

(No Model.)

2 Sheets—Sheet 1.

W. C. METZNER.

STOVE GRATE.

No. 407,787.

Patented July 30, 1889.

Fig. 1

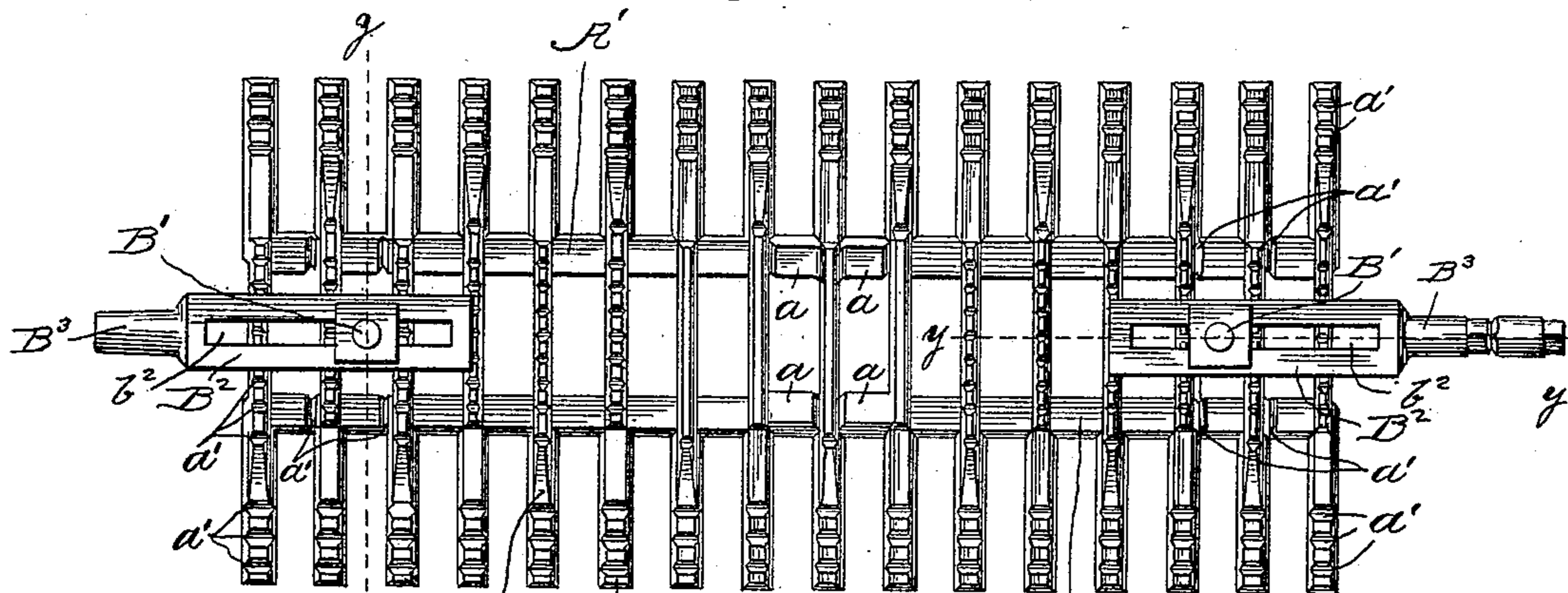


Fig. 2.

