

(No Model.)

C. J. ALLEN & F. R. TIBBITS.
FURNACE GRATE BAR.

No. 575,092.

Patented Jan. 12, 1897.

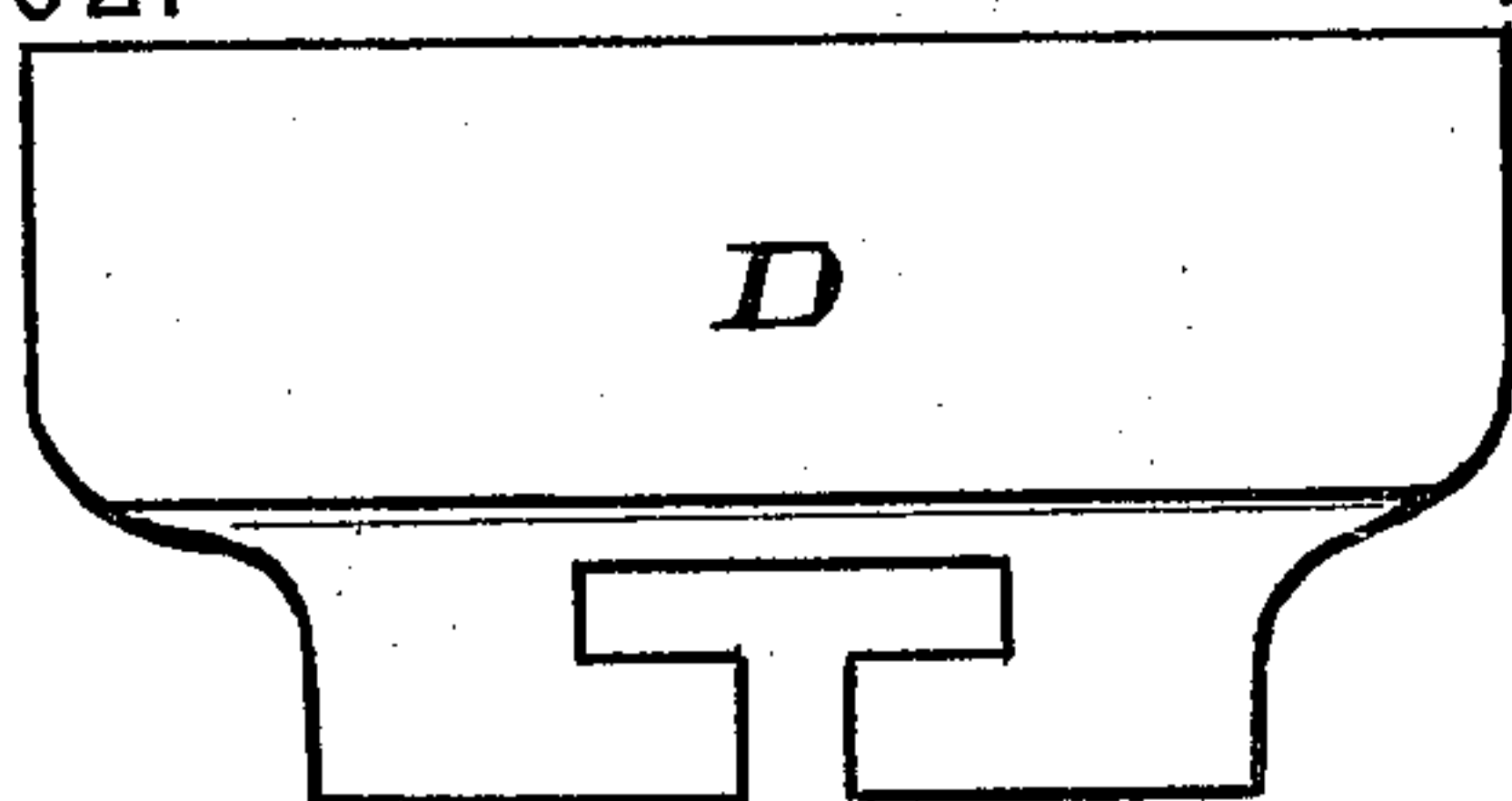


Fig. 4.



Fig. 5.

