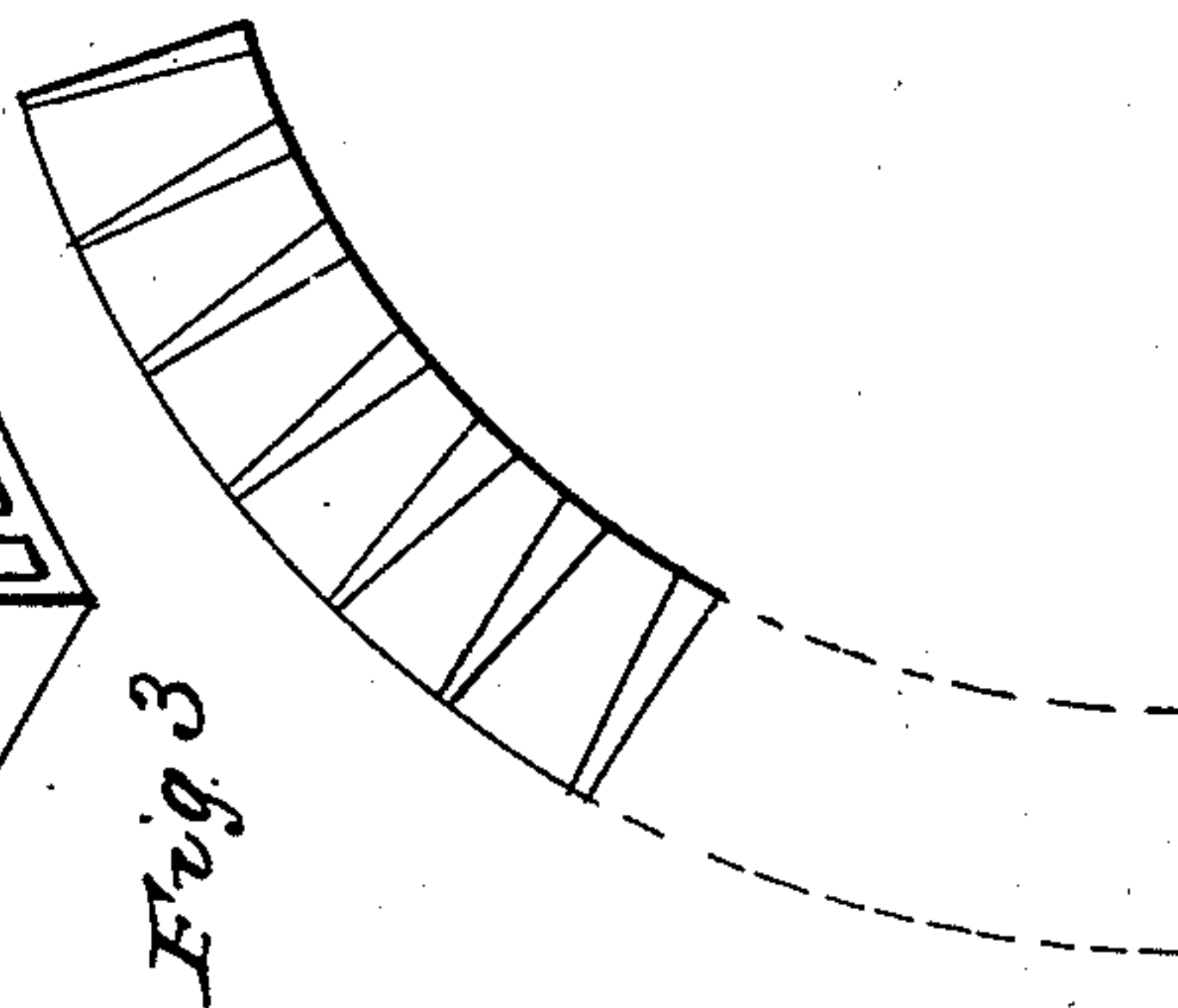