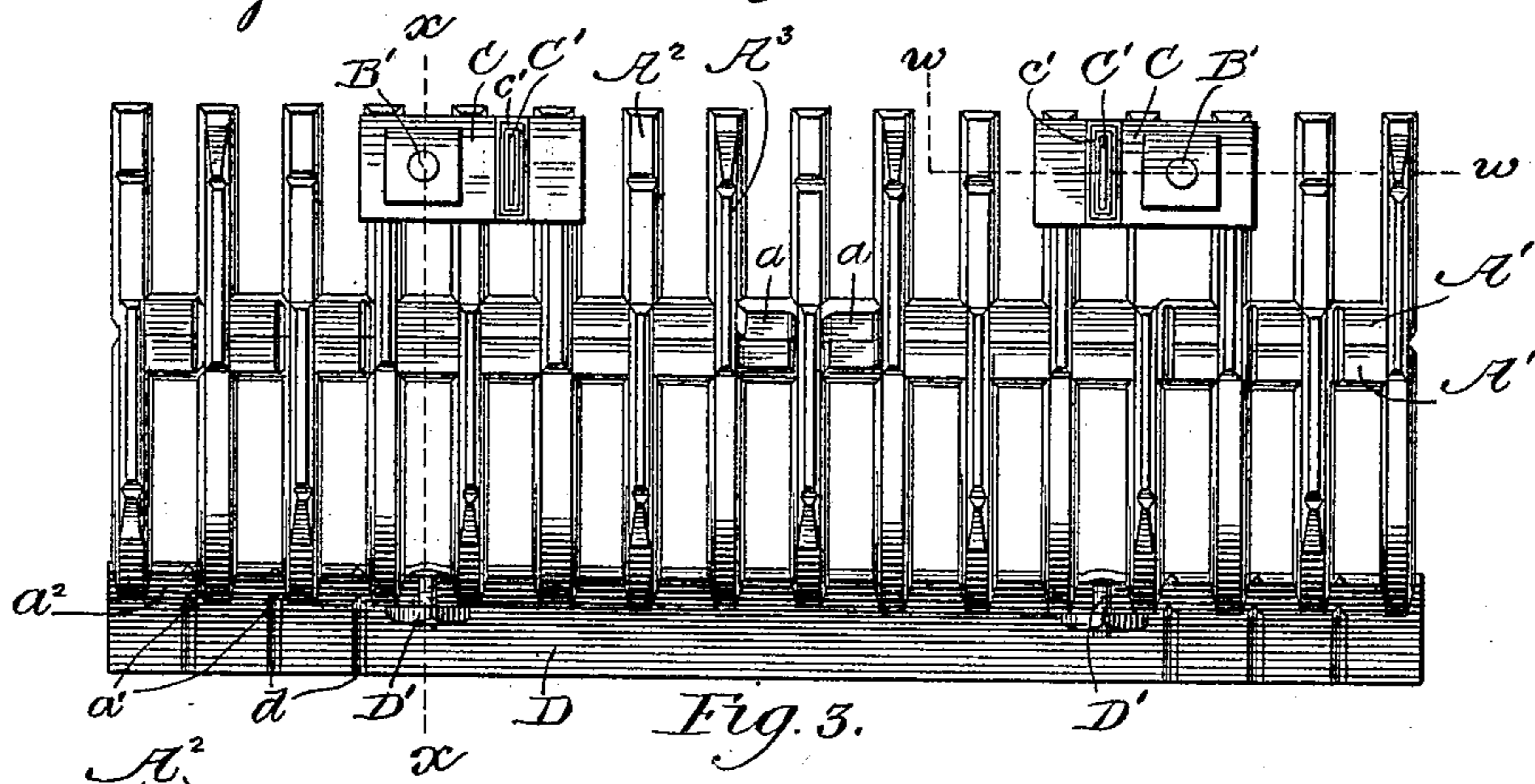
