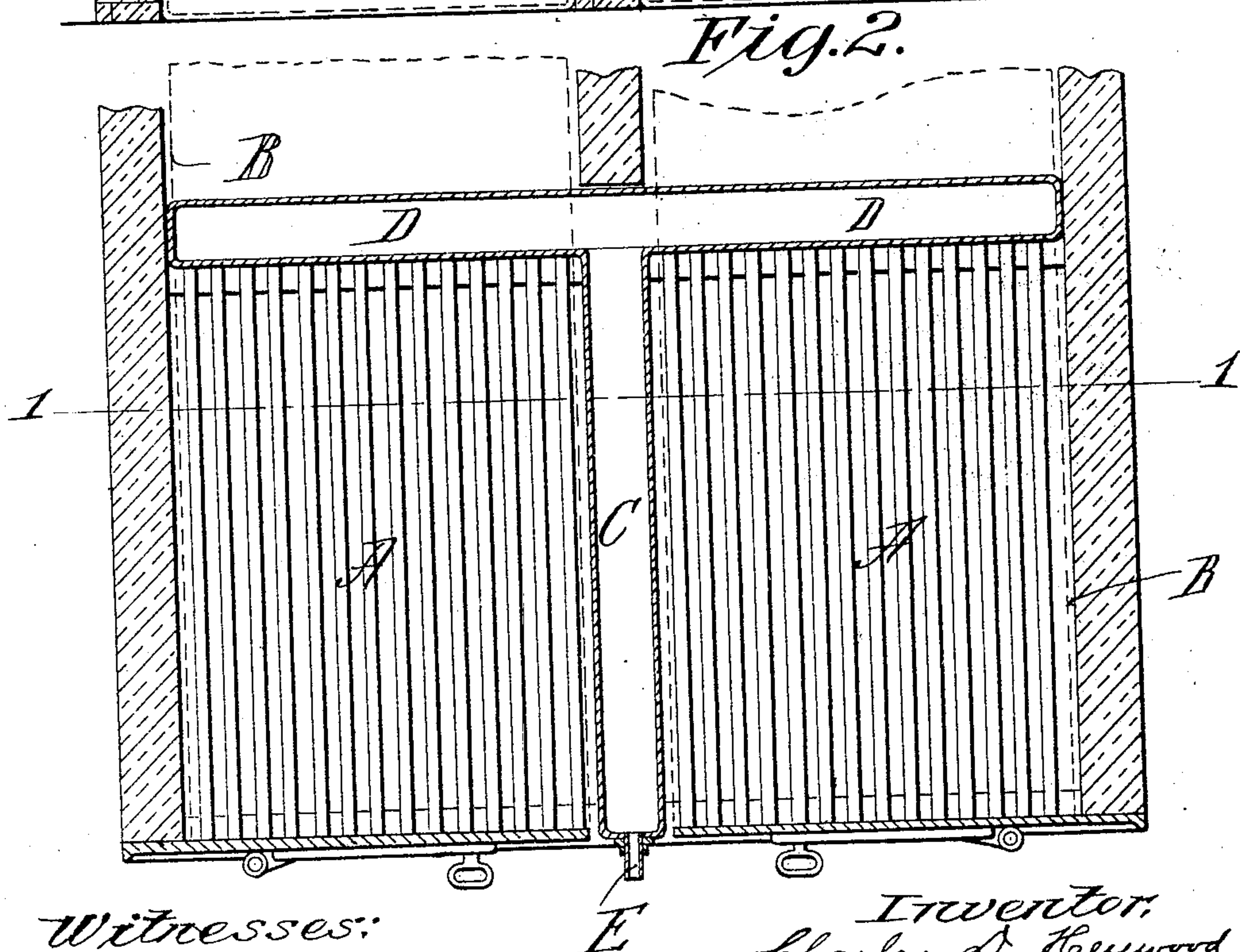
