

(No Model.)

S. H. BROWN.
CREMATORY.

No. 537,801.

Patented Apr. 16, 1895.

Fig. 1.

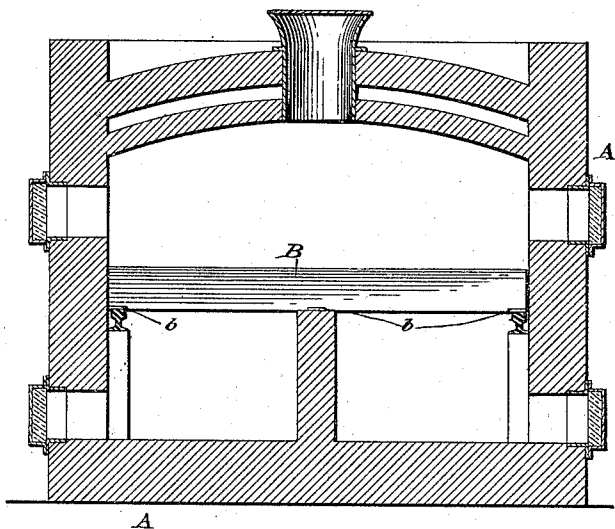


Fig. 2.

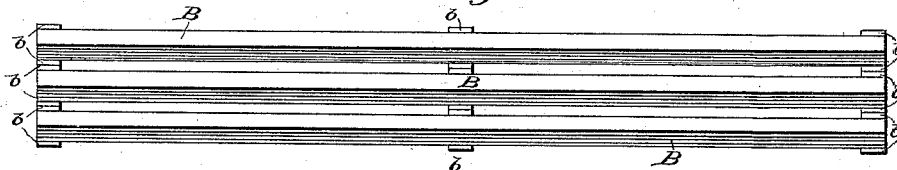
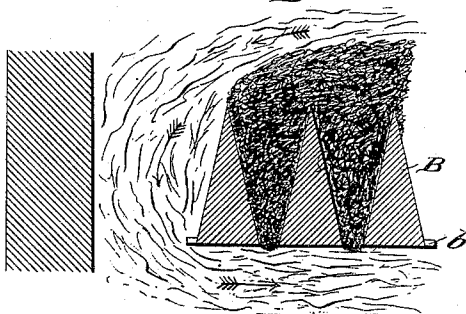


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL H. BROWN, OF BOSTON, MASSACHUSETTS.

CREMATORY.

SPECIFICATION forming part of Letters Patent No. 537,801, dated April 16, 1895.

Application filed January 17, 1894. Serial No. 497,119. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. BROWN, a citizen of the United States, residing in the city of Boston, Suffolk county, Massachusetts, have invented certain new and useful Improvements in Crematories; and I do hereby declare that the following is 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.

My invention relates to improvements in grate-bars for cremating furnaces.

In furnaces for the cremation of garbage where the material is supported on grate-bars during the progress of its consumption, the great heat in the furnace weakens the grate-bars, and by reason of the weight of material carried by said bars, they are liable to bend and sag. The bars also burn out rapidly, requiring their removal at short intervals. In furnaces in which the flame passes under the grate for the combustion of the garbage, or both over and under such grate, as in my Patent No. 501,181, granted July 11, 1893, the shape of the grate-bar is of great importance. In crematories using the ordinary form of grate-bars, the material to be burned is liable to arch over from one bar to another in such way that the main body of the material is supported above and upon the arches above the top of the bars so that the flame underneath the bars cannot reach the material and the bars become highly heated on the under side.

The object of my invention is to overcome the difficulties and disadvantages above noted, and to this end my invention consists in the combination of a grate-bar triangular in cross-section, the apex of which runs up to a sharp point and a cremation furnace having a return flue beneath the grate.

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

Figure 1 is a transverse section of a furnace, showing my new grate-bar in elevation in its position for use. Fig. 2 is a top plan view of a row of the bars in position, and Fig. 3 is a cross-section of a series of bars.

A is a furnace such as disclosed in my patent above referred to, and B is a grate-bar. The walls of the furnace will be firmly bound together by means of a water jacket or other arrangement. The grate-bars are by preference about ten inches high, about three and a half inches broad at the base, of suitable length, say, about eight feet, and arranged about one and three-fourths of an inch apart at their base. I make them triangular in cross-section, with a sharp pointed apex, and prefer to cast them of iron with an excess of silicon in it, so as to stand great heat. When made in this form with the sharp edge upward, the formation and maintenance of arches of material over the base is prevented. The sharp edges of the bars tend to cut and separate the material above them, and as the heat from the bars and the furnace dries the body between said bars, it contracts and constantly settles through between the base of the bars where it comes in range of the flame and is consumed. In this way, the combustion of the under side of the material progresses while the grate-bars are kept relatively cool by the material constantly moving down their inclined sides. At intervals along the length of the bars I provide lugs *b b* for keeping the bars separated and preventing crowding of the same.

Having now described my invention, what I claim is—

In a garbage crematory furnace having a return flue beneath the grate and in which the flame passes over and under such grate the combination of such furnace and metallic grate bars of uniform cross section throughout their length having plane sides or faces converging upwardly to form an acute angle or cutting edge, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

SAMUEL H. BROWN.

Witnesses:

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