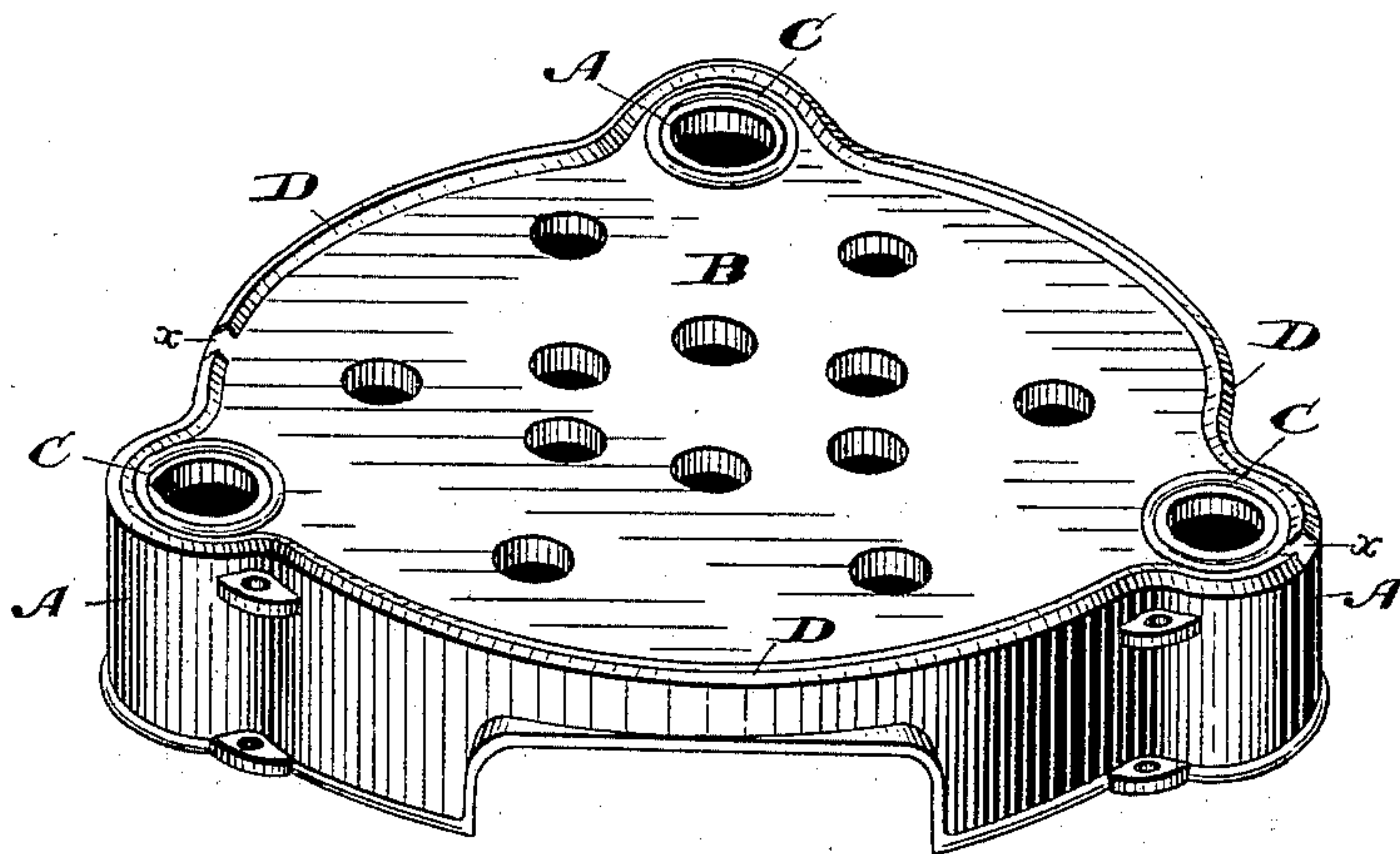


(No Model.)

E. GURNEY.
SECTIONAL FURNACE JOINT.

No. 401,827.

Patented Apr. 23, 1889.



Witnesses.

J. M. Jackson
Chas. H. Riches.

Inventor:

Edward Gurney
by
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Attys

UNITED STATES PATENT OFFICE.

EDWARD GURNEY, OF TORONTO, ONTARIO, CANADA.

SECTIONAL FURNACE-JOINT.

SPECIFICATION forming part of Letters Patent No. 401,827, dated April 23, 1889.

Application filed May 21, 1888. Serial No. 274,564. (No model.)

To all whom it may concern:

Be it known that I, EDWARD GURNEY, manufacturer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a certain new and Improved Sectional Furnace-Joint, of which the following is a specification.

The invention relates to an improvement in that class of hot-water boilers having water-legs extending through each section and communicating with each other, the water-leg joints being formed by rings of compressible piping.

The object of the invention is to form a gas-tight joint between the sections without interfering with or being interfered with by the joints formed around the water-legs; and it consists, essentially, in inserting between the sections a continuous strip of asbestos or other suitable material, the said strip being shaped so as to extend above the surface of the rings forming the independent water-leg joints.

The drawing shows a perspective top view of a section, showing the application of my improved gas-tight joint.

A represents the water-legs, which extend through the section B. Around each water-leg I place a hollow ring, C, made of lead or other compressible material, which ring fits into a groove formed around each water-leg A.

D represents my improved packing, which is preferably made of asbestos and formed substantially in the shape shown at *x x*, so that its base shall rest on the section and its apex project above the rings C. It is of course not necessary that the packing D should be made exactly in the form shown; but I think that shape preferable; but it is absolutely necessary that the top surface of the packing shall extend above the top surface of the rings. This packing D, it will be seen, extends completely around the section and is a continuous piece; or, if made in sections,

the sections must overlap each other at the joints, in order that a continuous close joint may be formed.

When the sections are placed on each other and bolted together, the packing D will first be compressed until the rings C find their bearing. Consequently a perfect gas-tight joint is formed between the sections, as well as independent water-joints around the water-legs.

A great advantage in the adoption of my invention will be the ease with which the sections may be secured together. In fact it will not be necessary to employ skilled hands to erect the furnaces when the sections are once properly fitted. Any one can place the rings C and packing D in position and bolt the sections together.

I deem the different heights of the packing important, and that a soft or easily-compressible material, as asbestos packing, be employed for the outer packing and metal rings around the water-legs, because this admits of the larger surface being much compressed before the rings get any bearing, and will admit also of compression until the rings make their joints water-tight, whereas if both the rings and the outer packing were made of the same height and material as has been proposed there would be great difficulty in making both styles of joints water and gas tight.

What I claim as my invention is—

In a hot-water sectional boiler having joints formed around its water-legs by compressible metal rings C, the combination of a softer and easier compressible packing, D, placed on the section and extending above the top surfaces of the rings C, substantially as and for the purpose specified.

Toronto, May 4, 1888.

EDWARD GURNEY.

In presence of—

CHARLES C. BALDWIN,
CHAS. H. RICHES.