

(No Model.)

J. RINGEN.
GRATE FOR STOVES.

No. 249,675.

Patented Nov. 15, 1881.

Fig. 1.

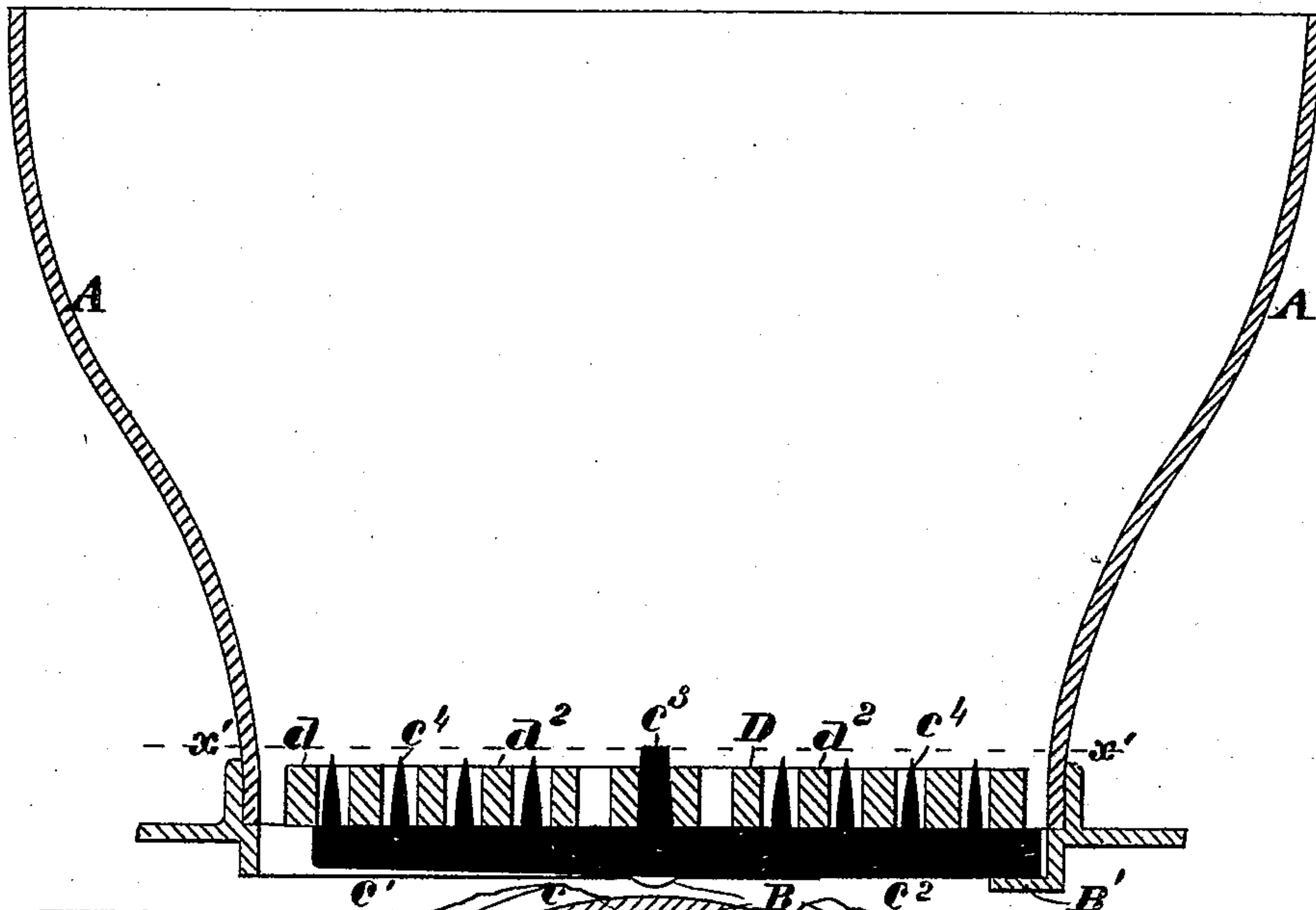


Fig. 2.

