

W. H. SETTLE.

Improvement in Furnace Grate-Bars.

No. 129,756.

Patented July 23, 1872.

Fig. 1.

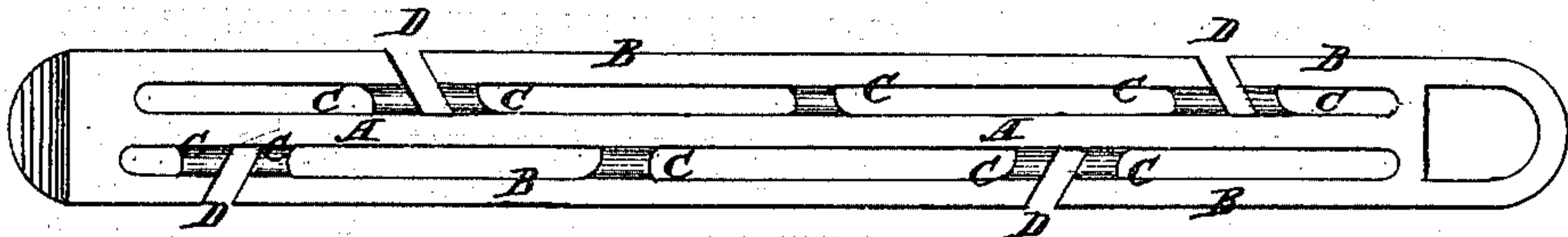


Fig. 2.

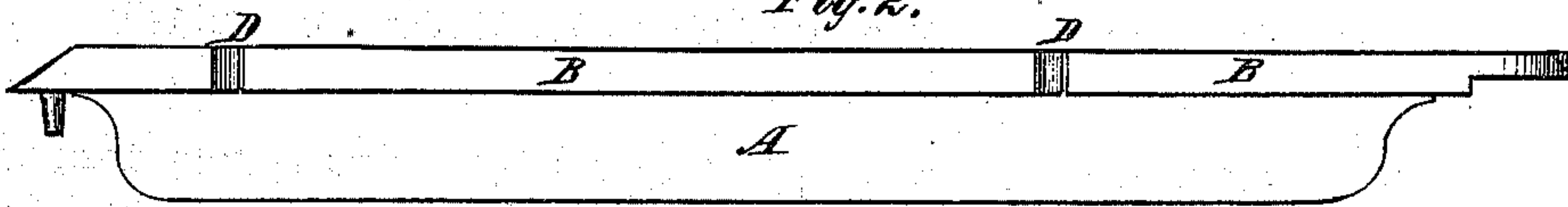


Fig. 3.

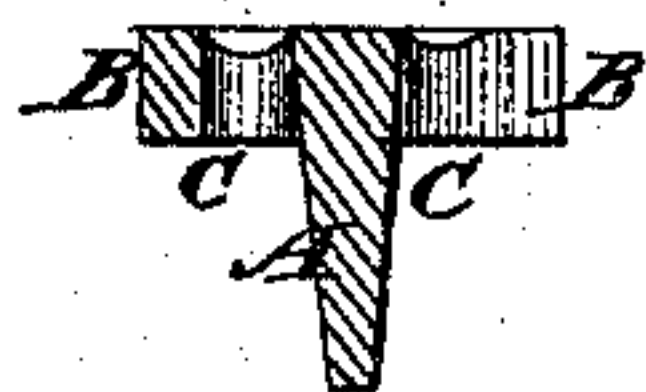


Fig. 4.

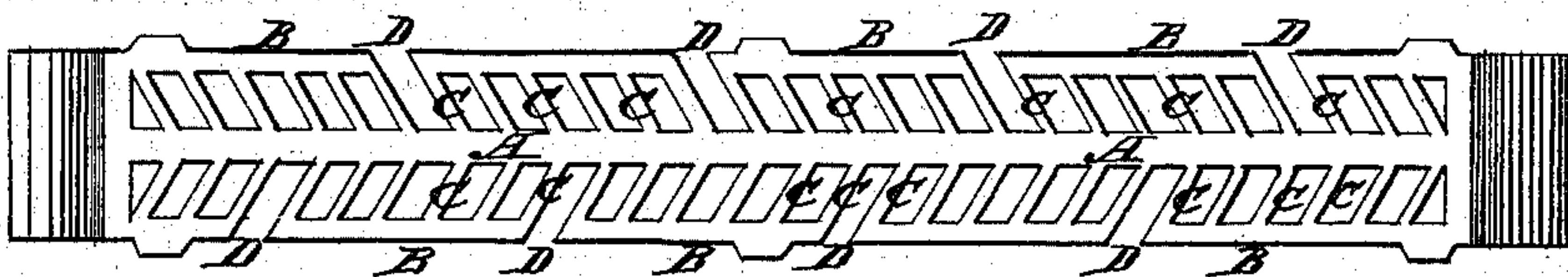


Fig. 5.

