(No Model.)

J. MARTIN.

GRATE.

No. 494,989. Patented Apr. 4, 1893.

Fig. 1

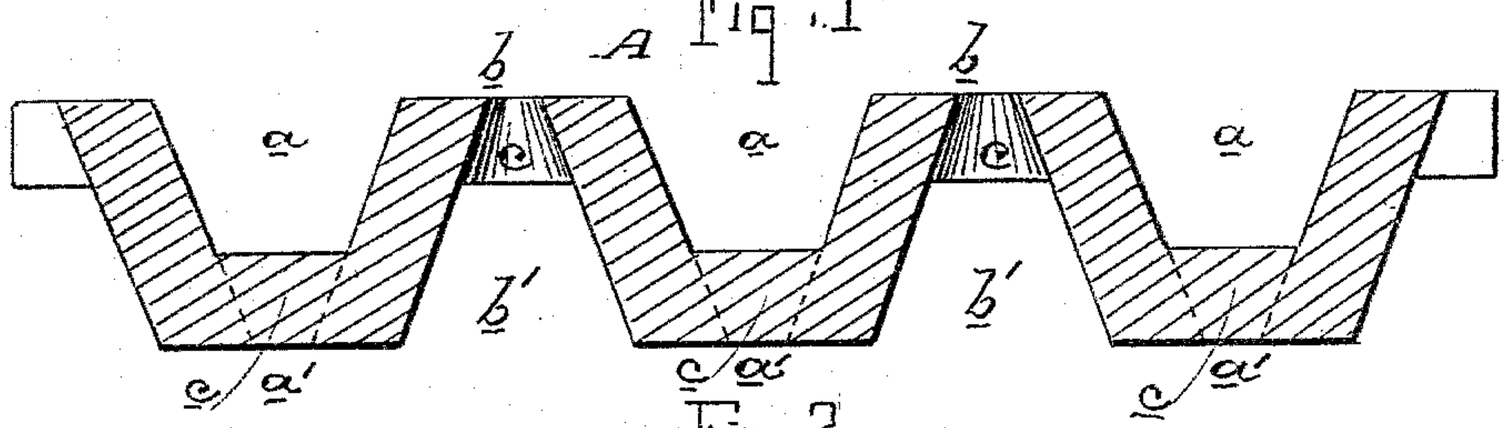
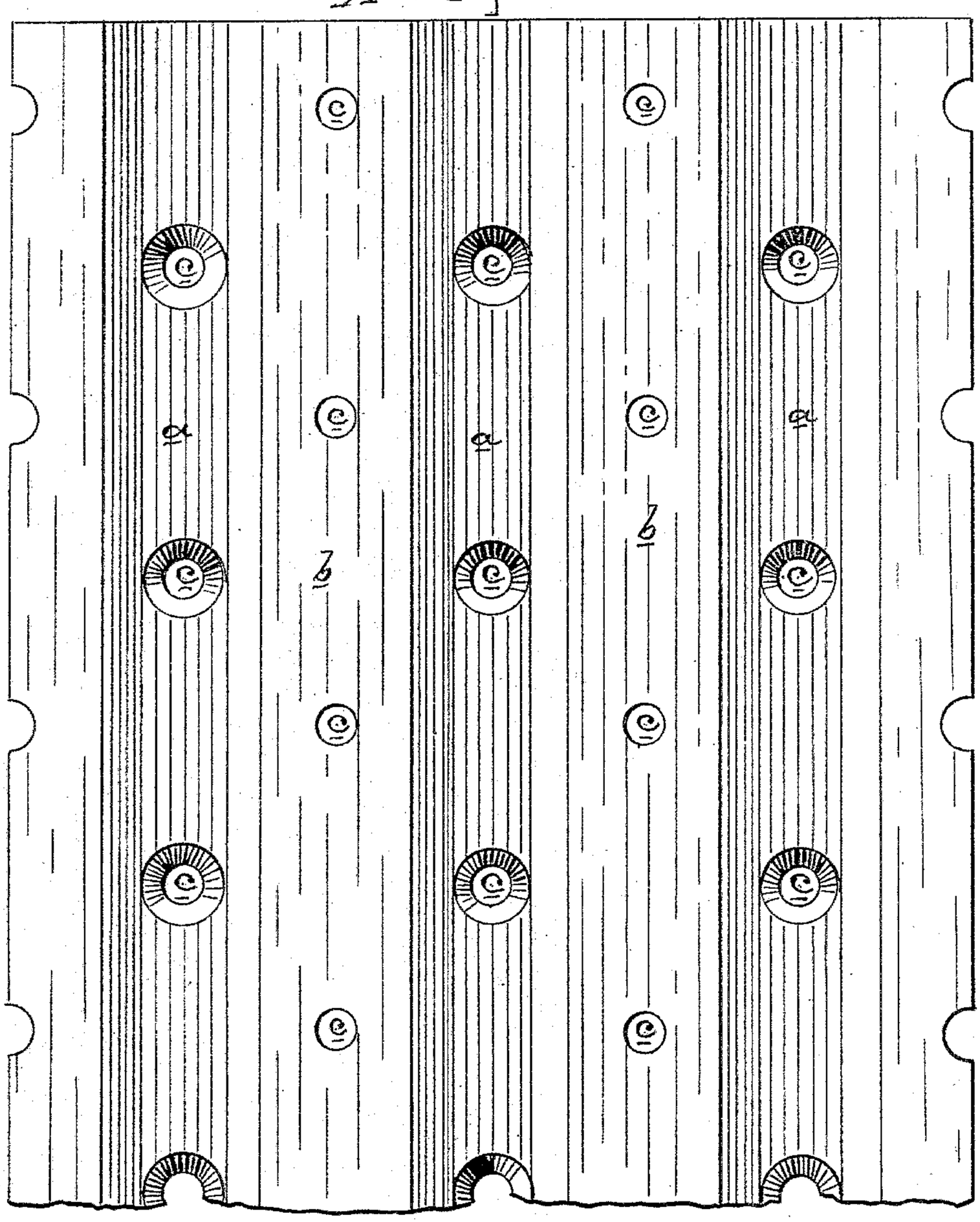


