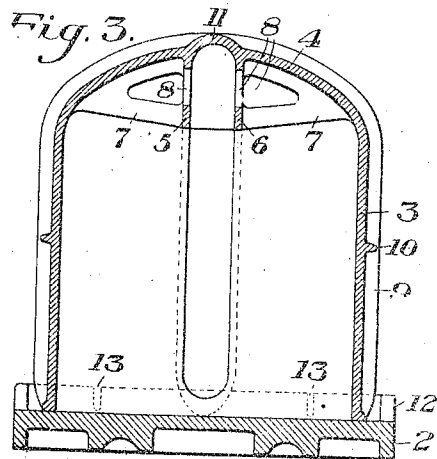
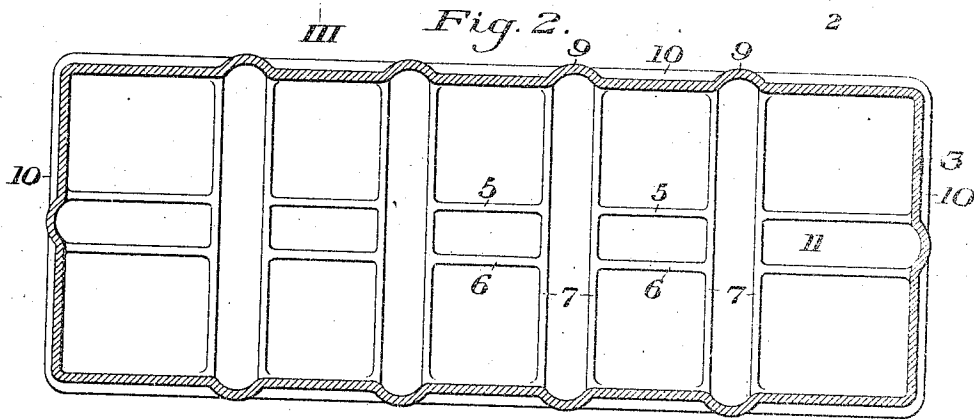
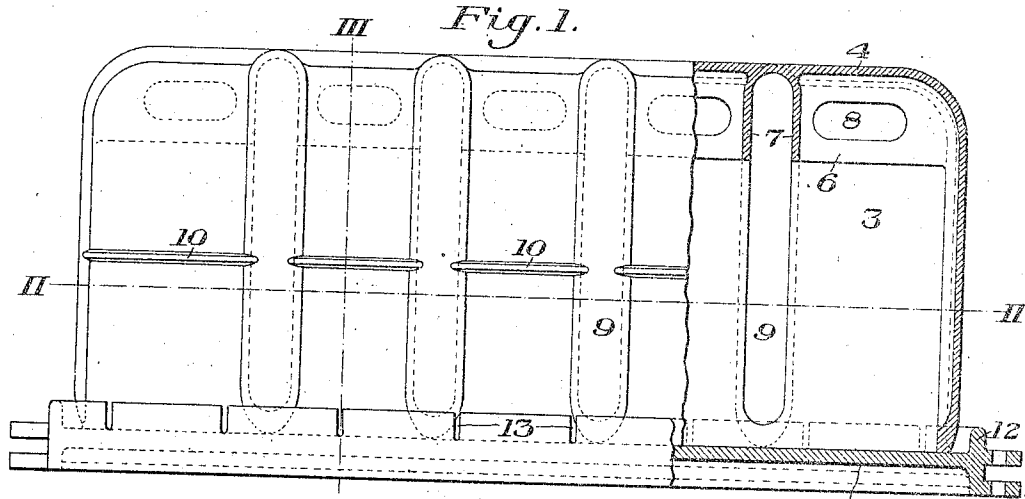


F. E. MESTA:
ANNEALING BOX.
APPLICATION FILED AUG. 2, 1909.

944,343.

Patented Dec. 28, 1909.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDRICK E. MESTA, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO MESTA MACHINE COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ANNEALING-BOX.

944,343.

Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed August 2, 1909. Serial No. 510,692.

To all whom it may concern:

Be it known that I, FREDERICK E. MESTA, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Annealing-Box, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view, partly broken away, of an annealing box embodying my invention; Fig. 2 is a section on the line II—II of Fig. 1 looking upwardly; and Fig. 3 is a section on the line III—III of Fig. 1.

My invention has relation to annealing boxes, and is designed to provide a novel construction of box adapted to withstand the severe heat to which it is subjected in service, and which possesses certain novel features of construction by which it is rendered more durable than boxes heretofore generally in use.

The precise nature of my invention will be best understood by reference to the accompanying drawings, in which I have shown the preferred embodiment thereof, and which will now be described, it being premised that various changes may be made in the details of the construction and arrangement of the parts without departing from the spirit and scope of my invention as defined in the claims.

In these drawings, the numeral 2 designates the base or bottom portion of the box, and 3 the top portion or box proper. This top portion is preferably formed as a single integral casting of oblong rectangular form, with an arched top or roof 4. For the purpose of supporting this roof and preventing collapse thereof, its under side is provided with the central parallel longitudinally extending webs or ribs 5 and 6 which are separated from each other a short distance. These webs are broken or interrupted at intervals by the transverse truss or supporting webs 7, which connect them with the side walls of the box, the points of connection of said webs 7 with the roof wall being preferably considerably above the points where the roof springs from or joins the sides of the box. The webs 7 are arranged in pairs, as shown, and extend entirely across the roof. These webs, together with the webs and ribs 5 and 6, may be cored

out as indicated at 8, for the purpose of lightening the construction.

