

No. 724,938.

PATENTED APR. 7, 1903.

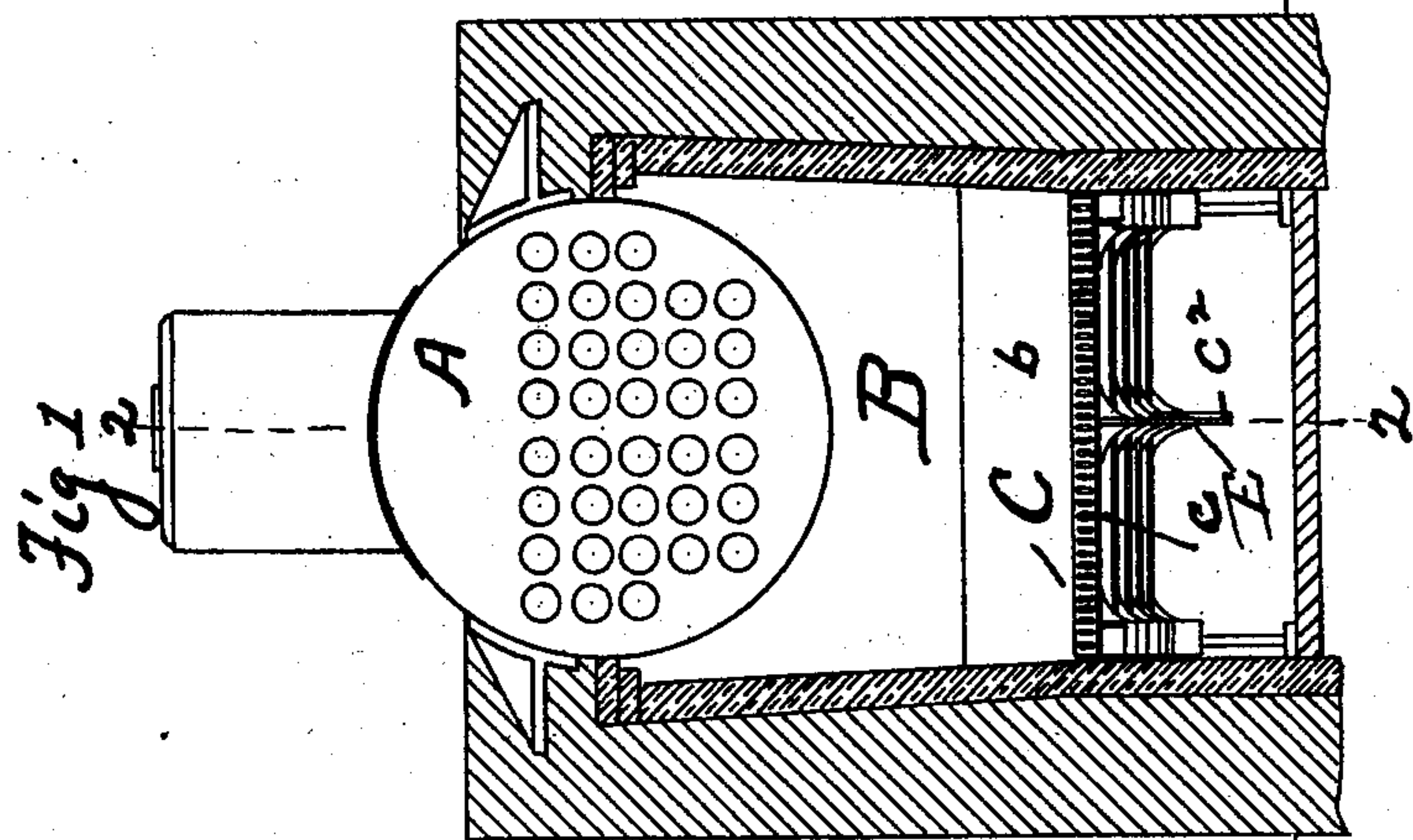
