

W. H. STRYKER.
Stove-Grates.

No. 143,541.

Patented Oct. 7, 1873.

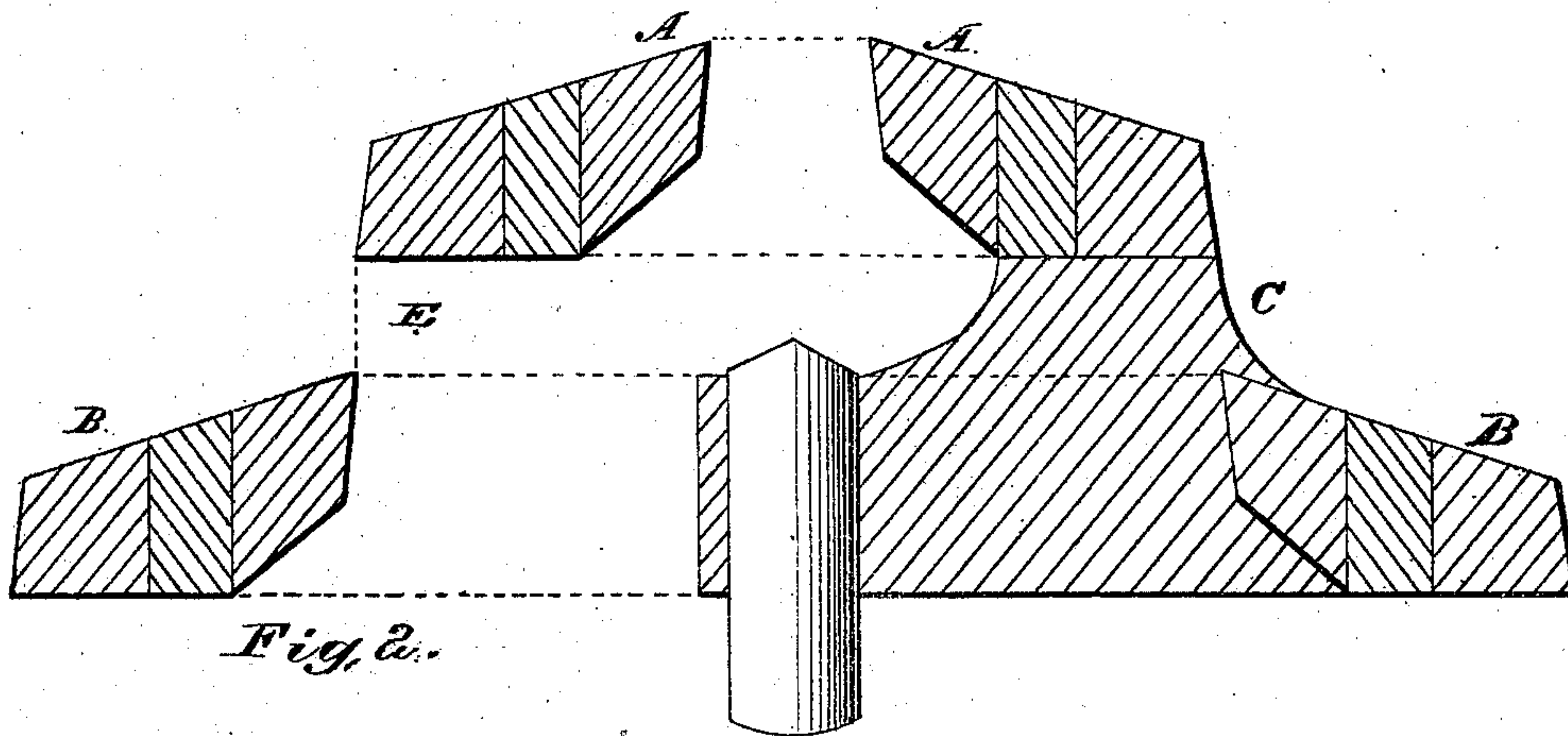


Fig. 2.