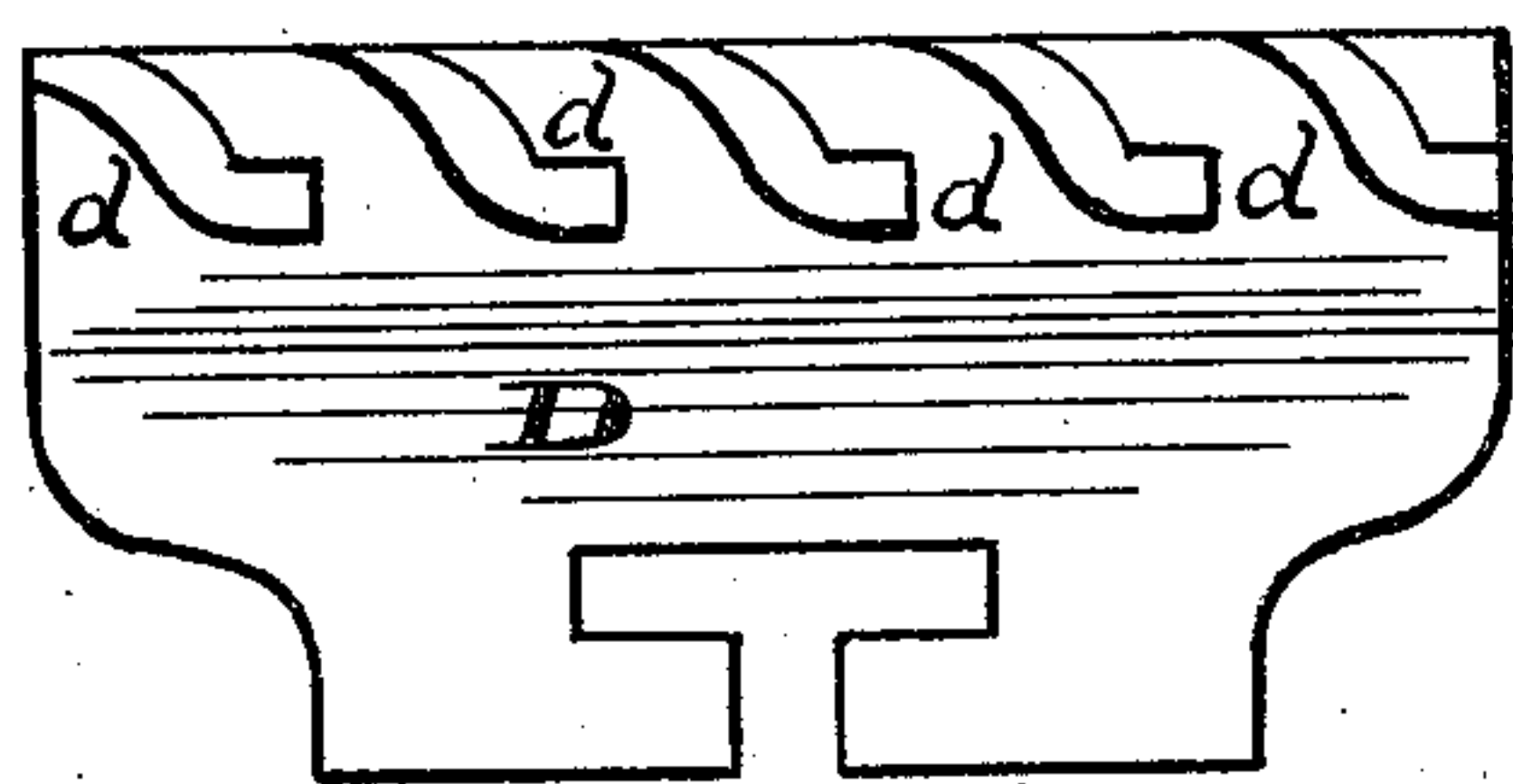


Fig. 2.