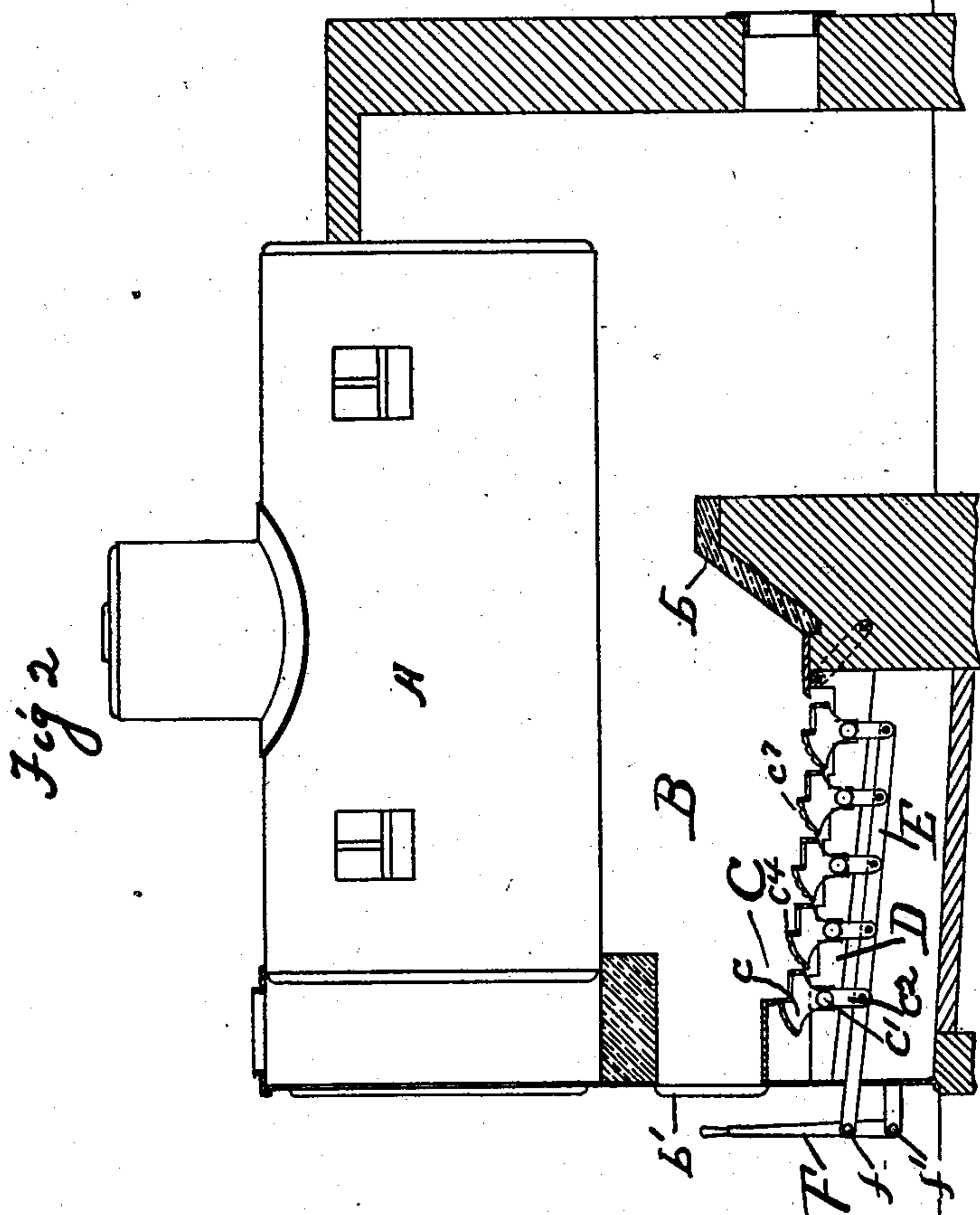
H. E. REED.

