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R. KIMMICK

STEAM BOILER FURNACE

Filed Aug. 3, 1927

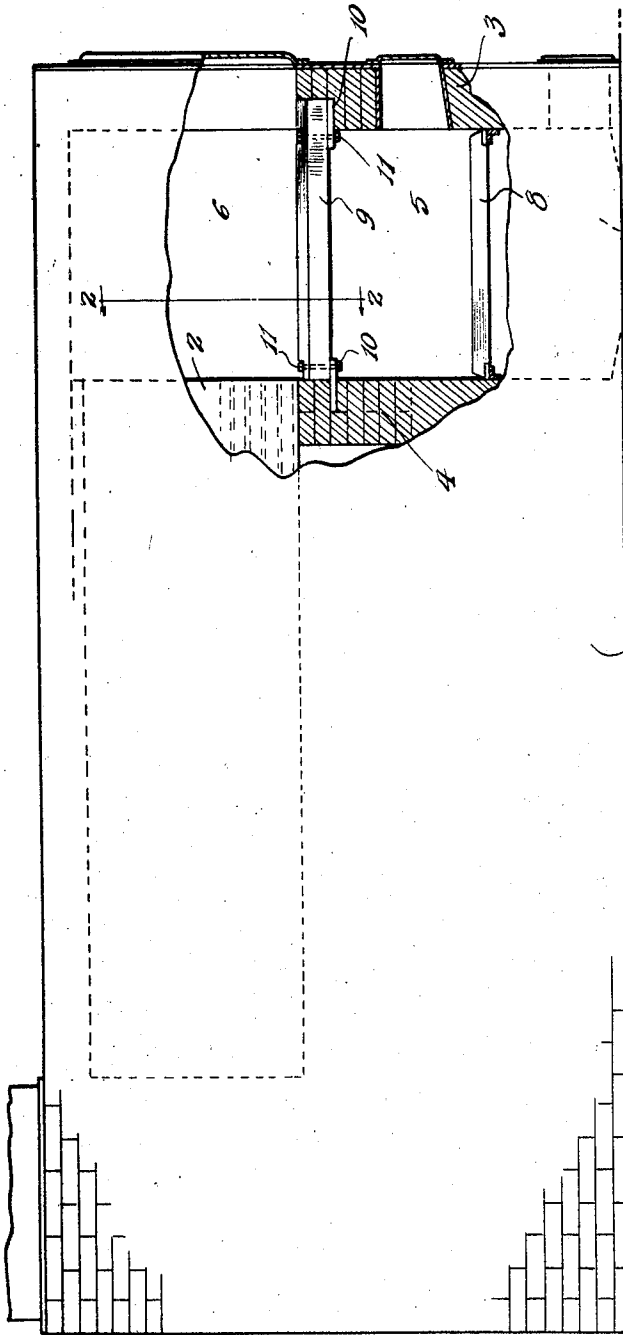


Fig. 1.

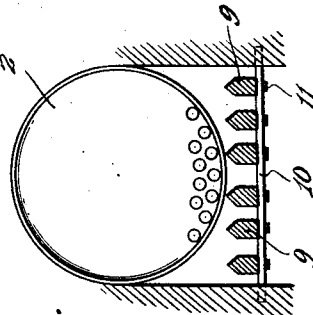


Fig. 2.

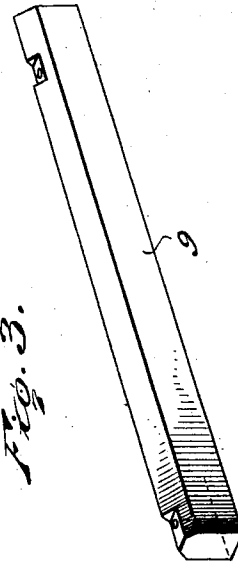


Fig. 3.

Inventor
Rudolph Kimmick.

By *Lacey & Lacey*, Attorneys

UNITED STATES PATENT OFFICE.

RUDOLPH KIMMICK, OF RAMAH, COLORADO.

STEAM-BOILER FURNACE.

Application filed August 3, 1927. Serial No. 210,346.

This invention relates to boiler furnaces, whether stationary or portable and burning oil or coal, and aims to conserve fuel and equalize the heat.

5 The invention contemplates an equalizer arranged in the combustion chamber of the furnace for absorbing heat and distributing the same uniformly and consisting of a plurality of metal bars spaced apart a small distance and independently mounted to facilitate repairs and access to the fire box, or combustion chamber, as required.

15 While the drawing illustrates a preferred embodiment of the invention, it is to be understood that in adapting the means to meet specific needs and requirements, the design may be varied and such other changes in the minor details of construction may be resorted to within the scope of the invention as claimed, without departing from the spirit thereof.

20 For a full understanding of the invention and the merits thereof, reference is to be had to the following description and the drawing hereto attached, in which,—

25 Figure 1 is a side view of a boiler furnace embodying the invention, a portion of the setting being broken away to show the relative position of the heat equalizer.

30 Figure 2 is a detail sectional view of a portion of the boiler on the line 2—2 of Figure 1.

Figure 3 is a detail perspective view of one of the bars comprising the equalizer.

35 Corresponding and like parts are referred to in the following description and designated in the several views of the drawing by like reference characters.

40 The numeral 1 designates the setting of the furnace, and 2 the boiler, which is of the horizontal flue and tubular type. The numeral 3 designates the front wall and 4 the inner or rear wall between which the fire box 5, combustion chamber 6 and ash pit 7, are formed. The front end of the boiler 2 is supported

45 upon the inner or rear wall 4. The heat equalizer is located within the

combustion chamber at or below the bottom of the boiler 2 and extends between the walls 3 and 4, and is supported thereby. The heat equalizer may be located any distance above 50 the grate 8, depending upon the type of the furnace, whether the same is designed for burning oil, coal or other fuel. The equalizer is of metal so as to absorb and equalize the heat. In the preferable construction the heat 55 equalizer is formed of a plurality of bars 9 disposed in parallel relation and spaced apart a short distance. These bars extend across the combustion chamber and are supported at their ends by the walls 3 and 4. Similar 60 metal plates 10 are set into the walls 3 and 4 and receive the ends of the metal bars 9 which are secured thereto by means of bolts 11 or other suitable fastening means. The bolts or fastenings 11 are passed through registering 65 openings formed in the bars 9 and plates 10. The upper portion of the bars 9 is oppositely beveled to prevent dust, ashes, and other matter from lodging thereon and to facilitate dissipation of the heat absorbed by the bars. 70

In practice, it has been found that the heat equalizer absorbs heat and gives off the same in a manner to uniformly dissipate the heat, thereby resulting in a saving of fuel and preventing the burning and overheating of the 75 boiler flues and tubes.

Having thus described the invention, I claim:

The combination with a boiler furnace including a combustion chamber and fire box 80 disposed forwardly of the boiler, of a heat absorber and equalizer arranged intermediate the fire box and combustion chamber below the boiler consisting of a plurality of spaced metal bars extending between the 85 front and rear walls of the furnace and having their top sides oppositely beveled, and metal plates set in the front and rear walls of the furnace and receiving the ends of the bars which are fastened thereto. 90

In testimony whereof I affix my signature.
RUDOLPH KIMMICK. [L. s.]