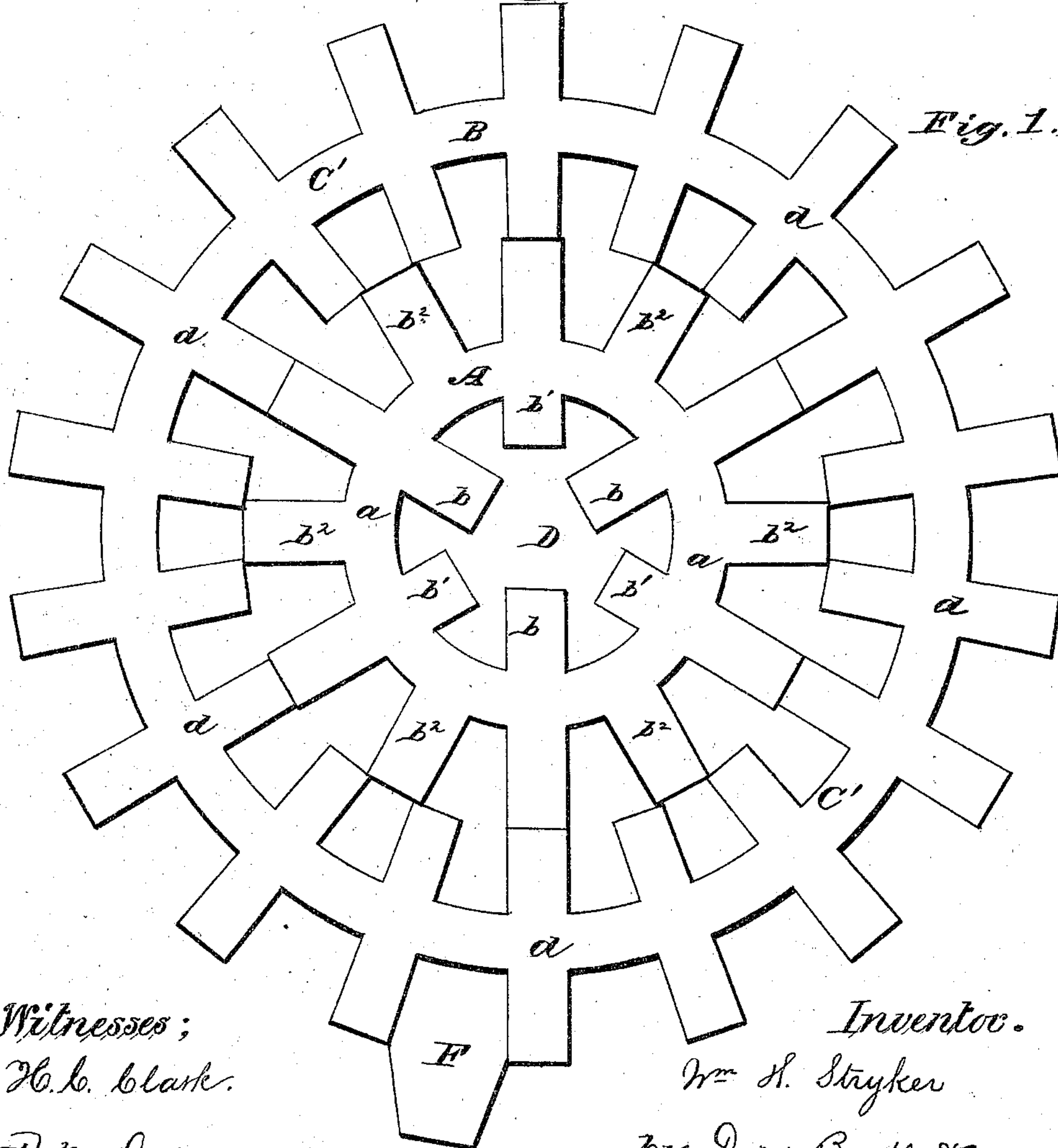


Fig. 1.

Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM H. STRYKER, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. 143,541, dated October 7, 1873; application filed August 2, 1873.

To all whom it may concern:

Be it known that I, WILLIAM H. STRYKER, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Grates for Heating Furnaces and Stoves; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of my device is such a construction of a grate adapted peculiarly for heating furnaces and stoves, as will insure a more perfect draft of air for the combustion of the fuel; and the invention therein consists in providing a draft-opening between the upper and lower portions of a grate composed of one casting, and in the combination of the essential operative portions of said grate, all as more particularly described hereinafter.

In order to enable those skilled in the art to construct my grate I proceed to describe the same in connection with the drawings thereof, in which—

Figure 1 is a top-plan view of the grate; Fig. 2, a vertical transverse section of the same.

Like letters denote corresponding parts in each figure.

My grate, which is a casting in one piece, has an upper portion, A, and a lower portion, B, connected together by two or more webs, C. The upper portion is composed of a ring, *a*, having long radial bars *b* extending across the ring from a common distance beyond it, toward a common center within the ring, and short radial bars *b*¹ also extending across the ring from a common distance beyond it, which distance in that particular is the same as that of the bars *b*, and toward a common center within the ring, but terminating at equal distances from said ring at parts farther from the center thereof than those reached by the bars *b*. There is thus left an open space, D, between the inner ends of the bars *b* and *b*¹. Intermediate radial bars *b*² extend from the outside of the ring to equal points of distance in that direction, with the outer ends of the bars *b* and *b*¹, so that a line drawn around the outer

ends of all the radial bars named would describe very nearly a circle.

It should be observed here that the radial bars *b* should be a little broader and stouter than the others.

The lower portion of the grate B is also composed of a ring, C', having uniform radial bars *d* crossing it, and terminating upon the outside at a common distance, and also at a common distance upon the inside, which point of termination is directly beneath the outer ends of the bars *b*, *b*¹, and *b*². These bars *d* are made preferably tapering a little from their outer to their inner ends.

The portion A of the grate is connected with the portion B by webs C, as before stated, which webs support the portion A directly above the portion B at a sufficient distance above it as to leave a draft-space, E, between the two.

Any convenient form of ear F made with the lower portion B furnishes means for using a shaking-lever, by which the whole grate A B is agitated horizontally.

The advantages in operation of my device are as follows: The fuel in the combustion-chamber rests and is supported mainly upon the upper portion A of the grate, as do also a great portion of the ashes and cinders which result from the combustion of the fuel, leaving at all times more or less of space not fully occupied above the portion B of the grate, and from the elevated position of the portion A the draft-space E will always be nearly unobstructed, and a constant current of air will thus have opportunity to pass through this space, and around the portion A, into the combustion-chamber, and thus secure at all times a more perfect draft. By reason of this draft-space E, and the currents of air through it and beneath the portion A, this portion is preserved from destruction by the combustion of the fuel. Likewise the portion B, from its distance from the point of combustion, and by the intervention of the currents of air before spoken of through the space E, is preserved from destruction by the combustion of the fuel.

In addition, the grate, being cast in one piece, is cheap of first cost, strong and convenient for transportation.

Having thus described my device, and some of its advantages, what I claim as new therein and my invention is—

The grate described, having the upper portion A, enlarged lower portion B, and connecting portion C, with intermediate draft-

space E, substantially as and for the purpose described.

This specification signed and witnessed this 22d day of July, 1873.

WILLIAM H. STRYKER.

Witnesses:

J. A. NOTTINGHAM,
JAMES E. BEEBE.