GRATE FOR FURNACES.

APPLICATION FILED APR. 21, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

C. E. L. M. Cord
H. E. Yard

Inventor
Hiram E. Reed
by H. E. Cord
att

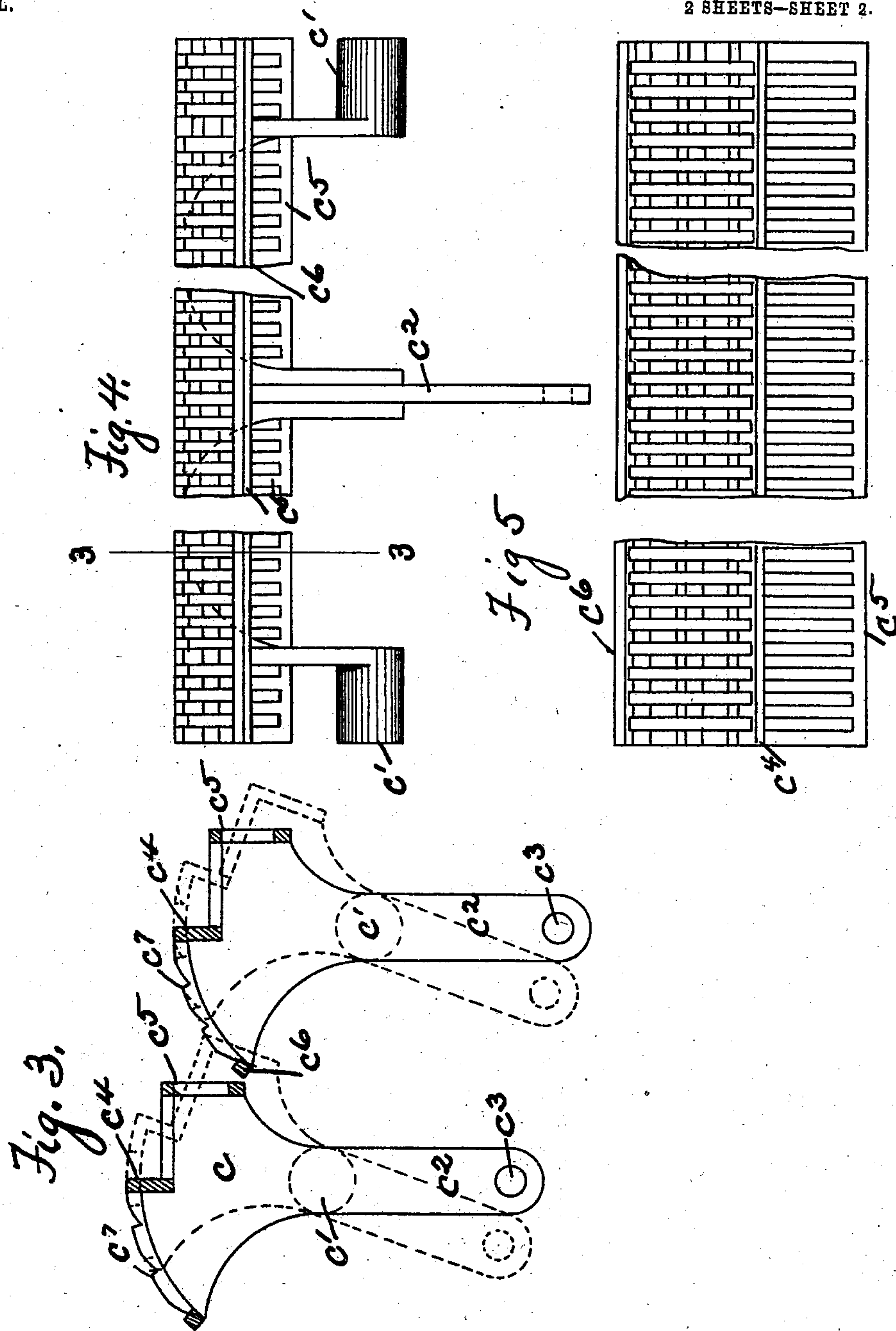
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2 SHEETS—SHEET 2.



Witnesses

C. G. L. M. Cord
H. E. Yard

Inventor
Hiram E. Reed
by W. L. Lind
att'y.

UNITED STATES PATENT OFFICE.

HIRAM E. REED, OF ERIE, PENNSYLVANIA.

GRATE FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 724,938, dated April 7, 1903.

Application filed April 21, 1902. Serial No. 103,955. (No model.)

To all whom it may concern:

Be it known that I, HIRAM EDWARD REED, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Grates for Furnaces, of which the following is a specification.

This invention relates to grates for furnaces; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claim.

More particularly, the invention relates to that class of grates which are allied to mechanical stokers, the action of the grate being such as to carry the fuel from the point at which it is fed to the furnace to the point of discharge.

The invention is illustrated as follows:

Figure 1 shows a transverse section of a fire-box comprising a grate formed according to my invention. Fig. 2 shows a section on the line 2 2 in Fig. 1. Fig. 3 shows an enlarged section on the line 3 3 in Fig. 4. Fig. 4 shows a side elevation of the grate-bar; Fig. 5, a plan view.

The invention as illustrated is adapted to a boiler-furnace.

A marks the boiler; B, the furnace-chamber; b, the bridge-wall; b', the furnace-door. The grate C consists of a series of grate-bars c, pivoted on the frame D at the point c'. Extending from the grate-bars are the arms c². Attached to these arms is the operating-rod E. This rod is connected with the lever F at f. The lever is fulcrumed at f'. At the top of the bars are the notches c⁷ on the curved

rear portion and the enlarged notch or step c⁴. The grate-bars are preferably open. One edge of the grate-bar has the surface c⁵ and the other edge the point c⁶.

By reference to Fig. 3 it will be seen that as the grate-bars are rocked the edge c⁶ follows the line of the edge c⁵, so that it maintains a close relation between the edges throughout the movement of the grate-bar. At the same time the bars do not overlap. By this construction grate-bars may be arranged with less inclination than with other grates of this character, and consequently while the grate-bars may be given sufficient action to break up the fuel it prevents too extensive coking without feeding the fuel so fast as to pass it through the furnace before it is consumed. At the same time the close relation between the edges, as described, prevents the dropping of the fuel from the grate.

What I claim as new is—

In an inclined grate, a series of grate-bars journaled transversely of the grate, the fuel-supporting surface of each bar being stepped to feed the fuel forward, and the adjacent surfaces of the grate-bars being non-overlapping and so formed as to preserve a constant space between the bars during the entire movement thereof; in combination with means for working said bars.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HIRAM E. REED.

Witnesses:

RITCHIE T. MARSH,
G. E. YARD.