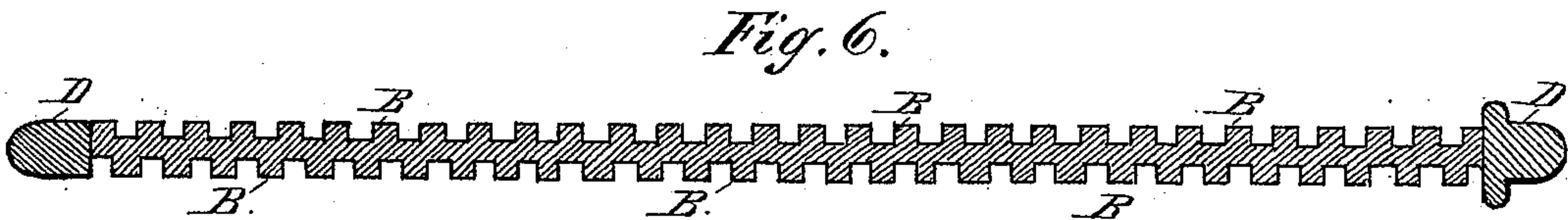
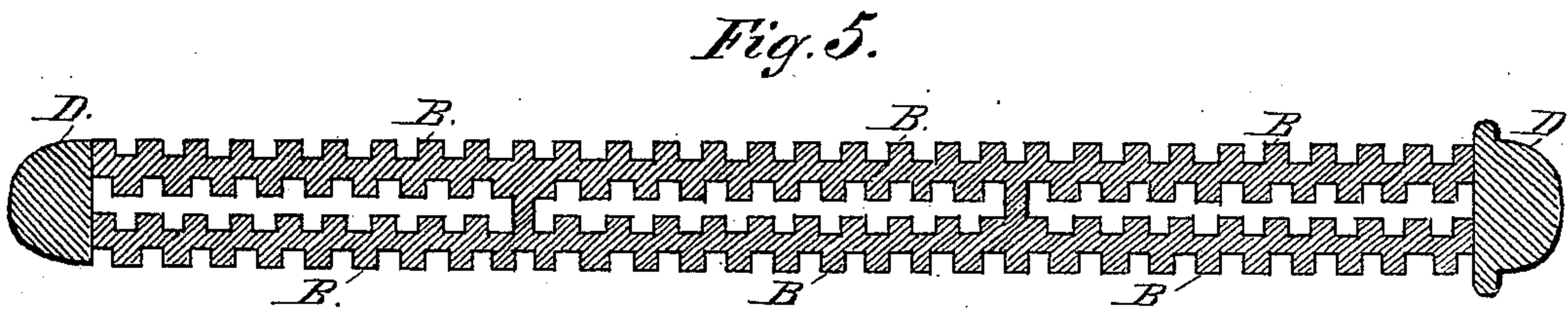
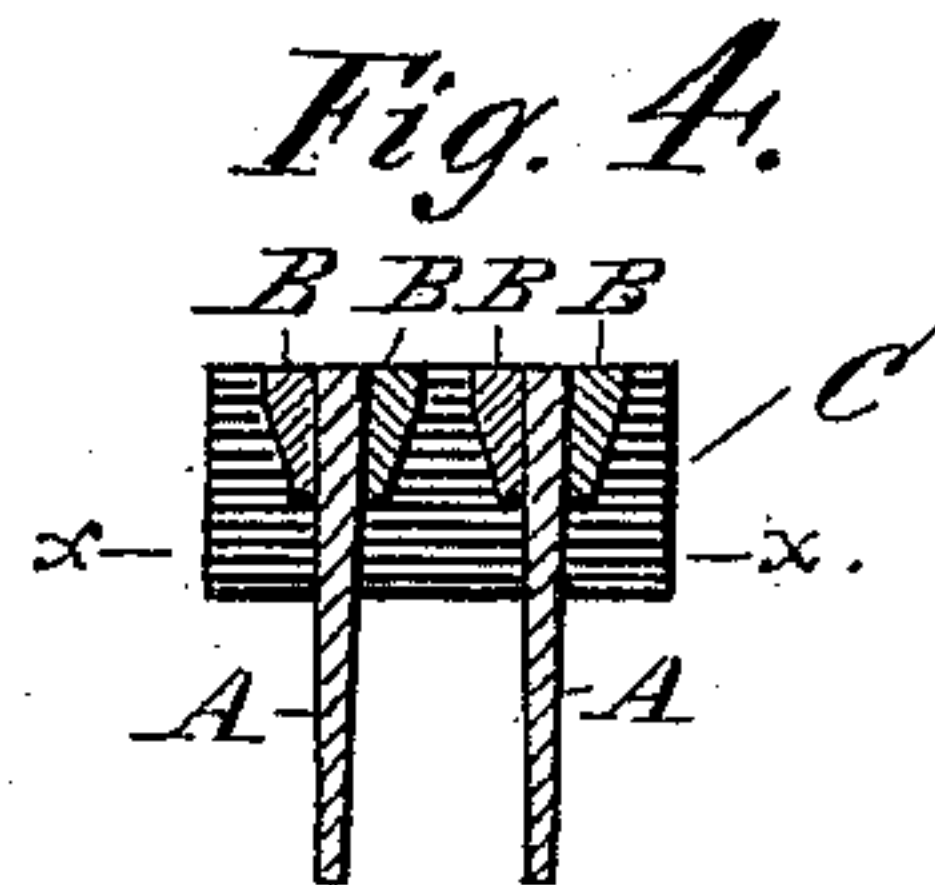
