

No. 838,906.

PATENTED DEC. 18, 1906.

H. C. ROLLER.

GRATE BAR.

APPLICATION FILED DEC. 23, 1905.

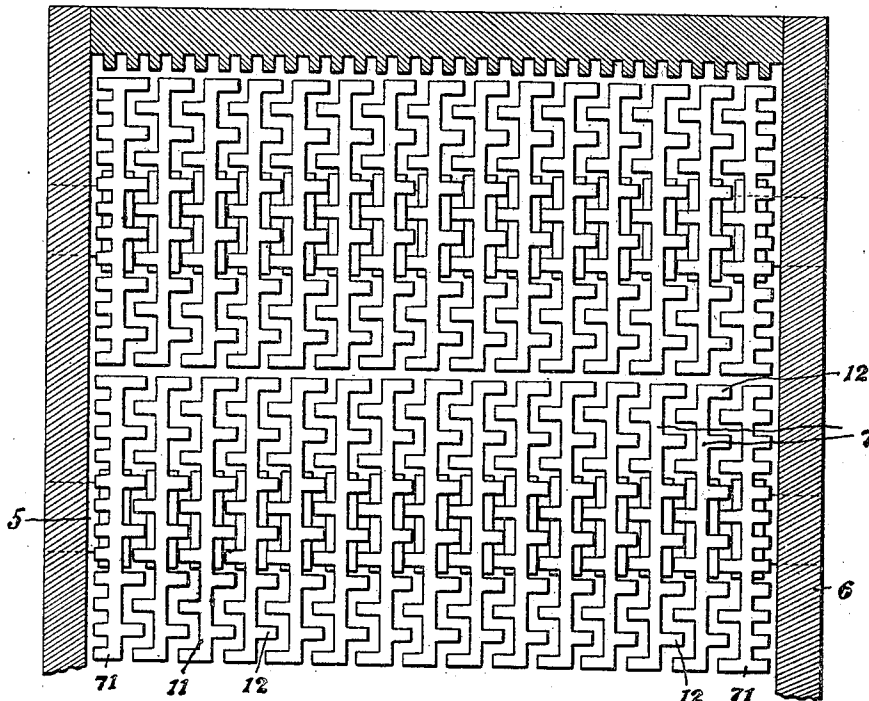


Fig. 1.

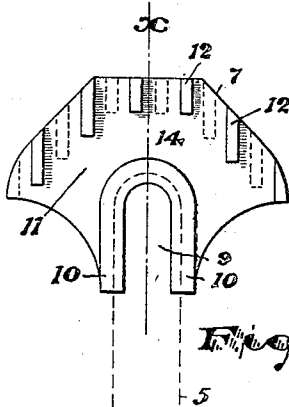


Fig. 2.

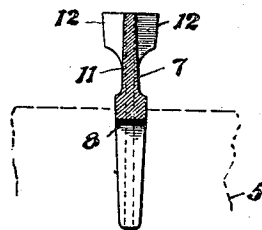


Fig. 3.

WITNESSES:

Ralph Lancaster
Ethelwyn Pell

INVENTOR,

Henry C. Roller

BY

Charles H. Pell,

ATTORNEY.

UNITED STATES PATENT OFFICE.

HENRY C. ROLLER, OF NEWARK, NEW JERSEY.

GRATE-BAR.

No. 838,906.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed December 23, 1905. Serial No. 293,056.

To all whom it may concern:

Be it known that I, HENRY C. ROLLER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Grate-Bars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The objects of this invention are to secure a grate-bar of such a construction that when the bars are assembled to form a grate there is an even distribution of air through the grate and less liability of forming "clinkers," due to the particular construction of the grate-bar.

The grate-bar comprises a bifurcated structure that fits down over a rider-bar and has a projecting web that tapers toward its outer edge, and on the top edges of the web are arranged projecting teeth, these teeth being of the same thickness as the top of the web, and when the bars are assembled they are so arranged that the distance between the opposed parts of the grate-bars is equal to the width of the teeth and the web.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan of a portion of my improved grate. Fig. 2 is a side view of one of the bars arranged upon a rider-bar, the latter being shown in dotted outline; and Fig. 3 is a section of the grate-bar taken at line *x*.

In said drawings, 5 indicates the rider-bar adapted to be turned pivotally to enable the grate-bar to be shaken to release the fine ashes from the fire-bed in any ordinary manner, the rider-bar being common to this class of grates. The grate-bar 7 consists of a bifurcated lower part 8, adapted to straddle the said rider-bar, and thus being removably seated thereon, the said bar being preferably recessed to receive the bifurcated part and prevent any movement or play of the grate-bar upon the rider-bar. The slot 9 between the prongs 10 10 is a straight slot, and it opens downward through the bottom of the

grate-bar, so that the grate-bar can be removed by a vertical lifting.

In the upper part the grate-bar consists of a broad web 11, which is tapered toward its outer edge and may have any contour across the top. At opposite sides and across the grate-bar are arranged the teeth 12, which project alternately from the opposed sides and are of the same width as the top of the web and have straight parallel sides. It will be seen from this arrangement that by reason of the bars being parallel, as shown in Fig. 1, and being arranged to have the opposed elements separated by a distance equal to the width of the parts at the top of the grate-bar there is an even distribution all around of the air-supply. It will also be noticed that the parallel arrangement of the teeth allows a steady supply of air and does not cause any deflection of the air-currents, and therefore allows a uniform combustion. The grate-bars can be removed individually, which is desirable in case of necessary repairs or when substitution is desired.

As shown in Fig. 1, I prefer to make the grate-bars that are adjacent to the walls of the furnace with teeth which are closer together on the side next to the wall than those on the inner grate-bars to prevent the coal falling into the ash-pit around the outside of the grate.

Having thus described my invention, what I claim is—

The improved grate-bar comprising a bifurcated lower end, a web extending from the bifurcated end and tapering toward its edge, and a series of parallel teeth alternately projecting from the opposed tapered faces of the web, these teeth having parallel edges and being of the same thickness as the top of the web and so disposed that when two bars are set together the spaces between the bars and the webs will be equal to the thickness of the top of the web.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of December, 1905.

HENRY C. ROLLER.

Witnesses:

CHARLES H. PELL,
M. V. DOYLE.