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C. A. FINN

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ANNEALING POT

Filed Nov. 3, 1930

Fig. 1.

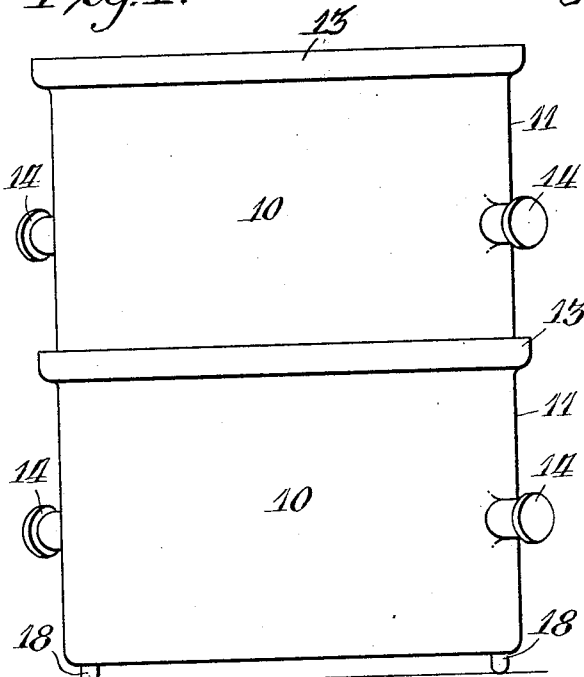


Fig. 2.

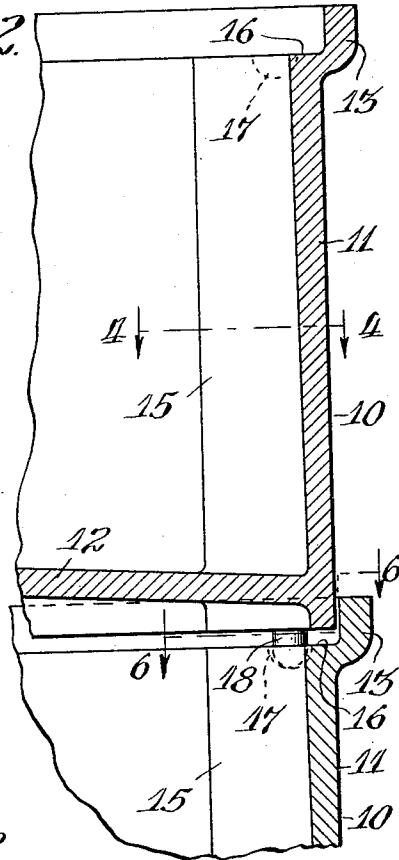
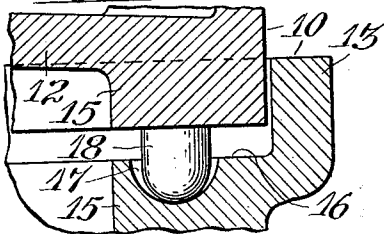


Fig. 5.

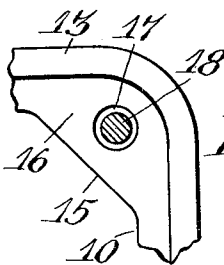


Fig. 6.

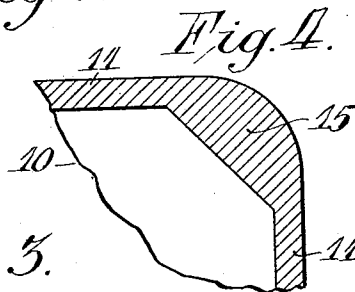


Fig. 4.

