No. 610,674. Patented Sept. 13, 1898.

W. EDGAR.

GRATE.

(Application filed Jan. 29, 1898.)

(No Model.)

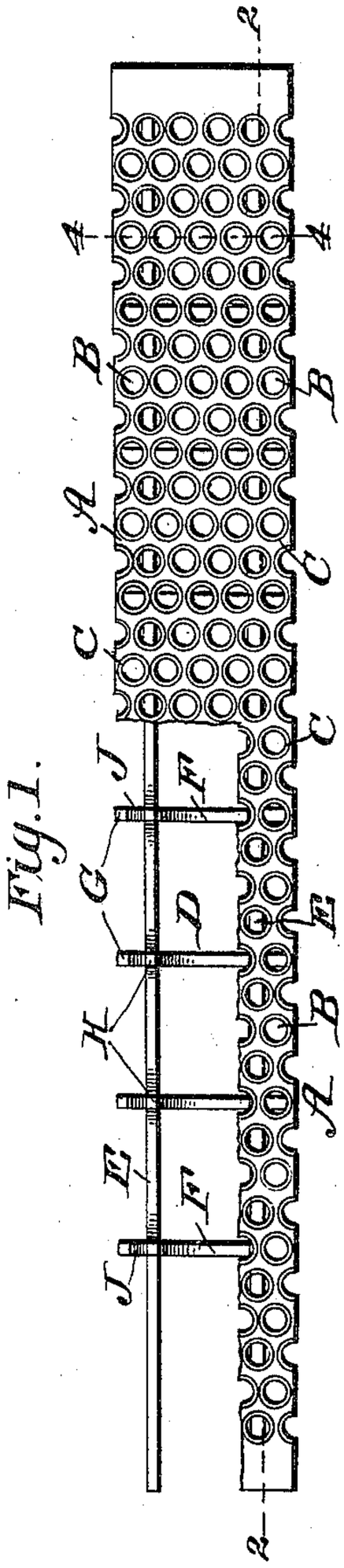

Fig. 1.

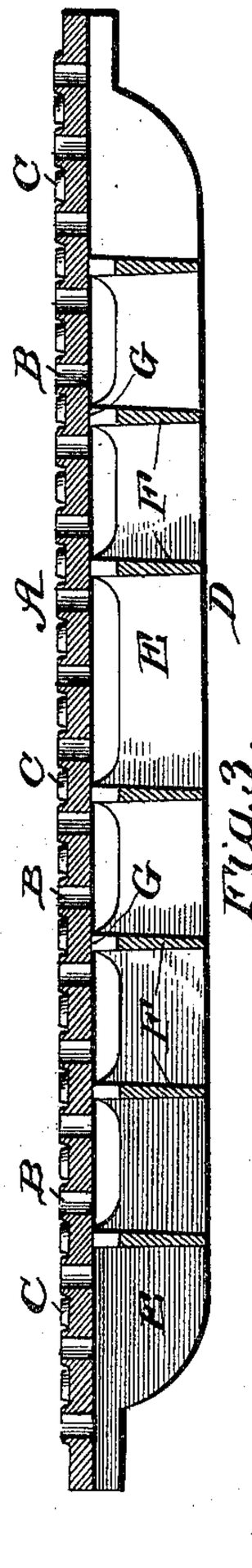

Fig. 2.

Fig. 3.

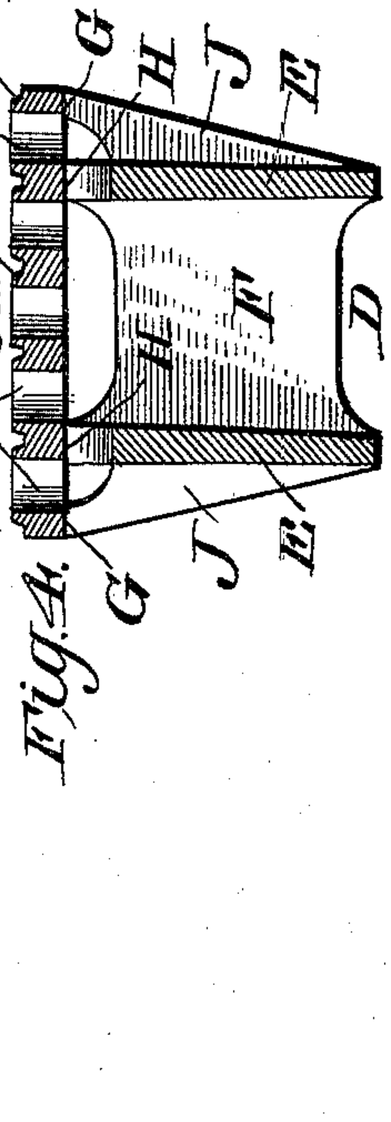

Fig. 4.

