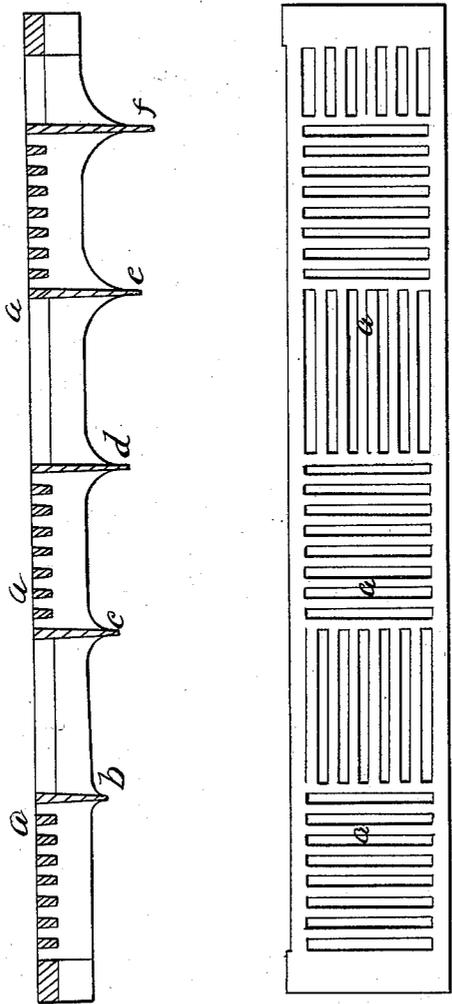


C. C. Bemis,
Furnace Grate Bar.
No 60,125. Patented Dec. 4, 1866.



Witnesses.
C. W. Smith
W. W. Hanson

Inventor
Chas. C. Bemis

United States Patent Office.

GRATE-BAR FOR FURNACE.

CHARLES C. BEMIS, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 60,125, dated December 4, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES C. BEMIS, of San Francisco, San Francisco county, State of California, have invented certain new and useful improvements in Grate Bars for Furnaces; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person, skilled in the art or science to which it most nearly appertains, to make and use my said invention, without further invention or experiment.

The nature of my invention is to provide a furnace having a grate-bar in which a more efficient draught may be maintained through the fire, and the air have a greater space to pass through, and be deflected more evenly or profusely in the fire chamber before escaping to the chimney-flue. In order to accomplish this object, and present a check or barrier to the air, I place intercepting plates of different depths along beneath the grate. Referring to the drawings—

Figure 1 represents a side sectional elevation of my grate-bar.

Figure 2, a plan.

a a represent the grate surface extending beneath the boiler, with the bars placed lengthwise and transversely alternately. Commencing at the forward portion of the grate, at regular intervals between the longitudinal and transverse sections, I place bridges or barrier plates, *b, c, d, e, f*, each one farther back extending a little below the preceding one. By this arrangement, the current of air as it passes beneath the grate is partly intercepted and divided at *b*, a portion being carried up into the fuel, and a portion passing around the lower edge of the plate or barrier into the next section, and again deflected by *c*, and so on by each plate, in an increasing degree of deflection or resistance according to the depth of the plates beneath the grate-bars, thus causing the air or draught to be distributed over the entire grate, instead of all rushing to the back of the furnace as in other devices for grates where no intercepting plates are employed. Also by the use of my grate a more even and effective combustion of the fuel is had, preventing the air from escaping up the flue before it has imparted its greatest effect upon the fuel.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is—

A furnace grate with bridges or barrier plates, *b, c, d, e, f*, placed beneath the said grate at intervals, and increasing in depth to near the flue, the whole arranged and constructed substantially as described, and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal this tenth day of August, 1866.

CHA'S C. BEMIS. [L. S.]

Witnesses:

C. W. M. SMITH,

W. W. HANSCOM.