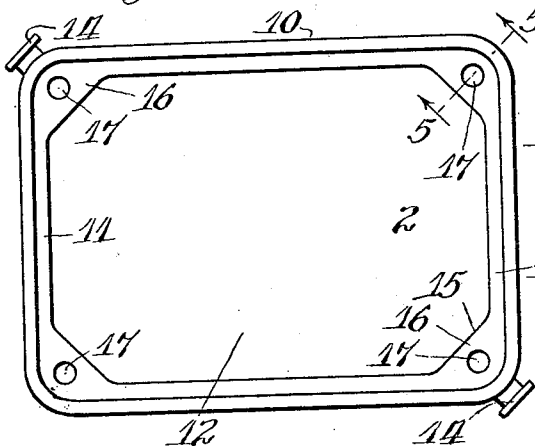


Fig. 3.

Inventor
Charles H. Finn,
By Paul C. Dines
Att'y.

UNITED STATES PATENT OFFICE

CHARLES A. FINN, OF RACINE, WISCONSIN, ASSIGNOR TO BELLE CITY MALLEABLE IRON COMPANY, OF RACINE, WISCONSIN, A CORPORATION OF WISCONSIN

ANNEALING POT

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The invention is in an annealing pot.

Such pots usually are rectangular and box-shaped, the same in practice being loaded with parts to be annealed. To enable stacking of these pots in tiers within a kiln, they are so constructed that the bottom of one pot may fit into the top of another pot. This sacking imposes considerable weight on the walls and corners of the pots.

Combined with this is the deleterious action of fire to which the pots are exposed, causing oxidization and gradually weakening of the walls and corners which eventually results in outward warping or bulging of the walls to such an extent that they can no longer be stacked. As continued use of distorted pots is out of the question considerable expense is involved in the frequent pot replacements necessitated.

The primary objects of this invention are to construct these annealing pots in such a manner as to carry the weight of stacked pots through strengthened corner structure in each pot, combined with means relieving the walls of all load carrying duty, such means furthermore to impose a resistance which will tend to thwart pot distortion, and thus maintain the original rectangularity of the pots.

Such desirable objects are achieved in the practicable form of the invention herein selected for purposes of illustration, in which each pot is rectangularly shaped with a thickening at the inside of each corner of the pots, which thickening in effect constitutes a post or column. Such corner columns, however, do not extend above the side walls of the pot and preferably are cut off flush with such walls at their upper ends. Each top end of such column is then formed with a depression which is relatively smaller than the top area of said column and substantially centrally disposed thereon. Next the bottom of each pot at its corners is formed with a short protruded boss or leg adapted to seat in the depressions mentioned when stacking the pots. The arrangement will be such that the weight will be carried by the corner columns entirely independent of the walls of the pots. Further, the legs and depressions are interlocked thereby tying the pots to-

gether in such a manner as to form a strong resistance preventing distortion of the pots out of their rectangular formation.

In the accompanying sheet of drawings illustrating the improved annealing pot;

Figure 1 is a side elevational view showing two of the pots stacked;

Figure 2 is a vertical, sectional view, through two stacked pots as seen along the line 2—2 shown in Figure 3;

Figure 3 is a top plan view of the pot;

Figure 4 is a cross sectional view as seen along the horizontal section line 4—4 appearing in Figure 2, to show a corner;

Figure 5 is an enlarged sectional view to illustrate the pot interlock as seen along the line 5—5, as shown in Figure 3; and,

Figure 6 is a horizontal sectional view of the same interlock detail, as seen along the line 6—6, appearing in Figure 2.

In practice the pot may be made as an integral casting in rectangular shape with vertical side walls 10 and vertical end walls 11. A raised bottom 12 is included in the pot, the same being inwardly and upwardly bowed to truss and strengthen the same. An outwardly and upwardly flared flange 13 is formed around the top side of the pot whereby one pot may be telescoped part way and set into another pot for stacking the same in a tier, as shown in Figure 1. Trunnions 14 are arranged at diagonally opposed corners to facilitate handling of the pots.

These pots in use carry heavy loads and are exposed to fire and high temperatures. Such exposure by a process of oxidation causes scaling off of the pots which thins and weakens the walls thereof. Obviously, then, it is desirable to relieve these walls of all weight carrying duty to prevent bulging and distortion of the pots, thereby insuring at all times and regardless of the reasonable number of heats to which they have been subjected, that they will and can be properly stacked in tiers.