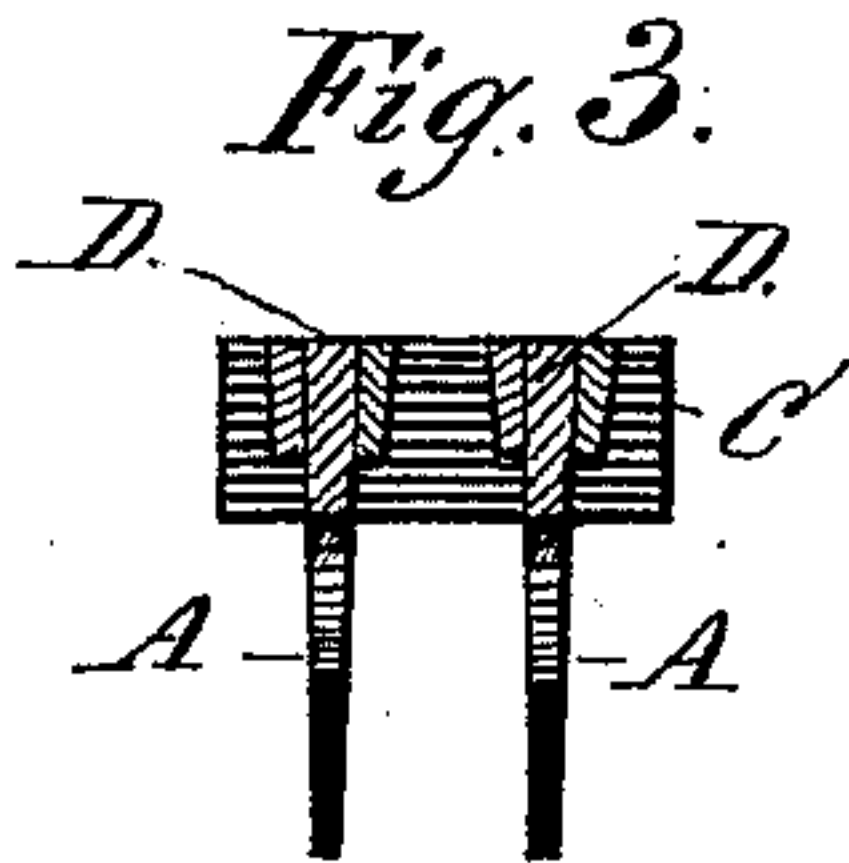
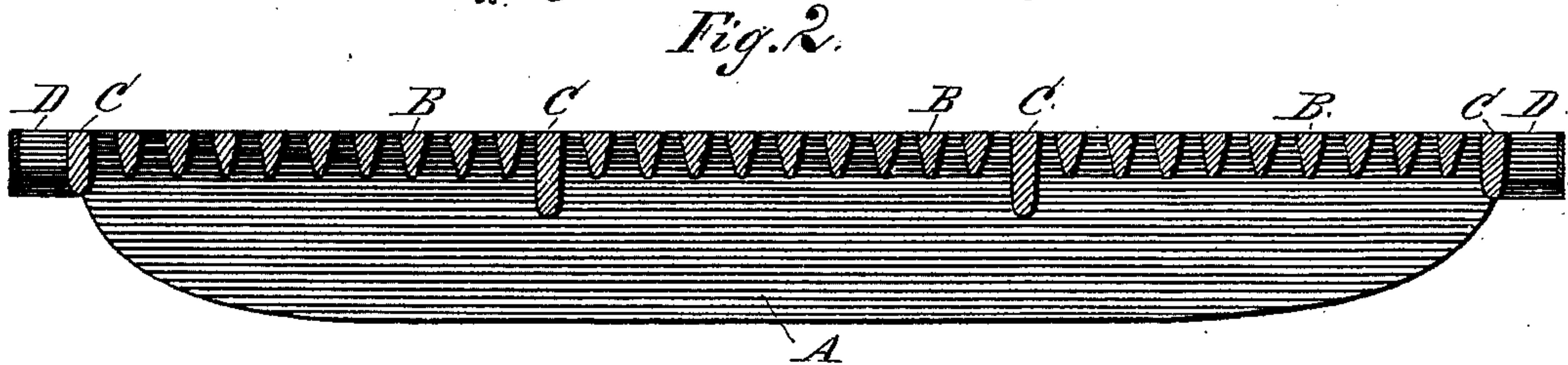
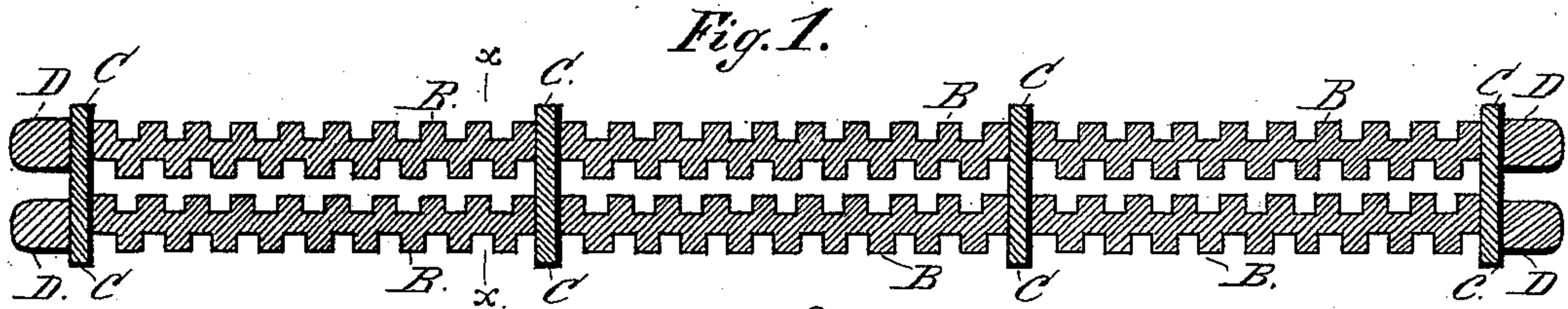


