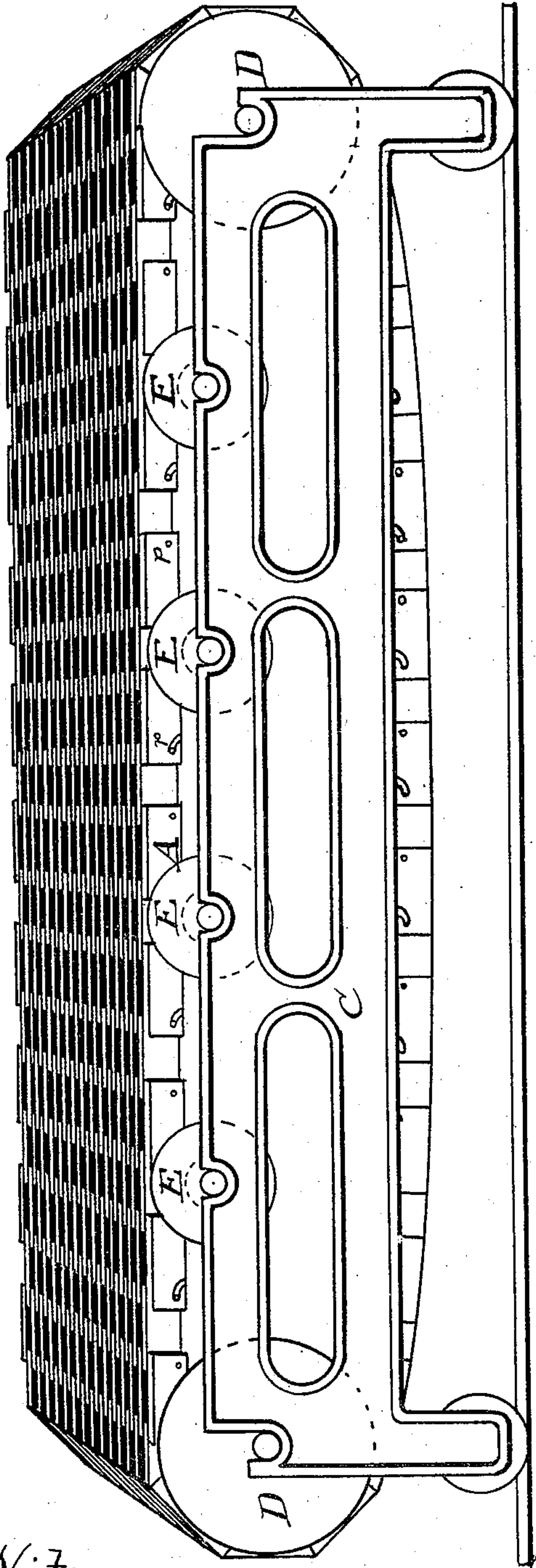


(No Model.)

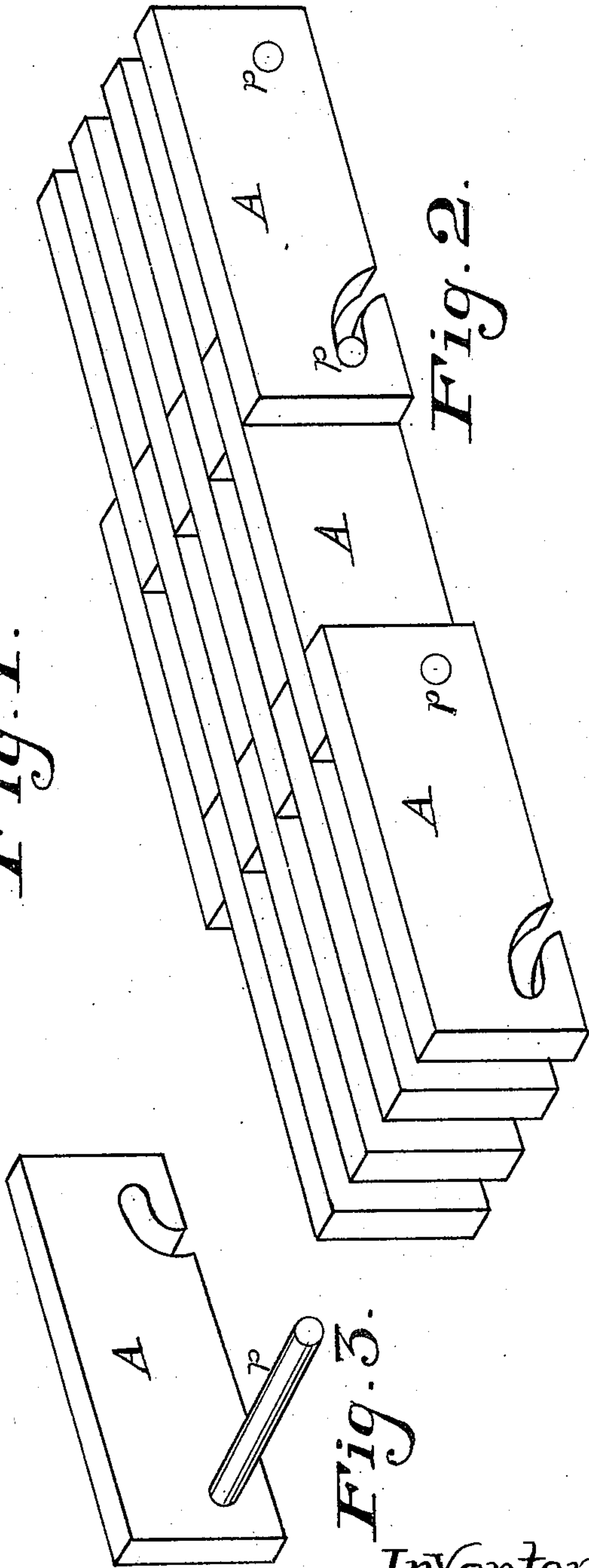
C. J. ALLEN.  
LINK GRATE BAR.