In solving this problem each inside corner of the pot is formed with a substantial thickening comprising vertical corner posts or columns whose top ends present a relatively large flat area 16 that lies flush with

the top line of the walls 10 and 11 inwardly of and lower than the flared flange 13. Formed substantially centrally on each side area or surface 16 is a rounded, relatively small, depression 17. These posts or columns 15 extend downwardly and at their lower ends are cut off or formed flat and flush with the bottom line of the walls 10 and 11, as shown best in Figures 2 and 5. Protruding downwardly and centrally from the bottom end of each post 15 is a short elongated boss or leg 18, each such boss having a lower, rounded, end curved on a radius less than the radius of curvature of the depressions 17.

Now then, when stacking two pots as shown in Figures 1, 2 and 5 the bosses or legs 18 will register with and fit in the depressions 17 in a manner to transmit all load through the superimposed posts 15 thereby relieving the side and end walls 10 and 11 of any strain tending to bulge the walls. Further these legs and depressions interlock in such a way as to build up a resistance against forces acting to destroy the rectangularity of the pots. By having the difference in curvatures described in the depressions and legs it is found these legs or bosses guide more easily into the depressions and better find their seats. Also enough clearance is provided to compensate for expansion and contraction thereby eliminating cramping. The bosses also serve as legs when standing a pot on the floor or ground. When dumping a pot, it is upended and therefore any dirt accumulations which may have formed in the depressions automatically clean out. Consequently no problem in connection with choked up depressions is presented.

In conclusion, it must now be apparent that an improved annealing pot has been provided which achieves the objects heretofore set forth.

It is the intention to cover herein all such changes and modifications of the example herein disclosed as do not constitute a departure from the spirit and scope of the invention as expressed in the following claims.

What is claimed is:

1. An annealing pot having a bottom and connected side and end walls, vertical posts formed in the corners between each side and end wall, each said post terminating at its upper end in a flat area substantially flush with the top edges of the adjacent walls, said area having substantially centrally formed therein a depression, and a downwardly protruding boss at each bottom corner, said bosses adapted to register in similar depressions of an adjacent pot when stacked to transmit the load through the posts independently of and to relieve the walls and to interlock the corners whereby to resist distortion of the walls.

2. An annealing pot having connected

side and end walls in rectangular form, a bottom, a vertical post formed in each corner, each post at its upper end presenting a flat area substantially flush with the top edges of the adjacent walls, said area having formed therein a relatively small depression, and a downwardly protruding boss at the bottom end of each post, said bosses adapted to register in similar depressions of an adjacent pot when stacked to transmit the load through the posts independently of and to relieve the walls and to interlock the corners, obviating distortion of the walls out of their rectangular form.

3. An annealing pot having connected side and end walls in rectangular form, a bottom, a post formed in each corner of the pot, the upper ends of the posts presenting flat areas substantially flush with the top edges of the walls, the flat areas each formed with a relatively small depression, and the bottom of each post having a boss so projecting below the bottom as to enter a corresponding depression in a pot therebelow.

4. An annealing pot having connected side and end walls in rectangular form, a bottom, a post formed in each corner of the pot, the upper ends of the posts each presenting a flat area substantially flush with the top edges of the walls, the flat areas each formed with a relatively small rounded depression, and the bottom of each post having a boss projected below the bottom, the lower ends of said bosses being rounded to seat in complementary similar depressions formed in an adjoining stacked pot.

5. An annealing pot having connected side and end walls in rectangular form, a bottom, a post formed in each corner of the pot, the upper ends of the posts each presenting a flat area substantially flush with the top edges of the walls, the flat areas each formed with a relatively small rounded depression, and the bottom of each post having a boss projected below the bottom, the lower ends of said bosses being rounded to seat in complementary similar depressions formed in an adjoining stacked pot, the depressions being rounded on a longer radius than the rounded ends of the bosses, whereby the bosses will readily guide into the depressions.

CHARLES A. FINN.

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