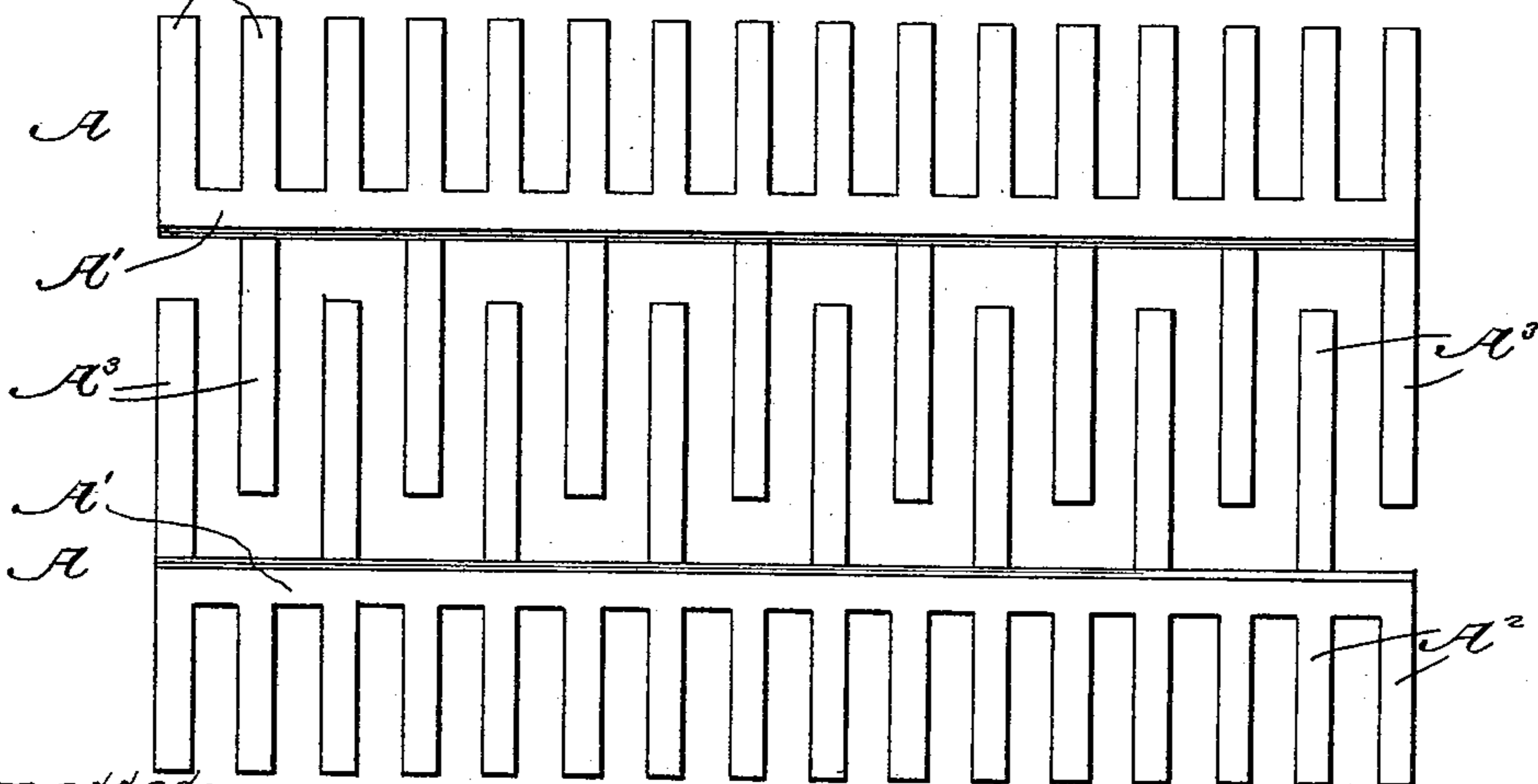