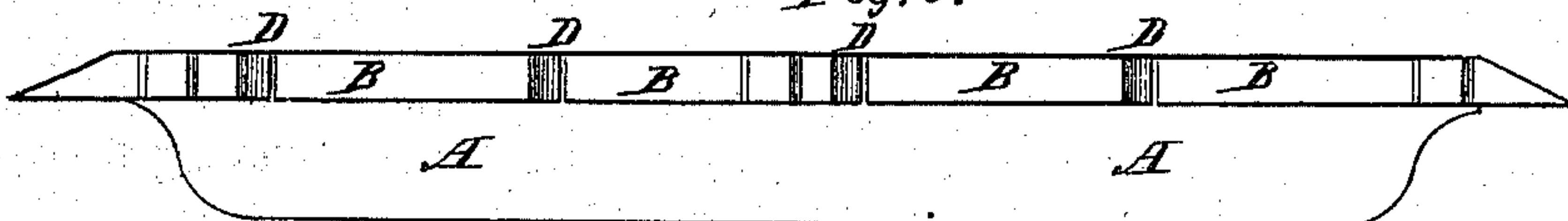
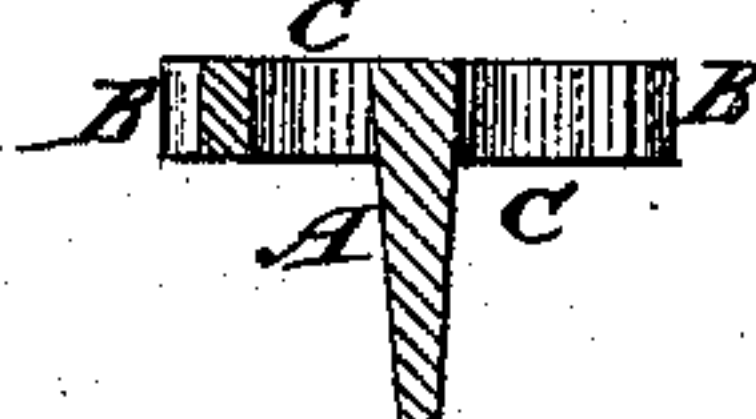


Fig. 6.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN FURNACE GRATE-BARS.

Specification forming part of Letters Patent No. 129,756, dated July 23, 1872.

Specification describing a new and useful Improvement in Furnace Grate-Bars, invented by WILLIAM H. SETTLE, of Louisville, in the county of Jefferson and State of Kentucky.

Figure 1 is a top view of my improved grate-bar. Fig. 2 is a side view of the same. Fig. 3 is a cross-section of the same. Fig. 4 is a top view of a modified form of the same. Fig. 5 is a side view of the same. Fig. 6 is a cross-section of the same.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved grate-bar which shall be so constructed that the slice-bar or poker cannot strike against the sides of the separations and break the bar, while at the same time provision is made to protect the bar from the injurious effects of unequal expansion and contraction; and it consists in the rearwardly-inclined separations or openings in the sides of the bar, in connection with the sides, central rib, and connections that connect the said sides to the said central rib, as hereinafter more fully described.

A is the central rib of the bar, and B are the sides, which are connected with said rib by connections C. The central rib A is made considerably deeper than the sides B. The sides B are connected with the central rib A by the connections C, which incline toward the rear end of the bar, as shown in Figs. 1 and 4. The inclined connections C may be at considerable distances apart, as shown in Fig. 1, leaving longitudinal slots between the central rib A and the sides B; or the said connections C may be closer together, as shown in

Fig. 4, leaving inclined slots or openings between the said central rib and the said sides. In the latter case the bar should be made wider than in the former case, as shown in Figs. 1, and 3, and 4, and 6. In the sides B are formed separations or openings D, inclined toward the rear end of the bar, and having a connection, C, upon each side. There may be two or more of the separations D in each side of the bar. The separations upon each side of the bar should alternate with each other, as shown in Figs. 1 and 4.

By this construction, should the end of the slice-bar or poker, in slicing the bars, enter a separation, D, the inclinations of the connections C forming the sides of said separations or openings D will cause the slice-bar or poker to glance off, and will thus prevent the grate-bar from being broken. This construction also makes abundant provision for preventing injury to the grate-bars from unequal expansion or contraction.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The separations D, two or more, formed in the opposite sides B of a grate-bar, and inclined toward the rear end of said grate-bar, in connection with the central rib A, sides B, and connections C, more or less inclined toward the rear end of the grate-bar, substantially as herein shown and described, and for the purpose set forth.

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