

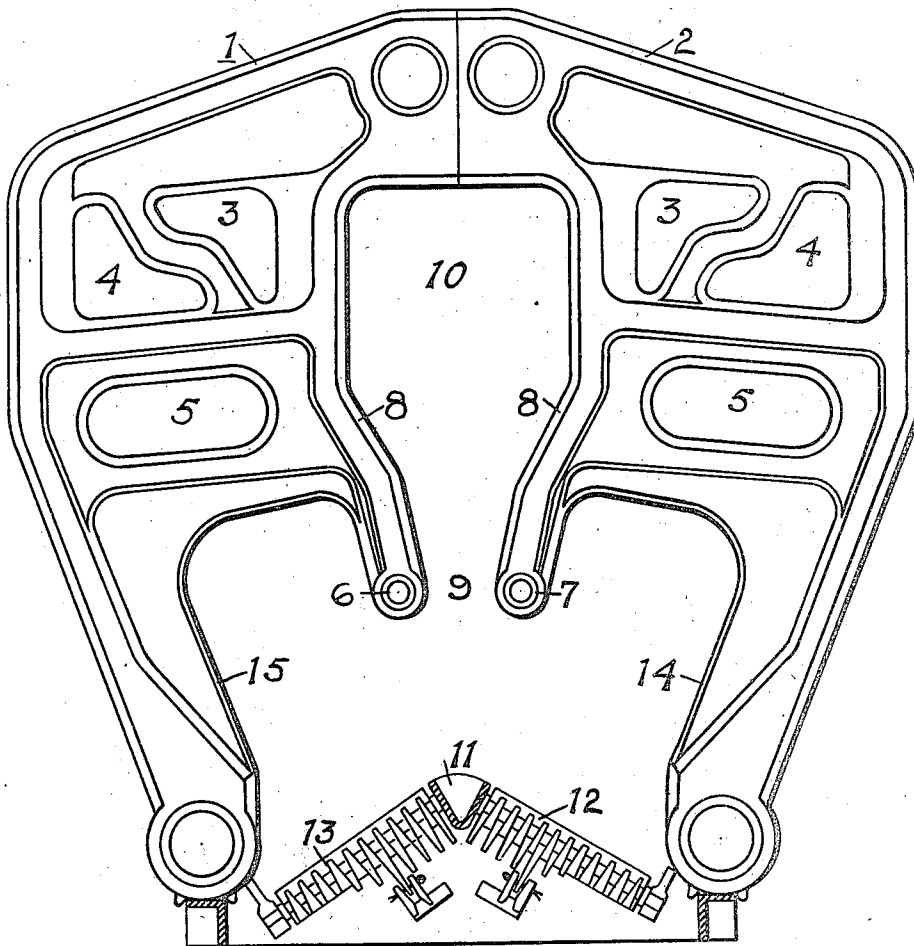
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SECTIONAL BOILER.

APPLICATION FILED OCT. 9, 1911.

1,045,668.

Patented Nov. 26, 1912.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID BOIES AND JOSEPH A. WADDELL, JR., OF SCRANTON, PENNSYLVANIA, ASSIGNORS TO SPENCER HEATER COMPANY, OF SCRANTON, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SECTIONAL BOILER.

1,045,668.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed October 9, 1911. Serial No. 653,753.

To all whom it may concern:

Be it known that we, DAVID BOIES and JOSEPH A. WADDELL, Jr., both citizens of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Sectional Boilers, of which the following is a specification.

The illustration is a vertical section through our boiler, parts being in elevation.

The numerals 1 and 2 designate a pair of sections for a boiler, the number of these sections being dependent upon the intended capacity of the boiler. Each section is provided with flue ways 3, 4 and 5, and with depending water legs 6 and 7. It will be seen from the drawing that the legs 6 and 7 converge gradually from the point 8 thus forming a restricted throat 9 for the fuel magazine 10.

The magazine and the restricted throat are formed by bringing the sections 1 and 2 together, as shown in the drawing, the inner wall of one section constituting one wall of the magazine and throat, while the inner wall of the other section constitutes the other wall of the magazine and restricted throat. Thus there is a water jacket surrounding the magazine and a water jacket for the restricted throat.

11 is a grate ridge bar, from each side of which grates 12 and 13 are extended in an inclined plane, said grates with the ridge bar constituting a raised grate with its apex centrally positioned with reference to the restricted throat 9 of the magazine 10.

The sections 1 and 2 are provided with depending portions 14 and 15 which constitute the side walls of the fire pot, into which the depending legs 6 and 7 of the restricted throat project, as clearly seen from the drawing.

Fuel deposited in magazine 10 will feed gradually through the restricted throat 9 on to the raised grate, and said grate being inclined downwardly from its ridge bar distributes the fuel evenly, thus promoting combustion and at the same time saving fuel and preventing dead spaces in the fire bed. The combined action of the restricted throat of the magazine and the raised grate results

in the fuel being more evenly distributed throughout the surfaces of the grate, whereby a more uniform and perfect heating of the boiler surface is effected. Another object of the raised grate is to avoid shaking fine coal through at the apex or point of feeding of the grate while agitating it sufficiently to cause the coal to feed from the hopper or magazine 10. Of course, the agitation to the grate is sufficient to insure full discharge of the ash or spent fuel. Of course, it is understood that each section is provided with water spaces.

We claim:—

1. A unit for a sectional boiler comprising two sections, the inner wall of each having a recess and a depending water leg, said leg and a part of said recess being disposed at an angle to the vertical, whereby when the sections are brought together in a unit, the recesses and water legs form a fuel magazine with a restricted opening.

2. A boiler furnace comprising an inclined grate, a fuel magazine above the high portion of the grate and a combustion chamber over the main body of the grate; said magazine and combustion chamber being constructed of hollow boiler sections, each comprising an inner wall formed with a recess providing one side of the magazine, and an inwardly inclined water leg depending therefrom there being a suitably related opposite magazine wall; and said water legs being disposed at an angle to form a restricted fuel outlet from the magazine presented toward the high point of the grate; said boiler section also having an outer wall presented downwardly and inwardly to provide the outer wall of the combustion chamber, and located to leave between it and the inwardly inclined depending water leg, a combustion chamber located over the main body of the grate.

The foregoing specification signed at Scranton, Pennsylvania, this 10th day of July, 1911.

DAVID BOIES.

JOSEPH A. WADDELL, Jr.

In presence of two witnesses:

JAMES GEARHART,

W. H. GEARHART.