Fig. 3.



Witnesses:

E. F. Brown
L. V. Ferris

Inventor:

William C. Metzner
by Cyrus K. Ehr
A. Ehr

(No Model.)

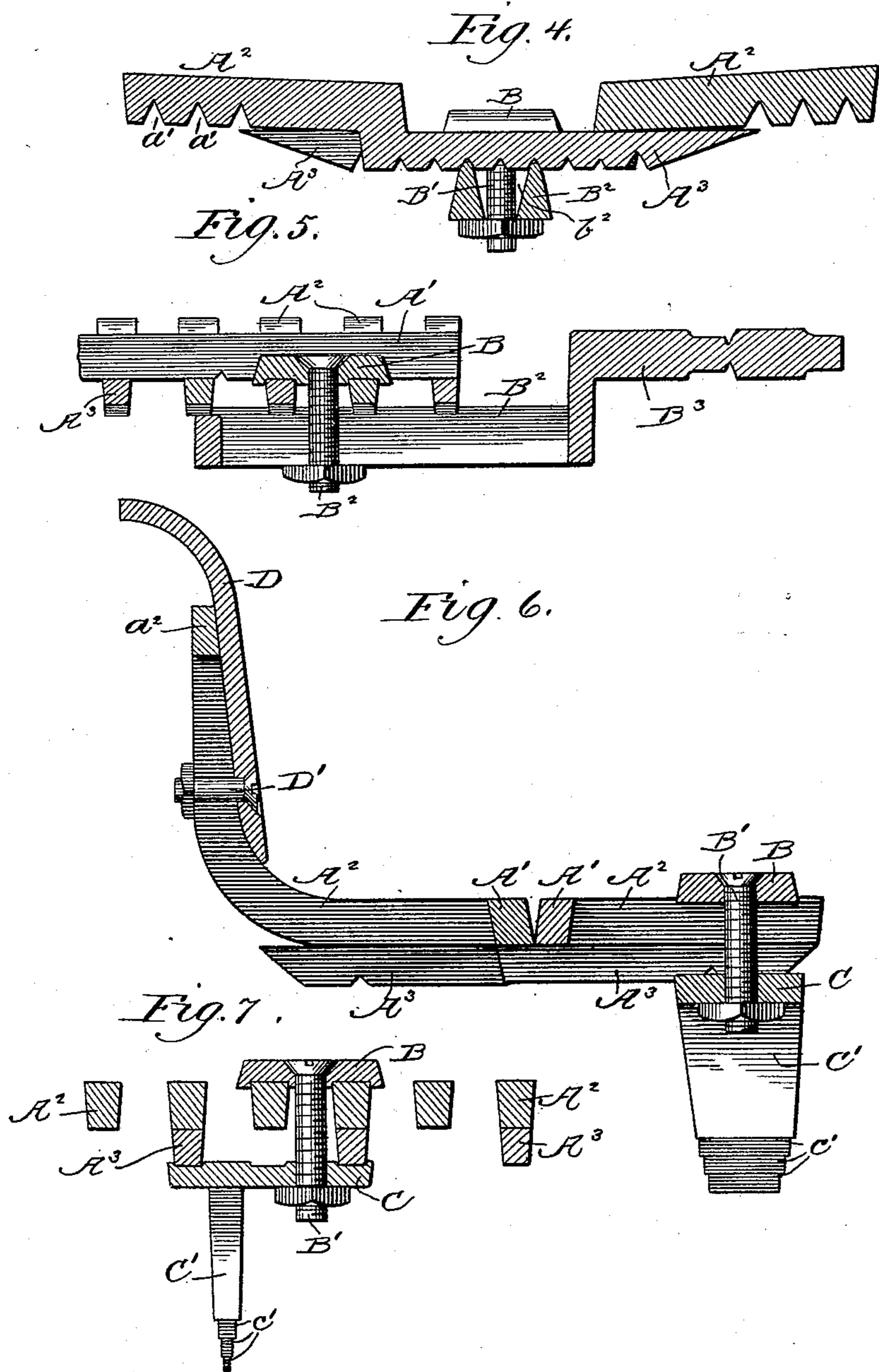
2 Sheets—Sheet 2.

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No. 407,787.

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William C. Metzner
by Cyrus K. Kehr
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM C. METZNER, OF CHICAGO, ILLINOIS.

STOVE-GRATE.

SPECIFICATION forming part of Letters Patent No. 407,787, dated July 30, 1889.

Application filed December 19, 1888. Serial No. 294,097. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. METZNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stove-Grates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to stove-grates made of overlapping adjustable sections, whereby the dimensions of the grate may be varied. The grate may be, when complete, a tilting or a reciprocating or an immovable grate. The drawings show it in the fixed and tilting forms.

In the accompanying drawings, Figure 1 is a bottom view of a tilting grate embodying my invention. Fig. 2 is a bottom view of a fixed form. Fig. 3 is a top view of the sections of the grate shown in Fig. 1. Fig. 4 is a section in line $z z$ of Fig. 1, the grate being right side up. Fig. 5 is a section in line $y y$ of Fig. 1, the grate being right side up. Fig. 6 is a section in line $x x$ of Fig. 2, the grate being right side up. Fig. 7 is a section in line $w w$ of Fig. 2, the grate being right side up.

A A, Figs. 1, 3, and 4, are the sections of the grate. Each such section has the longitudinal midrib A' . On the outer side of each such midrib there is a series of transverse ribs A^2 , and on the inner side of such midrib there is a series of longer transverse ribs A^3 , one standing opposite every alternate rib A^2 , and the ribs A^3 of one section alternating in spacing with those of the other section, as shown in Fig. 3. These ribs A^3 are all set downwardly far enough to bring their upper faces even horizontally with the lower faces of the ribs A^2 and A' . The ribs A^3 of one section may therefore extend beneath the midrib A' and ribs A^2 of the other section. The said sections may be moved back and forth upon each other for adjustment of the width of the grate, and said sections may be secured together firmly in any manner. In

Figs. 1, 4, and 5, at each end of the grate, a cap B lies upon the ribs A^3 between the midribs A' , and a bolt B' passes through said cap and the inner end of the bar B^2 , located against the bottom of the ribs A^3 . The tightening of said bolt binds said cap and bar tightly to the ribs A^3 and fixes the sections A to each other, whereby the body of the grate is completed. Said cap may be dispensed with and the head or the bolt set on the ribs.