Fig. 2



Witnesses,
L. Stone
J. A. Bayless

Inventor,
John Martin
By Dewey & Co
Attys.

UNITED STATES PATENT OFFICE.

JOHN MARTIN, OF BERKELEY, CALIFORNIA.

GRATE.

SPECIFICATION forming part of Letters Patent No. 494,989, dated April 4, 1893.

Application filed July 27, 1892. Serial No. 441,415. (No model.)

To all whom it may concern:

Be it known that I, JOHN MARTIN, a citizen of the United States, residing at Berkeley, Alameda county, State of California, have invented an Improvement in Grates; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of grates for fire-boxes or chambers of all descriptions in which a single perforated plate is employed; and it consists in a grate formed of a plate, both surfaces or faces of which are made or provided with a series of channels alternating with ridges, the channel on one face of the plate being formed in the ridge on the other face of the plate whereby the two faces are alike, suitable air apertures being made through the channels and ridges of the plate.

The object of my invention is to provide a grate having alternate ridges and channels, both faces of the grate being alike, whereby when it becomes warped or otherwise unfit for use on one side, it may be reversed to present its other side; and also, to provide a grate having a form which conduces to its strength.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a cross section of my grate. Fig. 2 is a plan of same.

The grate is formed of a plate A on one face of which is formed or made the channels *a* alternating with ridges *b*, and on the other face the ridges *a'* alternating with the channels *b'*, the channel on one face being made in the ridge of the other face as shown. Through the plate, in the ridges and channels thereof, are made the air apertures *c* in any suitable number. These channels and ridges may be of any suitable shape in cross section, curved or angular, though I prefer to make them angular and of the tapering form shown, the apertures through them being likewise tapering.

It will be seen that as both faces of the grate are alike, when one face becomes, for any purpose, unfit for use, and especially when the grate becomes warped, it can be reversed to present its other face for use, thus materially extending the life of the grate. This form on account of its arch shape is conducive to strength. This relative arrangement of the channels and ridges of the two faces, the channel on one face being made in the ridge of the other face, is advantageous in avoiding a thick plate, as the undulating character permits as thin a plate as may be desired. It also provides for equal length of air apertures and for a uniform thickness of plate throughout, resulting in equal contraction and expansion.

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

A grate consisting of a plate of uniform thickness throughout having its opposing faces or surfaces formed with channels and ridges alternating with each other, the channels of one face or surface being formed in the ridges of the other, said channels and ridges being made angular and tapering in cross section, and suitable apertures through said channels and ridges and relatively reversed, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN MARTIN.

Witnesses:
S. H. NOURSE,
J. A. BAYLESS.