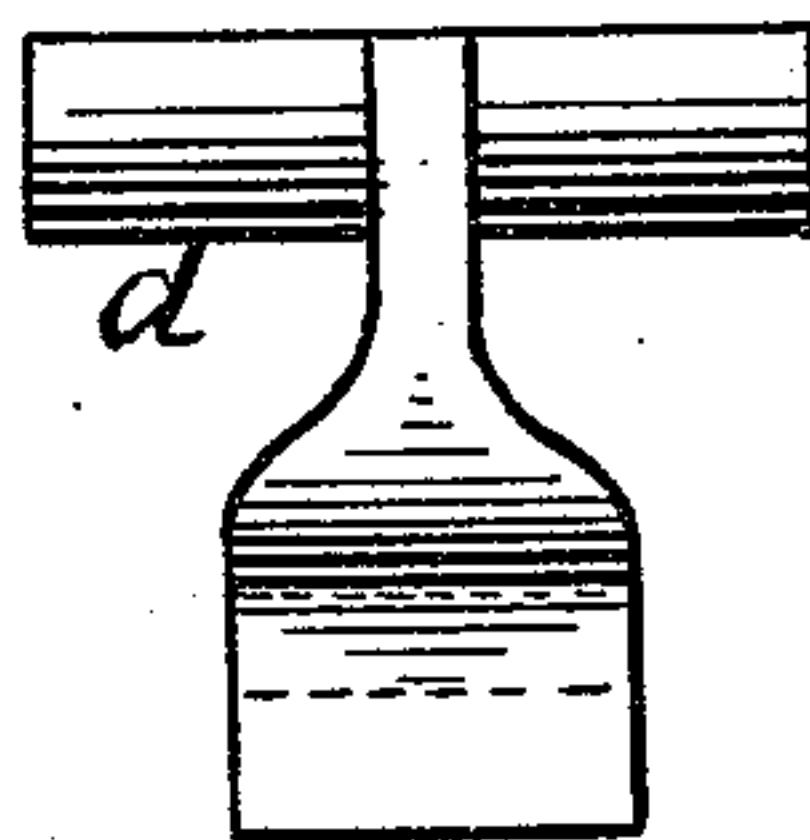


Fig. 3.