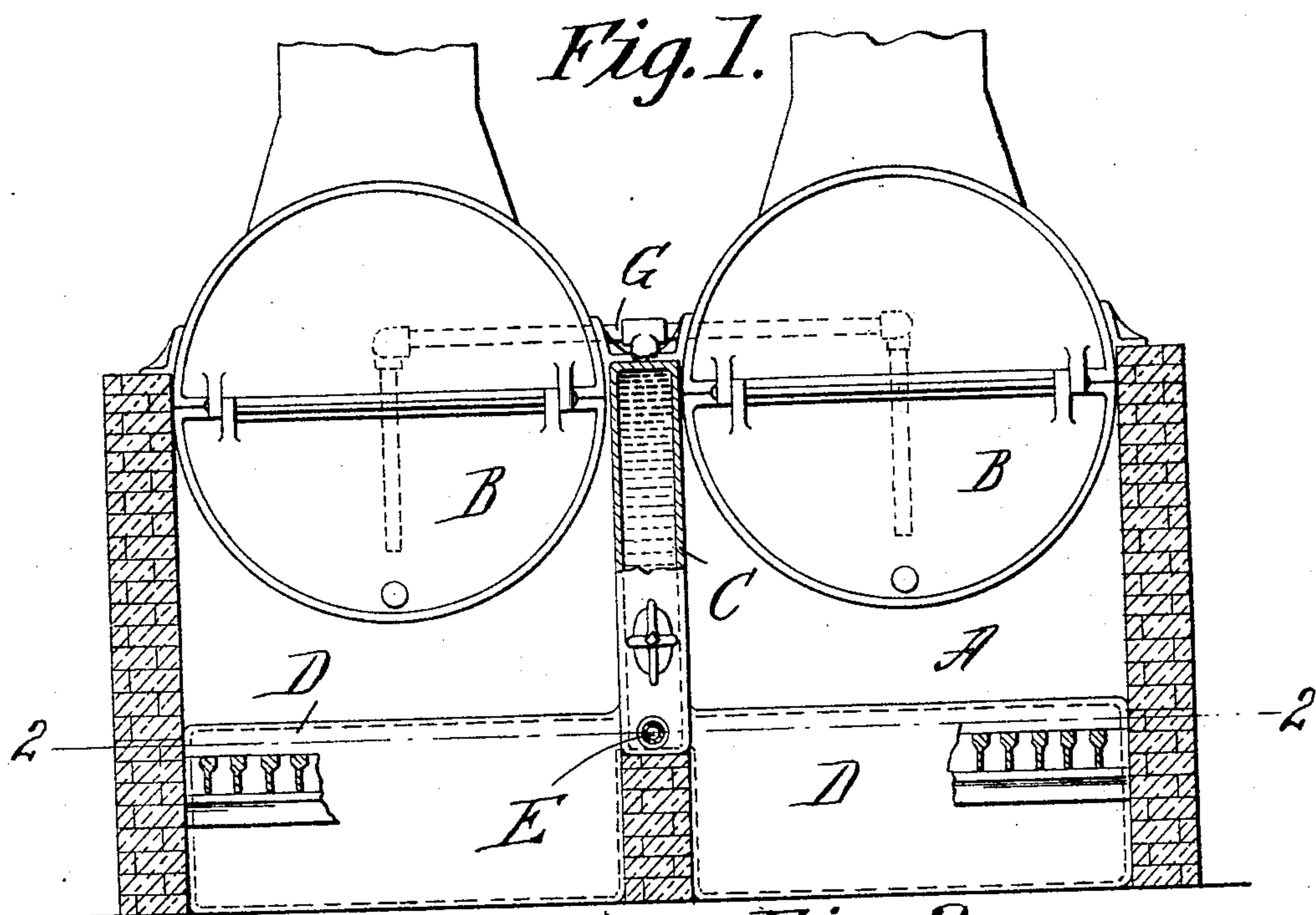


