

R. MONTGOMERY.  
 Improvement in Water-Logs of Steam-Boiler Fire-Boxes.  
 No. 126,476.  
 Patented May 7, 1872.

Fig. 2

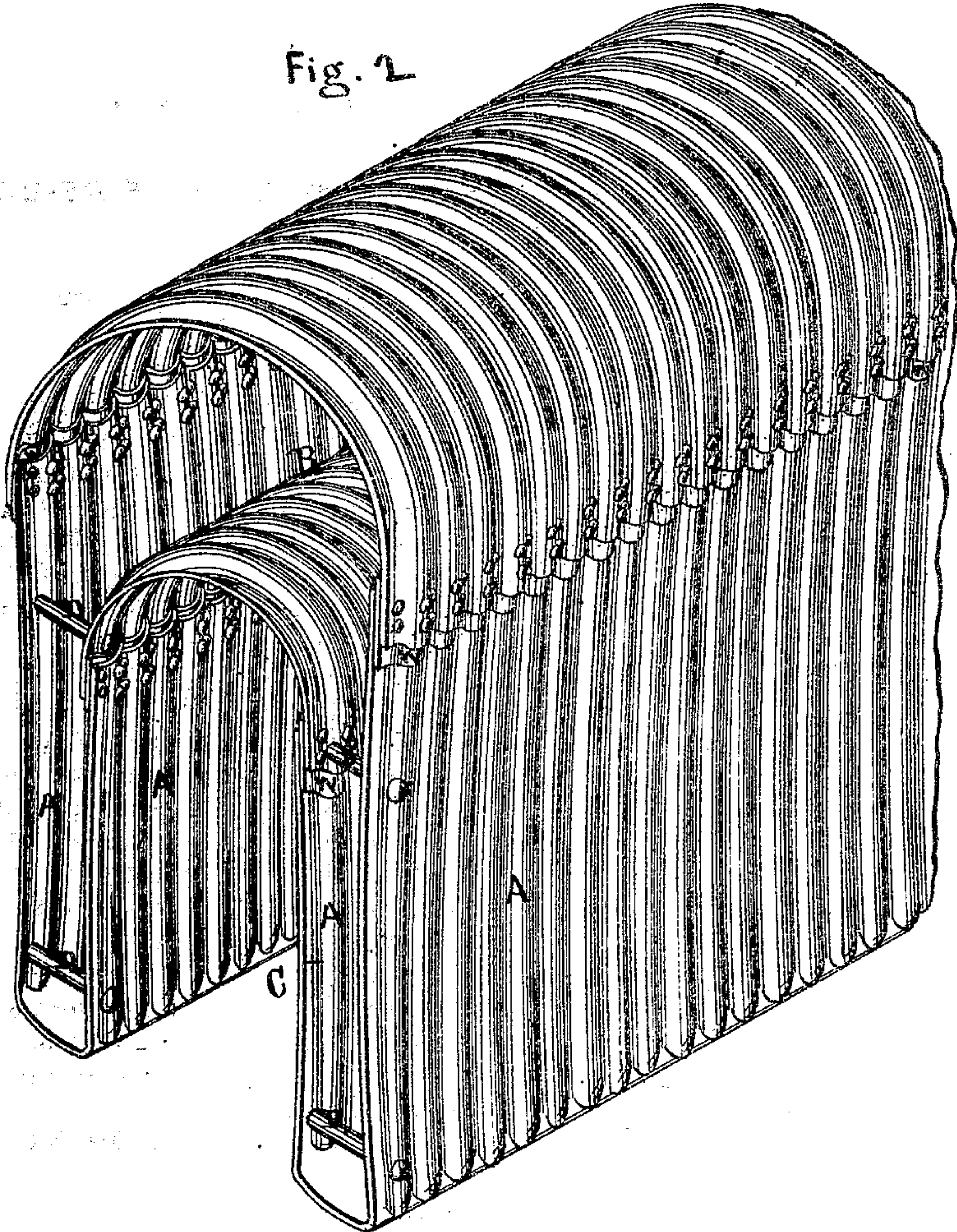
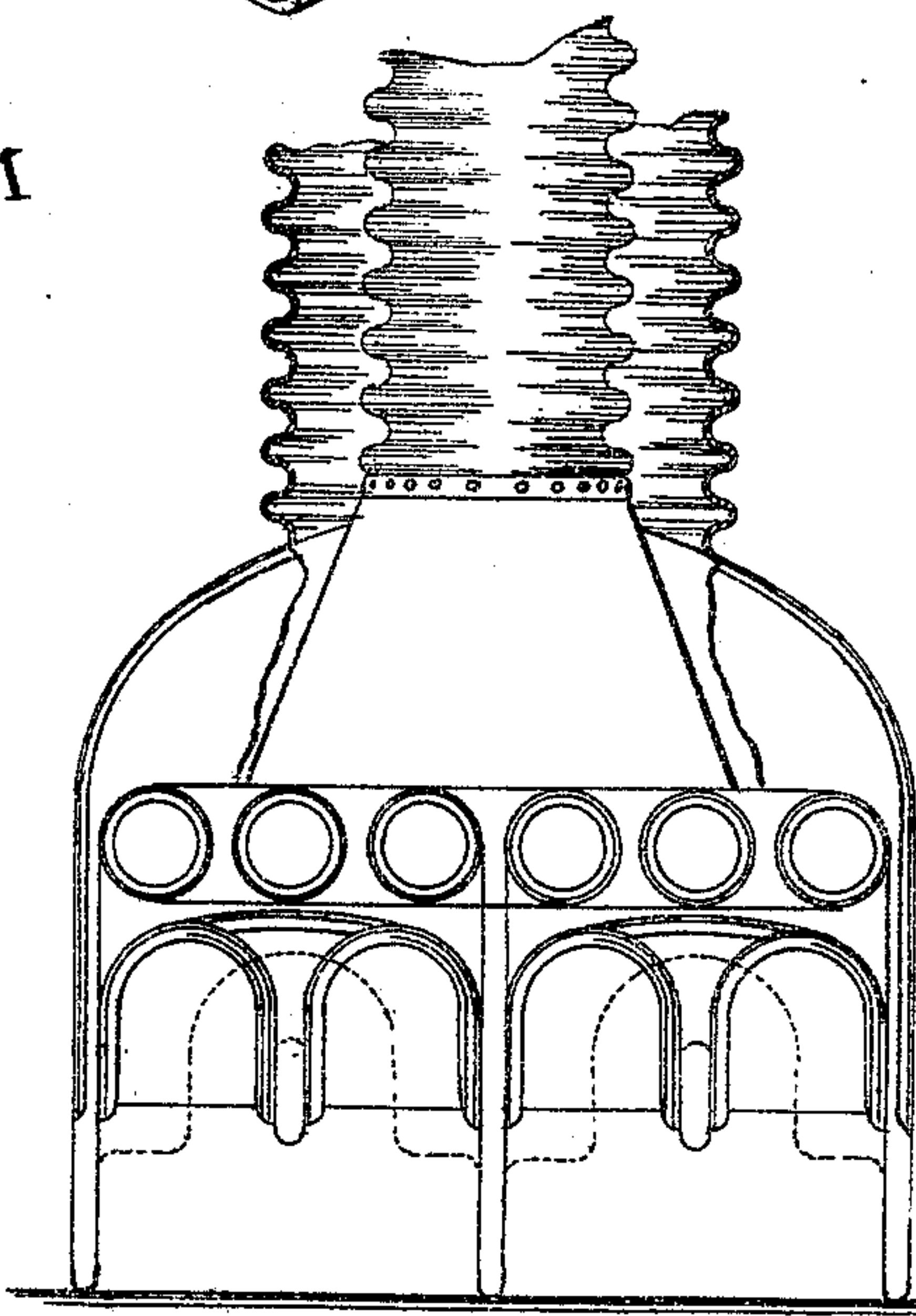