WITNESSES:

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WILLIAM EDGAR, OF MOBILE, ALABAMA.

GRATE.

SPECIFICATION forming part of Letters Patent No. 610,674, dated September 13, 1898.

Application filed January 29, 1898. Serial No. 668,448. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EDGAR, of Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Improvement in Grates, of which the following is a specification.

This invention relates to improvements in grates, and has for its object to provide a grate especially adapted for burning sawdust, and in which the top plates are so connected to the supporting-ribs that an efficient draft is obtained and at the same time warping or breaking of the plates in expansion and contraction is practically prevented.

My invention consists principally in forming the top plate with a series of circular openings in close proximity to each other, each opening having its walls extended above the main top surface of the plate, whereby is formed an annular conical ring or projection around each opening, so as to prevent the sawdust running through the same.

The invention further consists in mounting the top plate upon a web or supporting-rib formed of two longitudinal bars intersected or crossed at predetermined intervals by transverse bars, the rectangular frame thus formed having upward projections at certain points and to which the top plate is directly connected, all of which will be fully described, and the novel features thereof particularly pointed out in the appended claims.

Reference is to be had to the accompanying drawings, forming part of this specification, and in which like characters of reference indicate corresponding parts in all the figures.

Figure 1 is a top plan view of my improved grate, part of the top plate being broken away to show the supporting-web. Fig. 2 is a longitudinal section on the line 2 2, Fig. 1. Fig. 3 is a view of the web with the plate removed; and Fig. 4 is a transverse vertical section on the line 4 4, Fig. 1.

Referring to the drawings, A represents the top plate of the grate, formed with a number of vertically-disposed openings B, the upper surface of the plate being raised around each opening to form a cone-shaped annular projection C. These annular projections I have found essential for the purpose of preventing the sawdust or other pulverulent fuel, for which my grate is especially designed, from running through the draft-openings B. To support this top plate A in as advantageous a manner as possible, I form the supporting rib or web D in the form of a rectangular framework—that is, with longitudinally-extending bars E and cross-bars F—and the said bars are connected to and support the top plate by means of upwardly-extending shoulders H. These shoulders or extensions H occur at the points of intersection of the cross-bars with the horizontal bars. By this construction, as best seen in Figs. 2 and 4, spaces are left at intervals between the top plate and supporting-web for the free circulation of air through the draft-openings B and around the plate A to the fuel, and at the same time the strength of the top plate is not affected.

In order to prevent the side edges of the top plate, which extend beyond the longitudinal bars E, from sagging down when heated, I provide side brackets J, which are connected to the bars E and the overhanging edges of the top plate, as at G, a space being left open between said bars and brackets.

It will be seen that by this construction of the top plate and its supporting-web warping and sagging of the top plate are prevented and the bar has a minimum of weight, with a great degree of strength.

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

1. In a grate, a rectangular supporting rib or web consisting of two longitudinal bars E and a plurality of transverse bars F, shoulders H extending upwardly from said bars at their points of intersection, and side brackets J formed on the outer side of each longitudinal bar E and contiguous to the ends of each transverse bar F, each side bracket having a shoulder extending upwardly the same distance as the shoulders H, all of which shoulders are adapted to engage and support the top plate of the grate, whereby spaces are provided between said top plate and supporting-web for the free circulation of air, and whereby at the same time sagging of the top plate is prevented, as and for the purpose set forth.

2. A grate, consisting of a top plate formed with a series of openings, a supporting rib or web formed of two longitudinal bars and a

plurality of transverse bars, said web having shoulders extending from its upper edge at the intersections of the bars and on which the top plate rests with its edges overhanging the longitudinal bars and side brackets formed on the outer sides of the longitudinal bars and contiguous to the transverse bars, each of said brackets being formed on its upper edge with a shoulder engaging the overhanging side edge of the top plate, as and for the purpose set forth.

WILLIAM EDGAR.

Witnesses:
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