No. 803,533.

PATENTED OCT. 31, 1905.

C. D. HEYWOOD.
FEED WATER HEATER FOR BOILERS.
APPLICATION FILED SEPT. 23, 1904.



Witnesses:
J. D. Garfield
G. R. Driscoll

Inventor:
Charles D. Heywood
by W. J. Belline
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES D. HEYWOOD, OF HOLYOKE, MASSACHUSETTS.

FEED-WATER HEATER FOR BOILERS.

No. 803,533.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed September 23, 1904. Serial No. 225,699.

To all whom it may concern:

Be it known that I, CHARLES D. HEYWOOD, a citizen of the United States of America, and a resident of Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Feed-Water Heaters for Boilers, of which the following is a full, clear, and exact description.

This invention relates to appliances and arrangements available in conjunction with double parallel horizontal boilers and the furnaces thereunder, an object being to have the wall between the boilers and separating the furnace-chambers one from the other serve the double purpose of a partition and a water-receptacle, with the several advantages accruing thereto, as hereinafter stated.

Another object is to make the bridge-wall available, in conjunction with the aforementioned partition-wall, as a water-receptacle, augmenting the water-heating capability and improving in a protective way the bridge-wall.

As preferably carried out the invention contemplates the employment of an inclosed metal receptacle comprising a longitudinally-ranging and comparatively high portion and transverse oppositely-extending and lower portions (the chambers in the median and wing-like portions communicating one with another) arranged in combination with a pair of horizontal parallel boilers and the furnace-chambers thereunder, said longitudinal portion constituting the portion between and separating the boilers and furnace-chambers, and the wing-like portions having their tops below the under side of the boilers and constituting the bridge-walls, a water-supply pipe connecting into the said receptacle and a conduit leading from said receptacle into the boiler.

A boiler-furnace having the novel and useful peculiarity set forth as above is illustrated in the accompanying drawings.

Figure 1 is a vertical cross-section through the furnaces for the double boilers, which latter are shown in end elevation. Fig. 2 is a horizontal sectional view as taken on a plane just above the furnace-grates and as indicated by the line 2 2, Fig. 1. Line 1 1, Fig. 2, indicates the plane substantially on which the first figure is sectionally drawn.

In the drawings, B B represent parallel horizontal boilers arranged over the furnace-chambers A A in the most usual manner.

The wall C, partitioning the furnace-chambers one from another, is made in the form of a hollow metallic casing and for a water-receiver. The receptacle-partition, made comparatively high, as represented in Fig. 1, has in open communication with its rear portion transverse hollow extensions or wings D in suitably-low arrangement to make the bridge-wall of the furnace.

E represents a water-supply pipe leading into the T-shaped receptacle, and G represents a pipe leading outwardly and from an upper portion of the receptacle, it having branches, as here represented and understood as terminating within the boilers, although the pipe G may be extended otherwise and for termination in the boiler or boilers. The receptacle in the form of a rectangular casing utilized as the dividing-wall between the furnace-chambers, as well also as the hollow bridge-wall constituting wings unitary therewith, may be most practically and advantageously constructed in a built-up manner, using boiler-plate metal, although the partition-wall and the bridge-wall may be produced as hollow casings by casting.

Water being introduced into the chambers in the portions C and D D becoming heated augments the water-heating efficiency of the furnaces, and at the same time the liquid protects the walls of the receptacles from becoming destructively impaired by the heat of the furnace-fires.

I am of course aware of the existence of feed-water appliances employed in conjunction with boiler-furnaces, and notably appliances including water-pipe coils between and subject to the heat of non-partitioned fire-chambers of double or pluralized boilers. I am also aware that it has been proposed to employ jacketed outer walls for furnaced chambers, to use water-containing hollow metal furnace-mouth-protecting casings, and to use lengths of pipe embedded in the side walls of the fire-chamber; but it is not my purpose to attempt to claim any of such contrivances, one important aim in my case being to have a furnace-setting substantially as described between and partitioning pluralized furnace-chambers for the utility hereinabove rendered apparent, which is susceptible of being mounted in its position shown with ease and expeditious in fitting up and at a saving in expense of boiler-setters' labor.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A pair of horizontal and parallel boilers, and furnaces thereunder, and a partition between and separating the boilers and furnaces, and constituting the inner side wall of both furnaces, and consisting of an inclosed metal receptacle for water, a pipe for supplying water into said partition-receptacle, and means
10 for affording steam relief therefrom.

2. A pair of horizontal and parallel boilers, and furnaces thereunder, and a partition between the furnaces and boilers consisting of an inclosed metal receptacle for water, hollow
15 metal bridge-walls arranged right-angularly to, and connected with the lower rear portion of said partition-receptacle, a pipe for supplying water into the connected partition-receptacle and hollow bridge-walls and means
20 for affording steam relief therefrom.

3. An inclosed metal receptacle comprising

a longitudinally-ranging and comparatively high portion and transverse oppositely-extending and lower portions, the chambers in the median and wing-like portions communicating one with another, arranged in combination with a pair of horizontal parallel boilers and the furnace-chambers thereunder, said longitudinal portion constituting the portion between and separating the boilers and furnace-chambers, and the wing-like portions having their tops below the under side of the boilers, and constituting the bridge-walls, a water-supply pipe connecting into the said receptacle, and a conduit leading from said receptacle into the boiler. 25 30 35

Signed by me at Springfield, Massachusetts, in presence of two subscribing witnesses.

CHARLES D. HEYWOOD.

Witnesses:

WM. S. BELLOWS,

G. R. DRISCOLL.