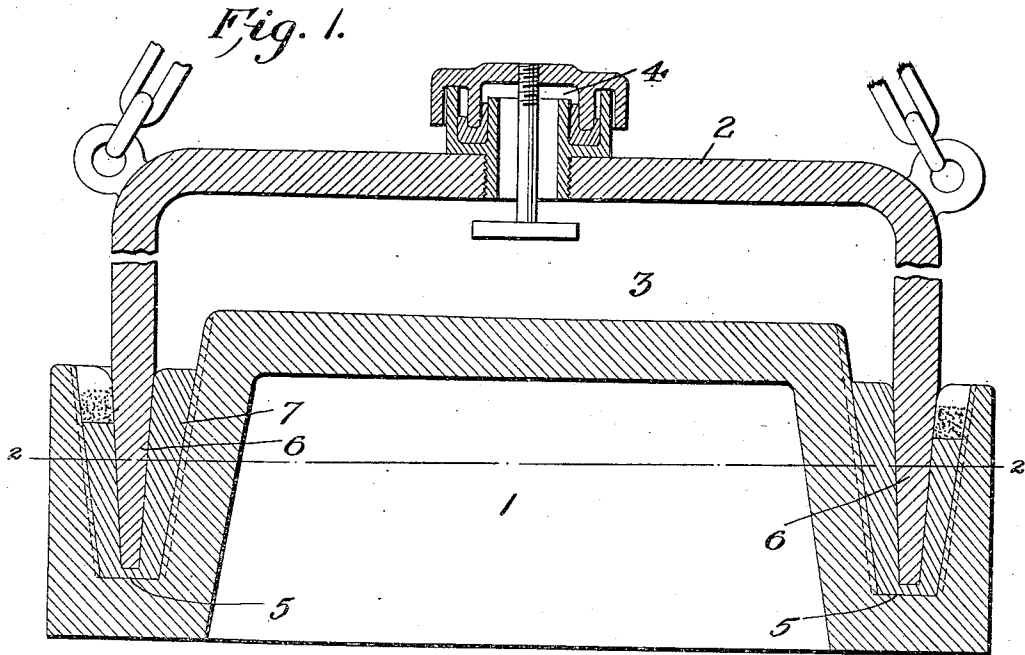


W. R. KINNEAR.
FUSIBLE PACKING FOR ANNEALING AND OTHER LIKE APPARATUS.
APPLICATION FILED AUG. 18, 1909.

958,409.

Patented May 17, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF NEW CASTLE, PENNSYLVANIA.

FUSIBLE PACKING FOR ANNEALING AND OTHER LIKE APPARATUS.

958,409.

Specification of Letters Patent.

Patented May 17, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM R. KINNEAR, a citizen of the United States, and a resident of New Castle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Fusible Packings for Annealing and other Like Apparatus, of which the following is a specification.

My invention relates to a box or container within which articles may be placed to protect them from the oxidizing influences of atmospheric air while they are being annealed or otherwise treated at high temperatures, and my invention has for its object to provide improved means for hermetically closing the joints between the parts of such receptacles that are made separable for the introduction and removal of the articles treated.

In my application filed September 4, 1908, Serial No. 451,715, I have described an apparatus of this general character wherein is provided means for confining between the parts, along the lines of separation, a metallic sealing medium that fuses at a temperature below that to which the articles are raised in their treatment so that it may flow into such intimate contact with the walls of the parts as to effectually exclude air; one of the parts being provided with a trough into which the other part dips, in order to confine a considerable body of the sealing metal in contact with the overlapped walls of the parts. In my said application there are also described features of construction which facilitate separation of the parts after the sealing metal has cooled, to wit, the flaring of the walls of the trough, so that the body of metal will more readily leave the same when the cover is removed and the provision of openings in the flange of the cover which causes the body of metal to become riveted thereto so as to cause it to lift out of the trough when the annealing box is open.

My present invention has for its object to construct the parts so that they will permit of more convenient separation of the cover from the base when the annealing box is to be opened. This is accomplished by constructing the trough so that the body of metal will adhere thereto when cold and tapering the entering flange so that it will more readily leave the body of metal; also

in constructing the trough so that the body of sealing metal will, when cool, become divided or approximately divided so that in contracting it will not so firmly grip the flange; also in providing undercut recesses in the walls of the trough so that the divided walls of sealing metal become keyed to the side walls of the trough and in contracting, as a result of cooling, they will draw away from the walls of the entering flange.