The side and end walls of the box are reinforced and stiffened by the vertical outward swells or ribs 9. One of these swells or ribs is provided adjacent to the ends of each pair of the truss or brace webs 7. They are preferably of convex form on their outer surfaces and concave on the inner side, the metal therein being of the same thickness as the metal of the body portion of the box, whereby the formation of strains in the casting is prevented. One of these reinforcing ribs or swells is also provided at each end of the box and joins the ends of the longitudinal webs 5 and 6. The swells or ribs 9 are preferably connected by one or more longitudinal exterior ribs 10, these ribs also extending around the ends and corners of the box, as shown in Fig. 2. The roof of the box is also preferably provided with the central longitudinal reinforcing rib or swell 11.

The base portion 2 may be of any ordinary or usual construction, except that the upwardly extending side and end flanges are preferably provided with a plurality of vertical slits or slots 13. These slits or slots are provided at intervals, and are for the purpose of relieving the strains due to expansion and contraction, it having been found that in boxes as heretofore constructed with solid flanges, such flanges are apt to give way and break down.

The advantages of my invention will be apparent to those skilled in the art. The arrangement of the webs or braces 5, 6 and 7 is such as to form a compound truss for the arched roof of the box, which greatly strengthens it and prevents its collapse. The provision of the swells or ribs 9 also greatly stiffens and strengthens the side and end walls of the box. The webs 5, 6 and 7 are preferably of substantially uniform thickness at all points and do not differ greatly in thickness from the thickness of the side and end walls of the box, which greatly facilitates the casting and prevents the formation of initial strains.

What I claim is:

1. An annealing box formed as an integral casting and having an arched roof, said roof being provided with interior trussing or bracing webs arranged both trans-

versely and longitudinally of the box; substantially as described.

2. An annealing box formed as an integral casting and having an arched roof provided on its under side with a plurality of transversely and longitudinally arranged trussing or bracing webs, said webs being in pairs; substantially as described.
3. An annealing box formed as an integral casting and having an arched roof provided on its under side with a plurality of transversely and longitudinally arranged trussing or bracing webs, said webs being in pairs, and the transversely arranged webs extending entirely across the top portion of the arch and interrupting the longitudinal webs at intervals; substantially as described.
4. A cast steel annealing box having an integral arched roof provided with a plurality of transversely extending interior webs, said webs being arranged in pairs and above the line of junction of the arched roof and the side walls of the box; substantially as described.
5. A cast steel annealing box having an integral arched roof, and a plurality of interior transverse webs, said webs being arranged in pairs; substantially as described.
6. A cast steel annealing box having an integral arched roof provided with centrally arranged interior longitudinally extending bracing webs, and bracing members joining said webs to the wall of the roof; substantially as described.
7. A cast annealing box having an integral arched roof provided with parallel interior centrally arranged longitudinally extending strengthening ribs or webs, and a plurality of transverse stiffening members joining the webs or ribs to the wall of the roof; substantially as described.
8. A cast annealing box having an integral arched roof provided with parallel interior centrally arranged longitudinally extending strengthening ribs or webs, and a plurality of transverse stiffening members joining the webs or ribs to the wall of the roof; said members being arranged in pairs; substantially as described.
9. A cast annealing box having integral side, end and roof walls, the side walls having portions thereof swelled outwardly to form a plurality of vertical reinforcements, the metal of such reinforcements being substantially uniform in thickness with the metal of the body portion of the box; substantially as described.
10. A cast annealing box having integral side, end and roof walls, the side and end walls having portions thereof swelled outwardly to provide a plurality of vertically extending reinforcements, and the box hav-

ing exterior longitudinally extending ribs connecting the vertically extending reinforcements; substantially as described.

11. A cast annealing box having integral side, end and roof walls, the side walls having portions thereof swelled outwardly to provide vertically arranged reinforcements, said reinforcements extending upwardly over the roof of the box; substantially as described.

12. An annealing box having integral side, end and roof walls, the roof walls having transversely extending interior truss members arranged in pairs, and the side walls having vertically extending reinforcing ribs or swells which are connected at their upper ends to the said truss members; substantially as described.

13. An annealing box having integral side, end and roof walls, the roof wall having a system of interior bracing ribs or webs arranged both longitudinally and transversely of the box, and the side and end walls having vertical reinforcing swells; substantially as described.

14. An annealing box having an integral roof portion provided with interior bracing ribs or webs, and having its central portion swelled outwardly and upwardly to provide a longitudinal reinforcement, the metal of such reinforcement being substantially equal in thickness to that of the body portion of the roof; substantially as described.

15. An annealing box having a base provided with vertically extending flanges, said flanges having therein a plurality of vertical slots or slits; substantially as described.

16. An annealing box having an integral roof portion provided with interior bracing ribs or webs, and having its central portion swelled outwardly and upwardly to provide a longitudinal reinforcement, the metal of such reinforcement being substantially equal in thickness to that of the body portion of the roof, said reinforcement extending continuously the full length of the roof and also downwardly along the ends of the box; substantially as described.

17. An annealing box having an integral arched roof, whose central portion is swelled outwardly to form a convexo-concave reinforcement, the metal of which is substantially uniform in thickness with the metal of the body portion of the roof; substantially as described.

In testimony whereof, I have hereunto set my hand.

FREDRICK E. MESTA.

Witnesses:

G. E. TOWNSEND,
J. B. CONNOLLY.