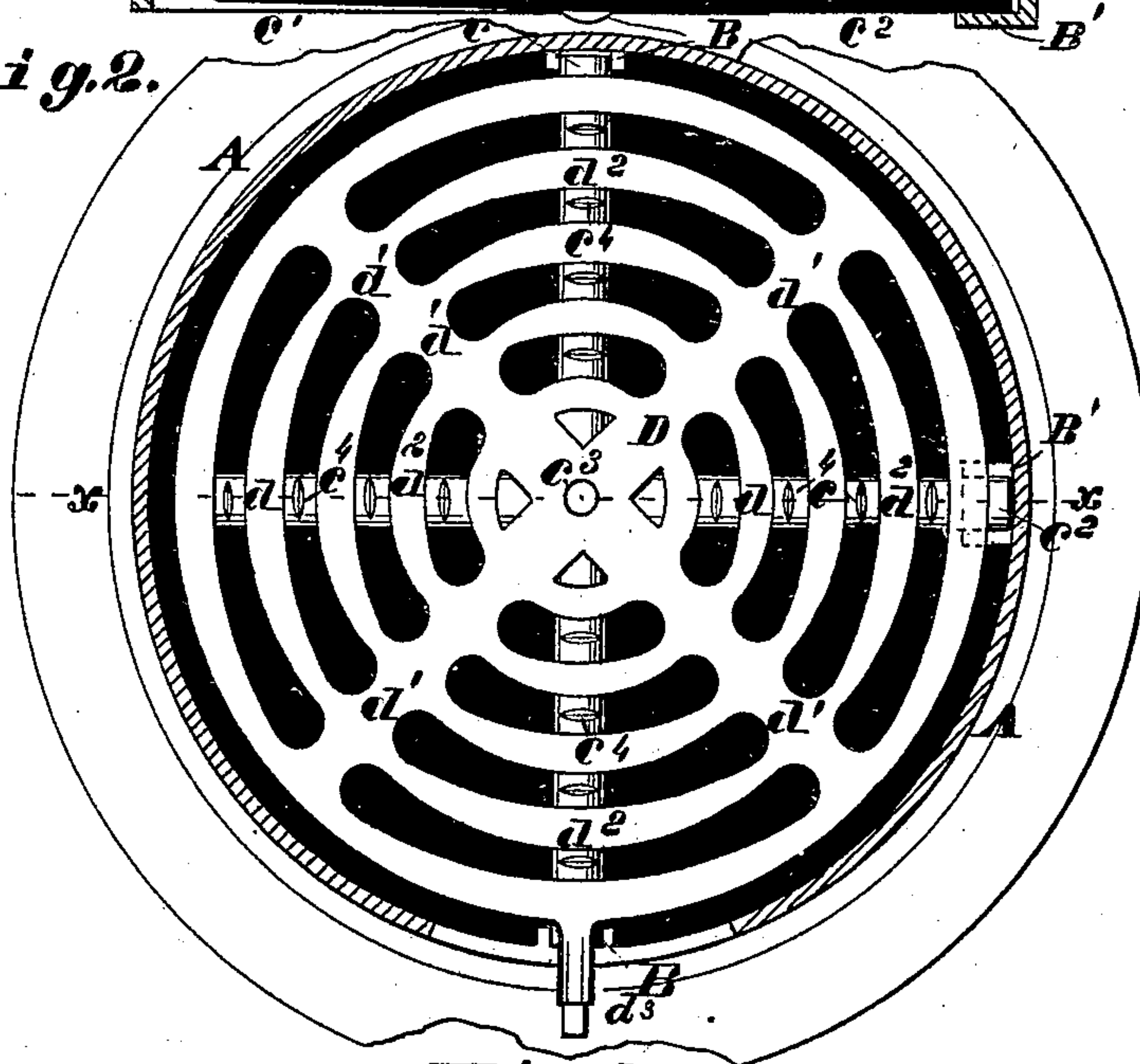
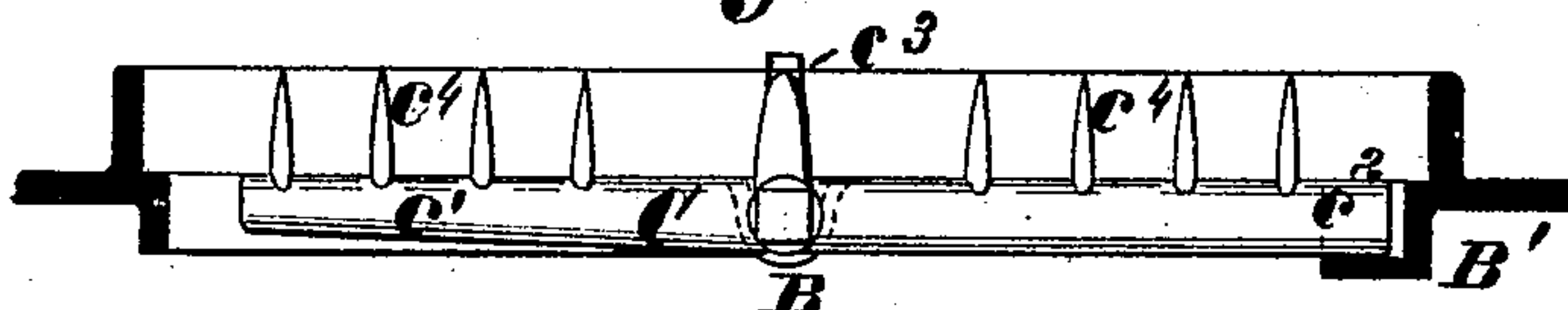


