Oct. 30, 1928. 1,689,789

G. LASKER

METHOD OF PRODUCING SECTIONAL BOILER DRUMS

Filed Sept. 19, 1925 2 Sheets-Sheet 1

Fig. 1.

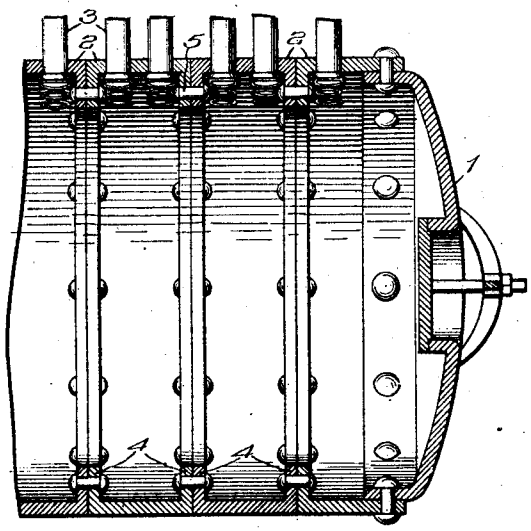


Fig. 2.

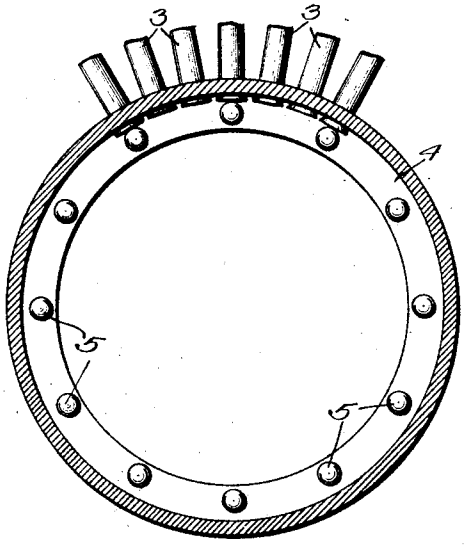
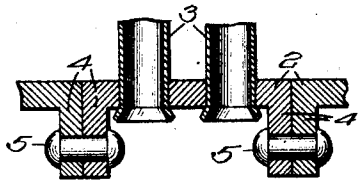


Fig. 3.



Witnesses:
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Fig. 4.

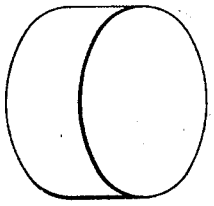


Fig. 5.

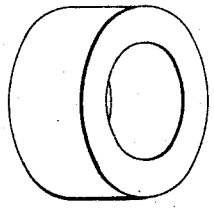


Fig. 6.

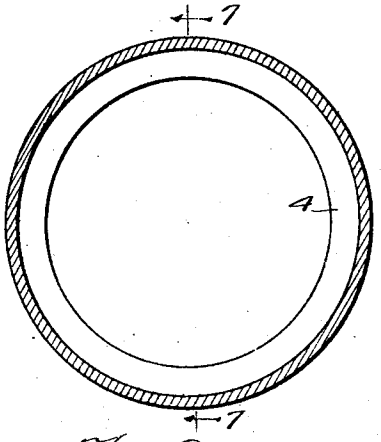


Fig. 7.

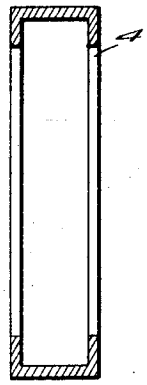


Fig. 8.

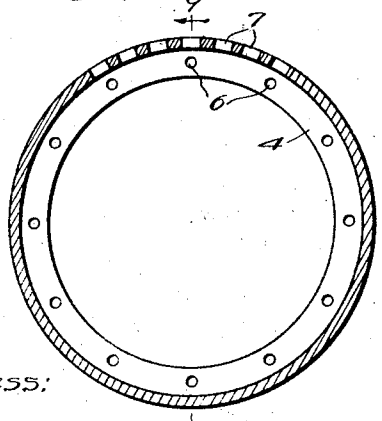
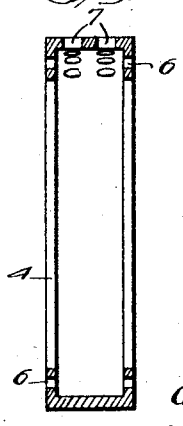


Fig. 9.