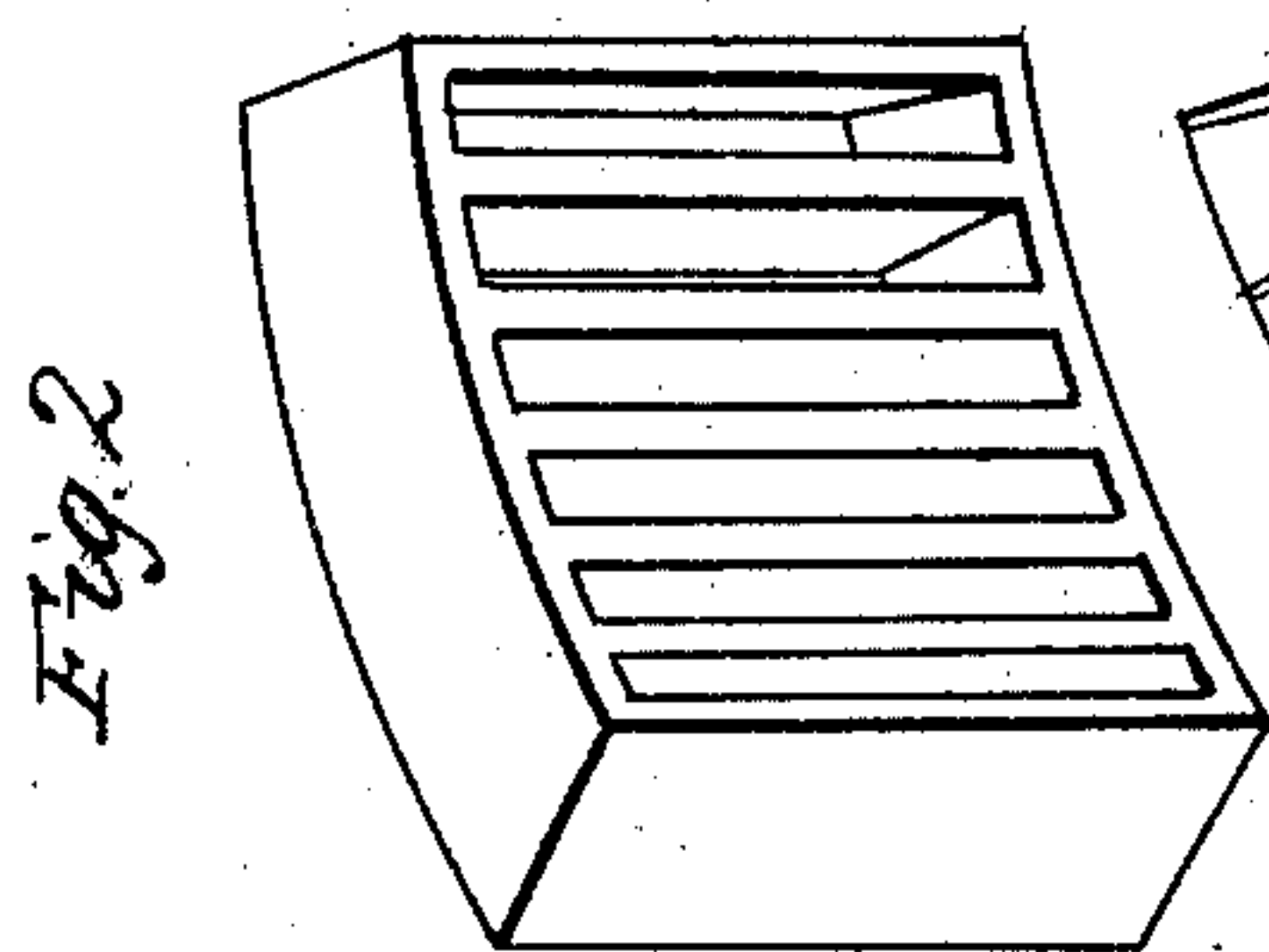