No. 575,091.

Patented Jan. 12, 1897.



*Fig. 1.*



*Fig. 2.*

*Fig. 3.*

Witnesses,

*Frank R. Tibbitts*  
*Jacob. Goldberg*

Inventor,

*Charles Jackson Allen.*  
*By Geo. W. Tibbitts, Attorney.*

# UNITED STATES PATENT OFFICE.

CHARLES JACKSON ALLEN, OF CLEVELAND, OHIO, ASSIGNOR TO THE PLAY-  
FORD STOKER COMPANY, OF SAME PLACE.

## LINK GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 575,091, dated January 12, 1897.

Application filed May 28, 1896. Serial No. 593,488. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES JACKSON ALLEN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Link Grate-Bars, of which the following is a specification.

This invention relates to link grate-bars, having for its object to provide a cheap, simple, and durable moving grate-surface, the links being easily removed and replaced for repairs or other purposes; and the invention consists in the peculiar construction and application of the links, as hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a carriage and moving grate-surface embodying my improvements. Fig. 2 is an enlarged perspective view of three sets of the new links, showing their peculiar construction and method of application. Fig. 3 is a detached view of one of the links, having a coupling-pin attached.

The links A, which constitute this invention, are constructed from plain flat bars of iron or steel rolled to the required width and thickness. Then they are cut into required lengths, say six or eight inches, and the holes in one end for the pins and the hooks in the other end are punched with dies provided in a drop-press for the purpose. Pins P of suitable length for grouping together, say, four or six of these links are provided, and a pin is fastened in the hole in one of the links which forms one side of a group, as seen in Fig. 3. The other links are placed loosely on the pins to make a group. Chains are formed of these links of any required lengths by hooking them together, as seen in Fig. 2, the hook ends of each link being interposed between the adjacent group and hooked onto the pins. To form a grate-surface of any required width several of these chains are placed side by side, as seen in Fig. 1.

C is a carriage composed of side frames and cross-beams. In the ends of said carriage-frame are journaled drums D D, around which the said chain-grates are supported and are propelled. E E are other smaller drums or rollers, also journaled in the side frames, for supporting the chain grates intermediately between the ends. The drums and rollers have wide annular flanges on each end, which form guides for retaining the chains in place.

From the foregoing it will be seen that this improvement possesses the following great advantages: First, simplicity of construction, in this that the wrought-metal links are easily, quickly, and uniformly produced; second, they are readily grouped in any required numbers without the use of bolts, nuts, or cotter-pins; third, ample space between the links is provided for draft through the grates for producing complete and perfect combustion; fourth, being of wrought metal are more durable, as they are not liable to breakage like cast metal, and for repairs are easily removable and replaced without removal of a nut or cotter-pin, as they are merely hooked together.

Having described my invention, I claim—

1. The stamped links A provided with the hooks in one end and the coupling-pins P in the opposite end, adapted for grouping and joining together to form the endless link grate-surface, substantially as described.

2. In an endless traveling grate for furnaces, the combination with carriage C and the supporting drums and rollers mounted thereon, of the link grate-bars A A, provided with hooks in one end and the coupling-pins P in the opposite end, grouped and hooked together and forming the grate-surface, substantially as described.

CHARLES JACKSON ALLEN.

Witnesses:

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