Fig. 1



Witnesses.  
 Ewell A. Dick  
 Edwin F. Brown

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# UNITED STATES PATENT OFFICE.

RICHARD MONTGOMERY, OF NEW YORK, N. Y.

## IMPROVEMENT IN WATER-LEGS OF STEAM-BOILER FIRE-BOXES.

Specification forming part of Letters Patent No. 126,476, dated May 7, 1872.

### SPECIFICATION.

I, RICHARD MONTGOMERY, of the city, county, and State of New York, have invented Improvements in the Construction of Corrugated-Iron Steam-Boilers, of which the following is a specification:

My invention relates to the construction of the water-legs or spaces surrounding the fire-box of a steam-boiler, to contain water and form part of the boiler, with sides of corrugated iron, each curved or arched inwardly, so as to resist the internal pressure therein without the need of transverse bolts and stays.

In the accompanying drawing, Figure 1 is a front elevation, partly in section, showing four corrugated fire-boxes as applied to a boiler. Fig. 2 is an elevation in perspective of the fire-box and water-legs of a steam-boiler constructed according to my improvement, the end plates being removed.

A A, Fig. 2, are the side walls of that part of the steam-boiler B constituting its water-legs and inclosing its fire-box C. These side walls, in common with the remainder of the boiler, are made of corrugated iron, and are each so curved inwardly as that each water-leg presents the form of a double concave, the

crown of each curved or arched plate being made to project inwardly, as illustrated in Fig. 2. The ends of the arches or arched plates are tied by means of transverse bolts D D, which constitute abutments therefor, although the weight of the superstructure of the boiler in itself will generally suffice to prevent a springing of the arches.

By this construction of the water-legs the necessity of numerous stay and tie bolts is avoided, and the expense and danger of leakage attendant upon their use obviated; for the arched side plates, strengthened by corrugations running in the direction of their curve, will effectually resist all internal pressure thereon without the addition of stays or bolts.

I claim as my invention—

The water-legs of a steam-boiler, constructed with inwardly-curved or arched sides, formed of metallic plates corrugated in the direction of the curve, substantially as and for the purpose herein set forth.

R. MONTGOMERY.

Witnesses:

DAVID A. BURR,  
JAMES S. GRINNELL.