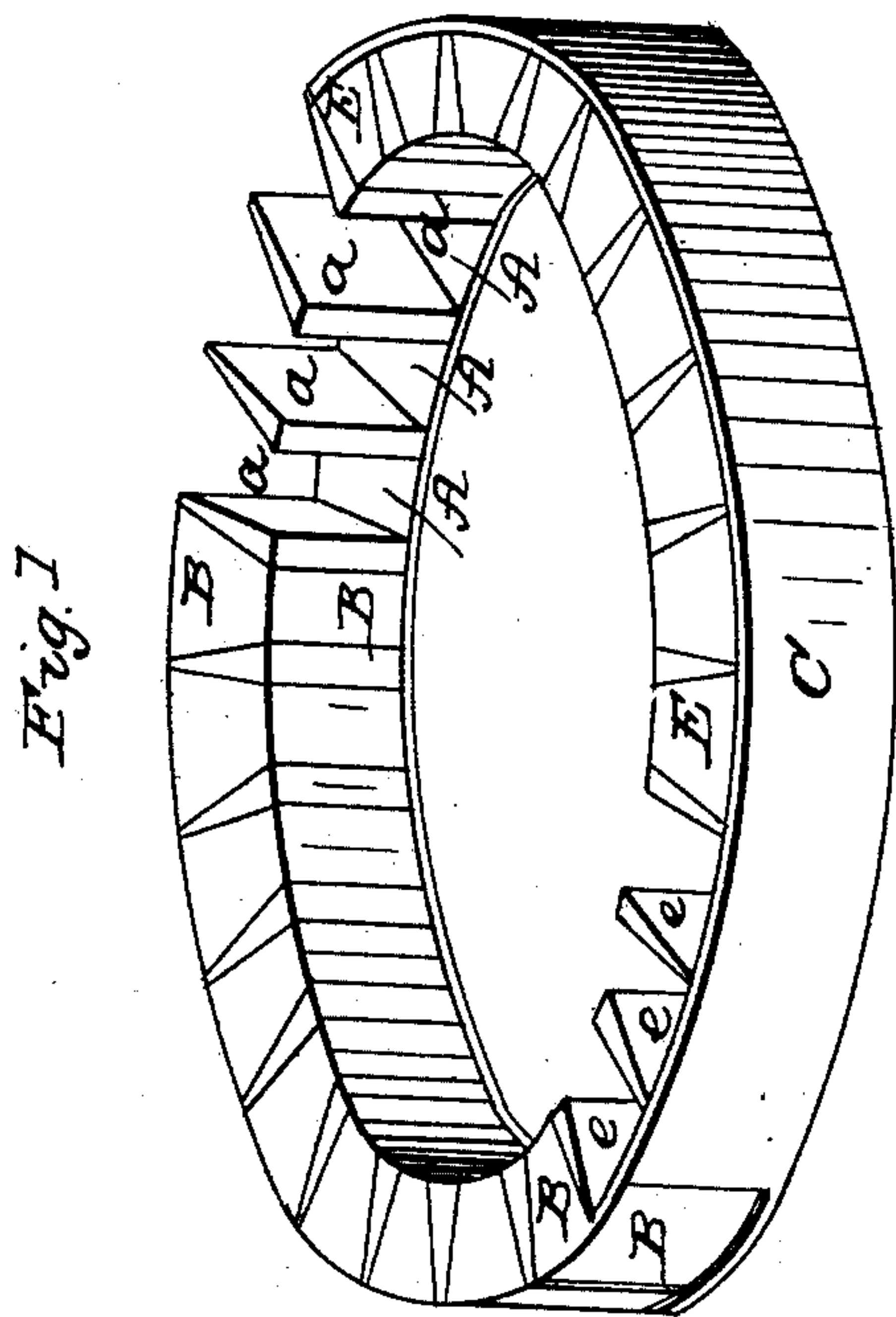