The bars B^2 may have one or several holes or a continuous slot b^2 to receive the bolt B' , and the outer end of said bars should terminate in journals B^3 , by which the grate is supported in the stove, as is well known. Said bars may be moved to and fro on the bolts B' to vary the distance between the journals, in order that the grate may be applied to fire-pots of varying lengths. One of said journals is extended and faced to receive a crank, and it may be notched transversely to facilitate its breaking when it is desired to shorten it. To prevent the sections A from sliding upon each other longitudinally, lugs $a a$ are formed upon the lower face of one or both the midribs A' , between the spaces which the ribs A^3 are to occupy. This guides the ribs A^3 and causes each to lie directly beneath a rib A^2 . Thus the openings through the grate for the passage of air and ashes are not diminished.

To further facilitate the adjustment of the size of the grate, the ends of the ribs A^2 and A^3 and the midribs A' may be provided with breaking-notches a' . By breaking along these notches the length and width of the grate may be reduced.

In Figs. 2, 6, and 7, the rear of the grate is supported on two feet, and the front is extended upwardly and rests against the front wall of the fire-pot.

The cap B and bolt B' above mentioned are used in this form of the grate. Said bolt passes through a plate C, from the bottom of which projects a foot C' . Said bolt draws said cap and plate together, and the sections A A are thus bound to each other. Said caps, bolts, and plates may obviously be placed where it is desired to have the feet C' . The lower ends of said feet may also be provided with breaking-grooves c' .

At the front the ribs A^2 are extended forwardly and inwardly and united by a transverse web a^2 , and said web is provided with breaking-notches a' to correspond with the notches in the midribs A' . The curved face-plate D is applied to the inner face of the upward extensions of the ribs A^2 by means of bolts D' , passing through said plate and between said ribs. Said bolts may be moved up and down between said ribs to raise and lower said plate to fit it to the fire-pot. Said plate may also have breaking-notches d at its ends.

Breaking-grooves have been heretofore used in stove parts; hence I do not lay claim to the same, broadly.

I claim as my invention—

1. In an adjustable stove-grate, the combination of the sections $A A$, each having on the side adjacent to the other the ribs A^3 , said ribs of each section alternating in spacing with those on the other section and extending beneath the other section, and bolts to secure said sections to each other, substantially as shown and described.

2. In an adjustable stove-grate, the combination of the sections $A A$, each having on the side adjacent to the other the ribs A^3 , said ribs of one section alternating in spacing with those on the other section and extending beneath the other section, one or more lugs a , seated on said sections between the ribs A^3 , and bolts to secure said sections to each other, substantially as shown and described.

3. In an adjustable stove-grate, the combination of the sections $A A$, each having on the side adjacent to the other the ribs A^3 , said ribs of one section alternating in spacing with those on the other section and extending beneath the other section, bars B^2 , terminating in journals B^3 , applied at the ends of said

grate, and bolts to secure said bars and said sections to each other, substantially as shown and described.

4. In an adjustable stove-grate, the combination of the sections $A A$, each having on the side adjacent to the other ribs A^3 , said ribs of one section alternating in spacing with those on the other section and extending beneath the other section, slotted bars B^2 , terminating in journals B^3 , applied at the ends of said grate, and bolts to secure said bars and said sections to each other, substantially as shown and described.

5. In an adjustable stove-grate, the combination of the sections $A A$, each having on the side adjacent to the other the ribs A^3 , said ribs of one section alternating in spacing with those on the other section and extending beneath the other section, one or more lugs a , seated in said sections between the ribs A^3 , bars B^2 , terminating in journals B^3 , applied at the ends of said grate, and bolts to secure said bars and said sections to each other, substantially as shown and described.

6. In an adjustable stove-grate, the combination of the sections $A A$, each having on the side adjacent to the other the ribs A^3 , said ribs of one section alternating in spacing with those on the other section and extending beneath the other section, one or more lugs a , seated in said sections between the ribs A^3 , slotted bars B^2 , terminating in journals B^3 , applied at the ends of said grate, and bolts to secure said bars and said sections to each other, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM C. METZNER.

Witnesses:

EDWARD J. HRDLICKA,
CYRUS KEHR.