April 7, 1925. 1,532,526

G. ZACH

FURNACE GRATE

Filed March 24, 1921

Fig. 1.

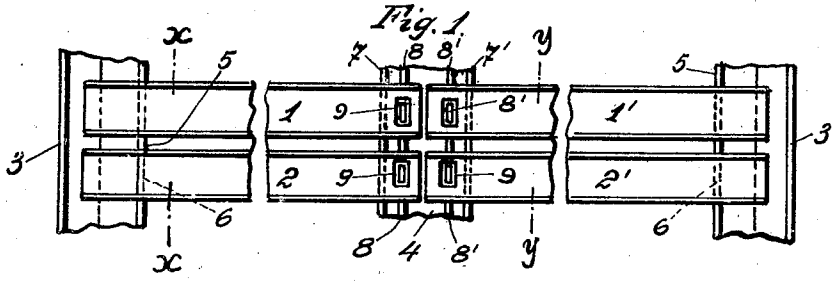


Fig. 2.

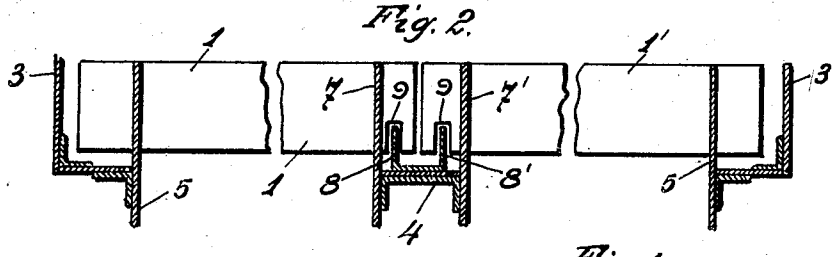


Fig. 3.

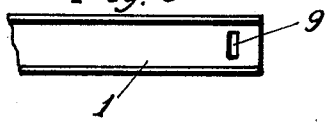


Fig. 4.

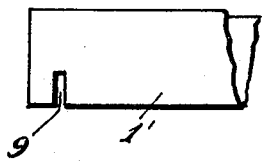


Fig. 6

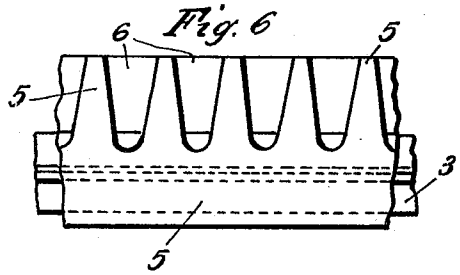


Fig. 5.

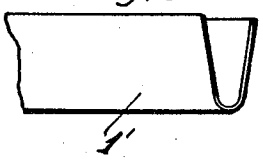
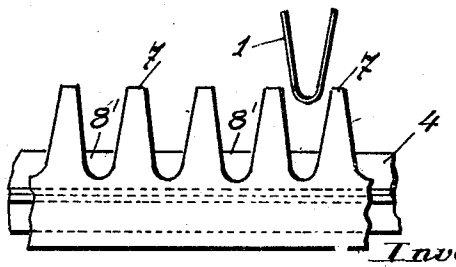


Fig. 7.



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UNITED STATES PATENT OFFICE.

GIOVANNI ZACH, OF POLA, ITALY.

FURNACE GRATE.

Application filed March 24, 1921. Serial No. 455,015.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, GIOVANNI ZACH, a subject of the King of Italy, residing at Pola, Petzstrasse, Italy, have invented a new and useful Furnace Grate (for which I have filed applications in Austria, Nov. 19, 1913, Patent No. 66,650; Hungary, Nov. 19, 1913, Patent No. 68,059; Italy, Oct. 31, 1914, Patent No. 145,849; Germany, Mar. 10, 1921, Patent No. 380,938; England, Mar. 16, 1921, Patent No. 176,258; France, Apr. 25, 1921, Patent No. 534,587), of which the following is a specification.

The present invention relates to improvements in furnace grates, namely in the end to end connection of two or more gratebars arranged in alignment with one another and V-shaped in section. The outer ends of the grate bars rest on suitable end or single gratebar bearers whilst the ends connected with one another rest on a common double or intermediate bearer.

The annexed drawing shows by way of example one form of the invention.

Fig. 1 shows a portion of the grate in plan.

Fig. 2 is a sectional view of the grate shown in Fig. 1.

Figs. 3, 4, 5 are detail figures of the gratebars.

Fig. 6 shows a portion of the end gratebar-bearers as seen from one side.

Fig. 7 shows a portion of the intermediate or double bearer as seen from one side.

As shown, the grate comprises a plurality of gratebars —1—1′—, —2—2′— etc., arranged parallel to each other. In the form illustrated in the drawing the gratebars are connected two by two and rest on end bearers —3— arranged normally to their outer ends, whereas their inner or adjacent ends rest on the common double-bearer —4—.

The single bearers —3— carrying the outer ends are substantially channel-shaped and each has its inner side formed with V-notches —6— equally spaced apart from each other, the notch dimensions being designed to suit the section of the bars they are intended to receive.

The intermediate or double bearer —4— is substantially H-shaped in cross section and both of its flanges or shanks —7—, —7′— are formed with V-shaped notches. Moreover the bottom or web is fitted with two supplementary flanges —8—, —8′— rectangular in shape and of less height than the flanges —7—, —7′—, the said smaller flanges serving to fix the gratebars by engaging the notches —9— provided in the bottom portion of the gratebars —1—, —1′— etc. near their inner end (see Figs. 3 and 4).

Of course the gratebars may be galvanized in order to prevent oxidation and, before lighting the fire may be filled with ashes in order to prevent the clinkers from sticking to the gratebars or the gratebar metal from melting.

In this way the combustion takes place on a surface, which is formed largely by the ashes, and a long life of the gratebars is thus ensured.

Of course it will be readily understood that the constructional details may be varied in practice from those described and illustrated without departing from the spirit and scope of the invention.

Having now particularly described and ascertained the nature of my invention, and in what manner the same is to be performed, what I claim is:

1. A grate including a plurality of notched bearing members, a series of parallel arranged grate bars carried by said members and having their ends engaging the notches of said members, each of said bars being of substantially U-shaped cross-section in order to provide channels adapted to receive and retain ashes, each of said grate bars being provided with a notch, and a flange connected to one of said bearing members and extending into the notches of the grate bars.

2. A grate including a plurality of parallel arranged bearing members of substantially H-shaped cross-section and provided with spaced notches, parallel arranged grate bars having their ends engaging the notches of said members, each of said grate bars being of substantially U-shaped cross-section and being provided near one end with a notch, and flanges carried by one of said members and engaging the notches of said grate bars.

GIOVANNI ZACH.