S. T. SAVAGE.
Construction of Coal Stove Lining.

No. 21,447.

Patented Sept. 7, 1858.



WITNESSES

E. Miller

INVENTOR

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UNITED STATES PATENT OFFICE.

S. T. SAVAGE, OF ALBANY, NEW YORK.

CONSTRUCTION OF COAL-STOVE LINING.

Specification of Letters Patent No. 21,447, dated September 7, 1858.

To all whom it may concern:

Be it known that I, SILAS T. SAVAGE, of the city of Albany, State of New York, have invented a new and Improved Method of
5 Constructing Lining for the Fire-Chambers of Coal-Stoves; and I declare the following specification, with the drawings hereto annexed as part of the same, to be a full and perfect description thereof.

10 Stoves for burning coal are usually lined with casings of soap-stone, or fire-brick for the purpose of preserving the iron shell from destruction from the intense heat of the coal, and for the further purpose of con-
15 centrating the action of the fire upon the fuel, by preventing the free radiation of caloric from the outside of the inflamed mass.

It is well known that from the intensity
20 of the heat of anthracite coal, portions of the impurities combined with the coal become vitrified and adhere in what is called clinkers to the lining of the stove so firmly that when detached by force, they carry off
25 with them masses of the lining, producing rapid destruction thereof, so as to require, when using some of the coal found in the market, a renewal of the lining, several times during a season.

30 The object of my invention is to secure the lining entirely, or to a very great extent from the influence of these clinkers, and to secure comparative permanency thereto. I effect this by inclosing the lining of fireclay
35 within a partial framework of cast iron, in various ways; representations of which are given in Figures 1, 2, and 3.

Fig. 1 represents an annular disk or ring of metal A, A, fitted to the interior of the
40 fire chamber of a cylindrical coal stove. Upon this ring, and cast with it rise or project upright teeth *a, a*, (similar to cogs,) for say two inches in height. These teeth extend across the whole width of the ring,
45 radially, their outer vertical edges being thin, almost sharp, and their inner edges thick, the object in this formation being not only to retain the clay in its place between the teeth, and the shell of the stove, but to
50 oppose a proper surface of metal to the heat of the fire. The most convenient arrangement of these teeth is radial, but it is obvious that they may be placed obliquely to the radial direction, and still operate sub-
55 stantially in the same manner. The space

between these teeth is to be filled with fire-clay as shown from B, to B. For certain uses I also strengthen the apparatus described, by adding to it a back ring of metal C, uniting the bottom ring A, A, with the
60 teeth *a, a*. The drawing represents both modes of construction, that is, the teeth at *a, a*, rising from the ring A, and the same filled in with fireclay from B, to B. Also the teeth at *e, e*, which rise from the bot-
65 tom ring, and are also attached to the back ring C, with the same filled in with fire clay from E to E.

Another form of construction which I use is shown in Fig. 2, being a segment of the
70 circle forming the interior of the stove to be lined. It consists of a top and bottom piece united together by teeth similar to those of Fig. 1.

Fig. 3 shows a plan view of the segment.
75 The clay lining is left out between two of the teeth, to show the form of the framework.

The ring form Fig. 1, I propose to make about two inches in height, and to build
80 them up one on top of the other, as high as may be expedient to form the fire chamber in the stove. The segment form Fig. 2 I propose to make the specific height of the fire chamber, for the class of stoves in which
85 it is to be used. In both cases, the space between the inner edges of the teeth to be about half an inch, or such distance as experience shall show best to keep the clinkers from attaching to the clay lining.
90

I have described linings for cylindrical stoves but I do not limit myself to that form of lining; but propose to make them oval, straight, rectangular or in any form re-
95 quired for fire chambers of stoves or furnaces of any description. I have also referred to fireclay as the material for the lining of the stove, but I intend to include any other material that may be analogous in its operation, as lining for the fire chambers of stoves.
100

I claim the employment of a metallic framing to contain fire clay or other lining for coal stoves, for the purpose of preserving it from injury by adhesion of clinkers, constructed substantially as described in the
105 within specification.

S. T. SAVAGE.

Witnesses:

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