My invention will be fully understood upon reference to the accompanying drawings, in which,

Figure 1 is a vertical sectional view of an annealing box embodying my present invention. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a vertical sectional view showing a modification.

1 represents the base and 2 the cover of an annealing box. The base is preferably constructed with an elevated supporting table 3 and the cover with a fusible metal relief vent 4 as described in my application already referred to.

5 represents a trough extending around the base 1 and 6 is the flange of the cover 2 that dips within the trough and within a body of metal 7 of a character that fuses when subjected to a heat below that utilized in the treatment of materials placed in the annealing box or other like structure to which my invention is applied and the flange 6 is tapered to facilitate its release from the body of metal.

The trough is provided at its respective corners, with dividing flanges or ribs 8, 9, spaced apart so as to abut or approximately abut against the flange 6 introduced into the trough and thereby sever or approximately sever the inner and outer portions of the sealing metal and permit them to contract endwise without binding upon the removable part of the box when the box is to be opened. The inner flanges 9 are of much less importance than the outer flanges 8 as it is obviously the external or surrounding band of metal that will bind with greater force upon the flange of the cover; the inner band may be even so dimensioned that it will draw away from the inner wall of the entering flange of the cover, if left to cool in one integral piece; hence I do not limit myself to the use of the inner flanges 9. If desired, the cover may be made to fit against the flanges 8 and 9 so as to be supported

above the bottom of the trough, as shown, which may be done to better advantage by the use of the flanges 9.

Another feature of my present invention consists in providing undercut grooves 10 and 11 in the walls of the trough, so that in cooling, the metal becomes keyed thereto and thus resists the tendency to lift out of the trough when the cover is raised. These undercut grooves serve the further purpose of so keying the body of metal or the several divided bodies of metal to the walls of the trough as to cause the metal to draw away from the flange of the cover, in cooling, and thus facilitate release of the cover.

I do not limit my invention to any particular form of container or receptacle; as illustrated in Fig. 3, it may be applied to a receptacle such as a cup 1^a employed for annealing small metallic parts such as bolts, nuts, rivets or the like having a cover 2^a provided with a tapered flange 6^a that dips within a trough 5^a surrounding the upper portion of the cup 1^a and has in addition thereto a protecting lip 12 that overhangs the outer wall of the trough. Nor do I limit my invention to the use in connection with annealing apparatus as it will be found to be useful in other industrial processes where the exclusion of air is desired while subjecting articles to high temperatures.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent is:—

1. In an apparatus of substantially the character described, the combination of the lower member having a trough and the upper member having a tapered flange dipping within the trough.

2. In an apparatus of substantially the character described, the combination of the lower member having a trough and containing a body of fusible metal, and the upper member having a tapered flange within the metal in the trough.

3. In an apparatus of substantially the character described, a base having a surrounding trough adapted to contain fusible metal and having a flange or rib extending into the trough from a wall thereof for the purpose of indenting a body of metal fused in the trough.

4. In an apparatus of the character described a base having a surrounding trough adapted to contain fusible metal and flanges or projections extending into the trough from a wall thereof at points where the trough changes its direction.

5. In an apparatus of substantially the character described a base constructed with a trough and with dividing ribs or flanges extending into the trough from both walls thereof.

6. In an apparatus of substantially the character described, a base having a trough extending around the sides thereof and dividing ribs or flanges extending into the trough from opposite points in the respective walls thereof.

7. In an apparatus of substantially the character described, a base having a plurality of sides and having a trough extending around the sides, constructed with dividing ribs or flanges extending inwardly from opposite points in the walls of the trough where the direction of the trough changes.

8. In an apparatus of substantially the character described, the combination of the base having a trough and a cover having a flange projecting into the trough; the trough being constructed with means to cause a fusible sealing metal to adhere thereto and the flange of the cover being tapered to facilitate separation from the sealing metal.

9. In an apparatus of substantially of the character described, a base constructed with a trough and with undercut grooves in the wall thereof.

10. In an apparatus of substantially of the character described, a base constructed with a trough and with undercut grooves in both walls thereof.

11. In an apparatus of substantially of the character described, a base constructed with a trough and with undercut grooves in both walls thereof, and with dividing ribs or flanges forming indentations in a body of sealing metal placed in said trough.

WILLIAM R. KINNAR.

In presence of—

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