Witness:
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Patented Oct. 30, 1928. 1,689,789

UNITED STATES PATENT OFFICE.

GEORGE LASKER, OF CHICAGO, ILLINOIS.

METHOD OF PRODUCING SECTIONAL BOILER DRUMS.

Application filed September 19, 1925. Serial No. 57,448.

My invention relates to sectional drums and a method of producing the same, and particularly to a sectional drum construction adapted for use in boilers, stills, furnaces, tanks or the like, and a method of producing such sectional drums.

It is an object of the invention to provide sectional drums which will be relatively light in weight and have great strength.

Another object of the invention is to provide improved sectional drums in which there will be no longitudinal joints or seams.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claim.

In the drawings, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a longitudinal sectional view of a drum used for a water tube boiler;

Fig. 2 is a section taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a sectional detail showing the manner of fastening adjacent sections and of securing the tubes to the drum;

Fig. 4 represents a perspective view of a billet from which a boiler section is to be formed in accordance with my invention;

Fig. 5 is a perspective view of such a billet after having been pierced;

Fig. 6 represents a sectional view of such a pierced billet at a subsequent stage of the process;

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 6;

Fig. 8 is a sectional view similar to Fig. 6 at a still later stage of the process; and

Fig. 9 is a sectional view taken on the line 9—9 of Fig. 8.

Referring to the drawings, wherein I have illustrated several preferred embodiments of my invention, there is shown in Figs. 1, 2 and 3, a drum comprising ends 1 and a plurality of seamless annular sections 2 held therebetween. In the particular form shown, the drum is to be used in connection with the tubes 3 extending radially of the drum axis, as part of a water tube boiler.

Each of the sections 2 is preferably made from a billet or ingot that has been cast at the furnace in the usual or any preferred manner, and then rolled into the shape shown. These ingots may be cast in the form of hollow cylinders and then rolled and expanded to the diameter, shape and thickness desired, or the ingots may be cast as shown in Fig. 4 and then pierced, as shown in Fig. 5, whereafter the rolling may be done to produce a section of the shape required. In this manner there is produced a seamless section or annulus, as seen in Figs. 6 and 7, which, while of thin section, yet is capable of withstanding higher pressure for its thickness than if the section were welded or had a longitudinal joint therein. Flanges 4 may be formed at one or both sides of the sections 2 during the rolling thereof, these flanges not only providing means for attaching adjacent sections together by means of rivets or the like 5, but also reinforcing the drum, and these flanges are especially desirable where the drum has been weakened by the necessity of removing sufficient material therefrom for the insertion of the tubes 3. It will be noted that the rivets are not exposed to the fire as in the usual construction. After the rolling operation, rivet holes 6 are provided in the flanges, and openings 7 are provided to receive the tubes 3 (see Figs. 8 and 9).

It will be noted that the rivets and flanges are on the water side of the drum, or in other words, that the fire does not come directly onto said flanges or rivets, thus insuring a longer serviceability of the parts. Any of the sections may be renewed at will, and when re-assembled the boiler will be as good as before. Furthermore, the possibility of failure is reduced, not only because of the higher grade of material used, but because only local parts are affected by fire or the like, instead of the whole boiler.

It will also be noted the drum is composed of adjoining seamless cylinders having a reinforcing ring at the sides in the form of a flange, thus permitting the use of comparatively light gauge material for high pressures.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construc-

tion, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

The method of making a boiler drum section, comprising piercing an ingot and thence rolling it so as to thin its peripheral wall and increase the diameter, removing spaced portions of material from the wall to form tube receiving openings and forming a flange laterally of said wall.

In testimony whereof, I have hereunto signed my name.

GEORGE LASKER.