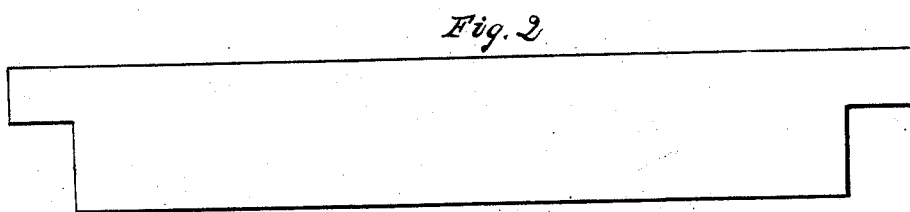
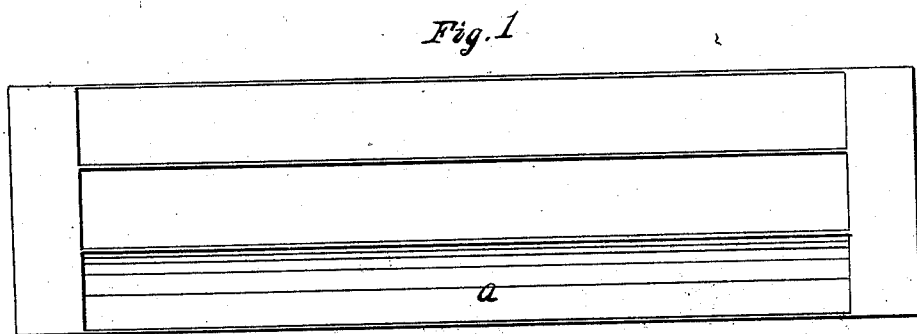
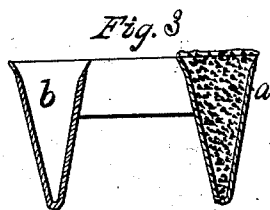


F. P. Dimpfel,
Furnace-Grate Bar.
N^o 8799. Patented Mar. 16, 1852.



UNITED STATES PATENT OFFICE.

F. P. DIMPFL, OF PHILADELPHIA, PENNSYLVANIA.

CONSTRUCTION OF GRATE-BARS.

Specification of Letters Patent No. 8,799, dated March 16, 1852.

To all whom it may concern:

Be it known that I, FREDERICK P. DIMPFL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Mode of Making Grate-Bars for Furnaces; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon.

The nature of my invention consists in constructing grate bars for furnaces of clay, soapstone or other refractory substance inclosed in a metallic casing or sustained by a metallic frame when such is required.

The mode which I find most convenient for constructing these bars is shown in the annexed drawings in which—

Figure 1, represents a horizontal section, Fig. 2, a vertical longitudinal section, and Fig. 3, a vertical transverse section of a pair of bars.

I construct the frame to support each bar in the form of a triangular trough of rolled or cast iron as shown more particularly in section by drawing Fig. 3. Each trough is then filled with clay, soapstone or other hard refractory substance as shown by the part *a*, in Figs. 1 and 3; the part *b*, in these figures exhibits the form of the trough before it is filled. The surface thus exposed to the action of the fire being a refractory sub-

stance and a bad conductor of heat, bars so constructed will possess much greater durability than those now in use. The frame may be made in the shape of a rectangular or circular trough, and the bar of refractory substance laid in such trough.

I am aware that grate bars have been hertofore so constructed of metal, that the loose ashes of the furnace might accumulate in cavities therein and protect the bar; but these have been found inefficient in practice as any loose substance merely accumulating in the cavity of a metallic grate bar will shake off even with the edges thereof and thus expose the bar to the action of the fire. I do not therefore wish to be understood to claim any particular form of grate bar the above described frame being one of easy construction and adaptation to the purpose; but any other suitable form may be given to this frame which the nature of the refractory substance may render preferable.

What I claim as my invention and desire to secure by Letters Patent is—

The construction of grate bars for furnaces of clay, soapstone, or other refractory substance for the purpose and in the manner herein specified.

F. P. DIMPFL.

Witnesses:

CANSTIN BRONNO,
WM. BISHOP.