Fig. 3.



Attest.

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JOHN RINGEN, OF ST. LOUIS, MISSOURI.

GRATE FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 249,675, dated November 15, 1881.

Application filed August 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN RINGEN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Grates for Stoves, Furnaces, and other Apparatus for Burning Fuel, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to that class of grates with which are combined vertical studs or pins for raking the fire and loosening the clinkers, and having an oscillating bottom supported on a grate-rest or spider; and my improvement
15 consists in the combination of a grate-rest or spider provided with teeth extending up between the grate-bars, for the purposes of clearing the spaces or apertures of ashes and clinkers, and a grate formed with apertures between
20 the bars, which apertures are wider at their ends than at the middle portion, so as to allow the clinkers free movement toward the ends under the pressure of the teeth, and to allow the clinkers to drop out of the apertures as
25 they are carried toward the ends, as hereinafter set forth.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in
30 which—

Figure 1 is a section of my improvement in stoves at $x x$, Fig. 2. Fig. 2 is a horizontal section at $x' x'$, Fig. 1. Fig. 3 is a view, partly in vertical section, of the shell at $x x$, Fig.
35 2, showing an end and side view of the grate-rest, the grate being omitted.

The sides of the stove are shown at A.

B B are bearing-lugs, having a recess in the upper side to receive the end of the axial bar
40 c of the tilting grate-rest or spider C.

c' is a bar of the grate-rest at a right angle

to the bar c , and having one end extended at c^2 , to fall into the recess of the lug B' when the grate reaches a horizontal position, and to retain the grate in such position, the preponderance of weight in the grate and grate-rest being
45 upon this side.

The grate-rest or tilting spider has a central pivot, c^3 , which forms the pintle on which the grate D oscillates, said pintle passing through
50 a hole in the center of the grate.

Along the bars $c c'$ are a number of upwardly-extending tapering teeth, c^4 , which pass through the spaces between the bars d of the grate. The spaces between the bars are curved
55 concentrically with each other and the pintle. They are formed wider toward the end d (see Fig. 2) than at the middle, d^2 , the object being that the clinkers, &c., shall become loose in the spaces and drop out as they are forced toward
60 the ends d' by the teeth c^4 in the oscillation of the grate upon its pintle c^3 .

The grate has an arm, d^3 , extending through a horizontal slot in the side of the stove, and whose end is fitted to receive a key for the tilting of the grate or for its oscillation in a horizontal plane. This last feature—the arm d^3 —is
65 of not unusual construction, and therefore needs no further description.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:
70

The combination of the grate-rest having teeth c^4 , and the grate having curved spaces $d' d^2$, of increasing width toward their ends, the
75 said teeth extending up between the bars of the oscillating grate, as and for the purpose set forth.

JOHN RINGEN.

In presence of—

SAML. KNIGHT,
GEO. H. KNIGHT.