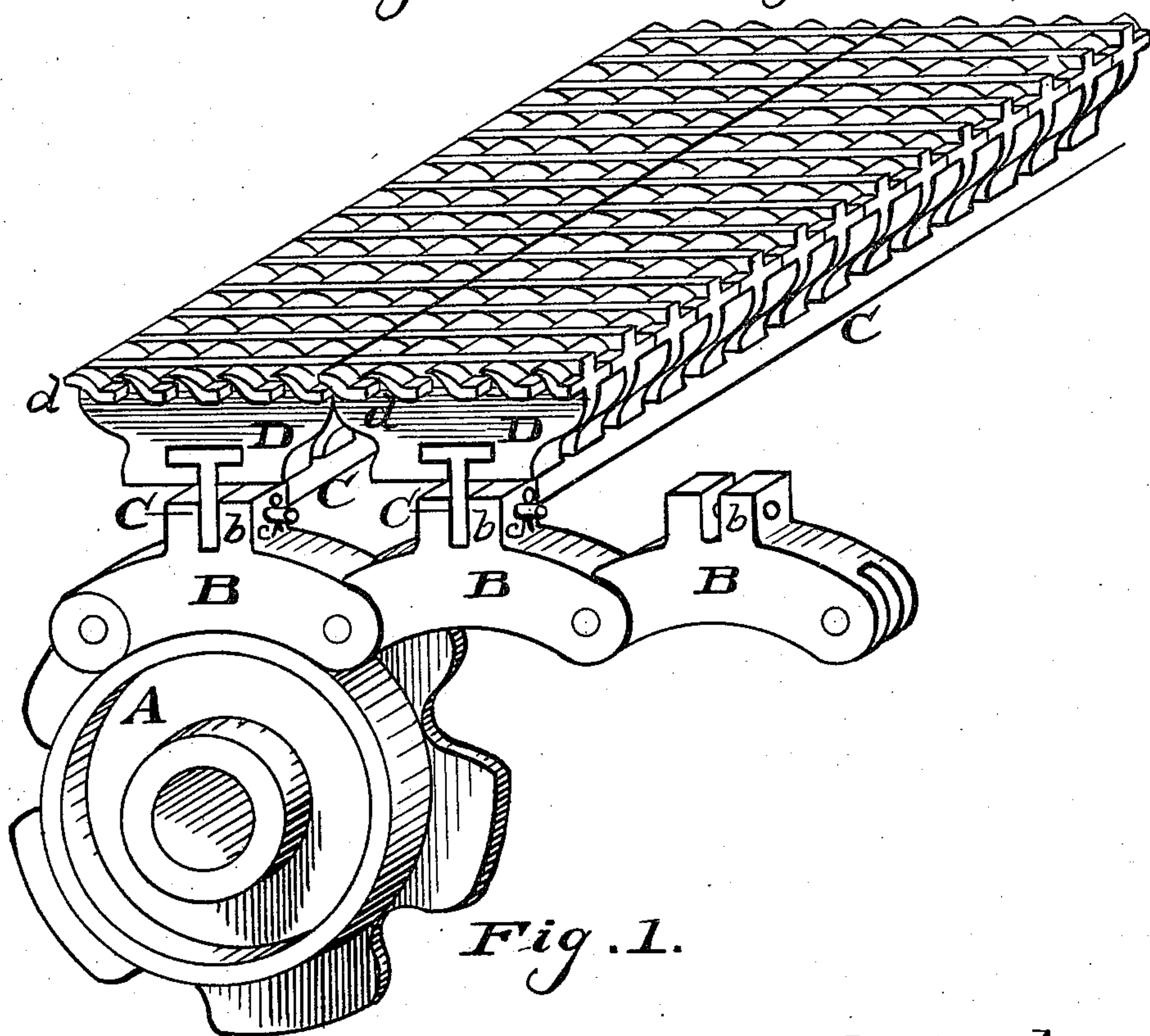


Fig. 1.

Witnesses,

Jan. Goldberger
H. Lindale Smith

Inventors,

Charles J. Allen.
Frank R. Tibbits
per Geo. W. Tibbits Atty.

UNITED STATES PATENT OFFICE.

CHARLES J. ALLEN AND FRANK R. TIBBITTS, OF CLEVELAND, OHIO, AS-
SIGNORS TO THE PLAYFORD STOKER COMPANY, OF SAME PLACE.

FURNACE-GRATE BAR.

SPECIFICATION forming part of Letters Patent No. 575,092, dated January 12, 1897.

Application filed October 24, 1896. Serial No. 610,006. (No model.)

To all whom it may concern:

Be it known that we, CHARLES J. ALLEN and FRANK R. TIBBITTS, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Furnace-Grate Bars, of which the following is a specification.

This invention relates to furnace-grates; and it consists in the new constructions and combinations substantially as hereinafter described, and pointed out in the claims.

The object of this invention is the adaptation of traveling or shaking grates for burning culm or pulverized fuel, obviating the loss of fuel by falling through and without diminishing draft-spaces, also simplicity of construction, greatly facilitating and economizing repairs.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a furnace-grate, showing the new method of construction and assemblage of the parts. Figs. 2 and 3 are side and end views, respectively, of grate-surface sections. Figs. 4 and 5 are modified forms of the same.

A represents a sprocket-wheel designed for supporting and carrying the chains of a traveling grate. B B are the links which comprise the chains and have on their upper curved side slotted lugs *b*. One end of each link is made with a single eye and the opposite end with a double eye, so that when they are joined together there will be an even strain on the bolts that unite them.

C C are T-iron bars supported at their ends in the lugs *b*, held in place by bolts having cotter-pins *c*.

D are grate-surface sections made in blocks with their under part shortened and thickened and provided with a transverse T-shaped mortise adapted to slip onto the T-iron bars

B. The webs of the sections stand transversely with the T-iron bars, so that the ends of said webs on each bar abutting form continuous ribs lengthwise of the fire-surface, that is, from front to rear. The sides of the webs of the sections are provided with transverse fingers *d d*, projecting oppositely, so that when the sections are assembled on the T-irons the ends of the fingers come in contact and form continuous ribs crosswise of the grate, as seen on the surface in Fig. 1. These fingers, as will be seen in Fig. 2, are made in curved form with short ledges or flat surfaces partly underlying the upper curved ends of adjacent fingers. The purpose of this form is to prevent fine fuel falling through, but will lodge on the ledges, still leaving sufficient open space for draft. The fuel which thus lodges will be burned.

For coarser fuel the sections may be made without the fingers, as seen in Figs. 4 and 5.

Having described our invention, we claim—

1. In furnace-grates, the grate-surface sections provided with transverse, curved and overlapping fingers, substantially as shown and described.

2. In furnace-grates, the grate-surface sections provided with transverse, curved and overlapping fingers, and with a T-mortise, in combination with T-iron bars, substantially as described.

3. The combination of the links B provided with the slotted lugs *b*, the T-iron bars C supported in said lugs, and the grate-sections D provided with T-shaped mortise and supported on the T-iron bars, substantially as described.

CHARLES J. ALLEN.
FRANK R. TIBBITTS.

Witnesses:

GEO. W. TIBBITTS,
L. W. FORD.