(No Model.)

S. W. EVANS.
GRATE BAR.

No. 428,595.

Patented May 27, 1890.



WITNESSES:

Helmut Holtz.
Percy D. Parks.

INVENTOR

Samuel W. Evans.
by W. E. Stringfellow
Attorney

UNITED STATES PATENT OFFICE.

SAMUEL W. EVANS, OF NEW ORLEANS, LOUISIANA, ASSIGNOR OF ONE-HALF
TO MARION N. WOOD, OF SAME PLACE.

GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 428,595, dated May 27, 1890.

Application filed January 28, 1890. Serial No. 338,397. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL WILKINSON EVANS, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Grate-Bars; and I do 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.

My invention relates to an improvement in grate-bars, and the novelty will be fully understood from the following description and accompanying drawings; and the objects of my invention are to provide a grate-bar with a large amount of air-space and specially adapted for burning slack or other grades of coal and of such peculiar construction as to prevent it from burning off. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view of double bar. Fig. 2 is a side view of double bar. Fig. 3 is an end view of double bar. Fig. 4 is a cross-sectional view of double bar. Fig. 5 is a top view of a double trunnion-bar. Fig. 6 is a top view of a single trunnion-bar.

Similar letters refer to similar parts throughout the several views.

In constructing my grate-bar the mold is so formed as to place upon the side of the bar A, as shown in Fig. 2, teeth, as shown by B. These teeth are beveled from the face of the bar, and make it impossible for hot coals to lodge between them, thereby keeping the face of the bar cool, which prevents it from burning off.

C are cross-pieces, as shown in Fig. 1, and are preferable when a bar is stationary; or the cross-piece may be formed as shown in Fig. 5.

D are end pieces of grate-bar.

The construction shown in Fig. 6 is a single or trunnion bar, and is especially adapted

for burning coal which has a large amount of clinkers. By the construction of the teeth in the manner shown an increase of air-space is given, and at the same time a large percentage is saved in the weight of metal in constructing, the light construction requiring less weight for grate-surface.

A striking advantage of my grate-bar is that the increased air-space enables the bar to be used for several years without any perceptible change from burning off, and requires no renewal of grate-bars.

From the construction shown it will be seen that the lateral teeth or projections are arranged at alternating points on opposite sides of the bar, and that these teeth or projections are beveled outwardly on their ends and also their sides, so as to serve more effectually in allowing clinkers and the like to fall between them, and thereby increase the draft and keep the bars cool.

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

As an improved article of manufacture, a grate-bar consisting, essentially, of the two parallel bars or flanges A A, each having the end bearings D and the teeth or projections B arranged on opposite sides, said teeth alternating on the opposite side of the bars, and the teeth of the bars also alternating with respect to each other, said teeth being beveled outwardly on their sides and also their edge, and the bars C, having beveled sides and straight opposite ends and connecting the bars A A, substantially as specified.

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

SAMUEL W. EVANS.

Witnesses:

HELMUTH HOLTZ,
PERCY D. PARKS.