

*J. C. Schlough,*

*Furnace-Grate Bar.*

*N<sup>o</sup> 12,967.*

*Patented May 29, 1855.*

FIG. 1.

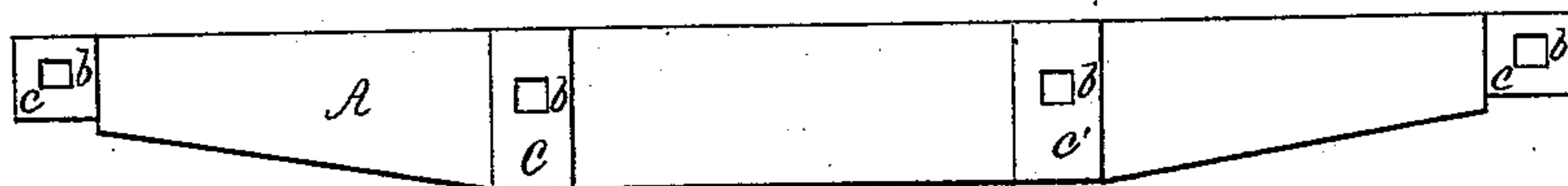


FIG. 2.

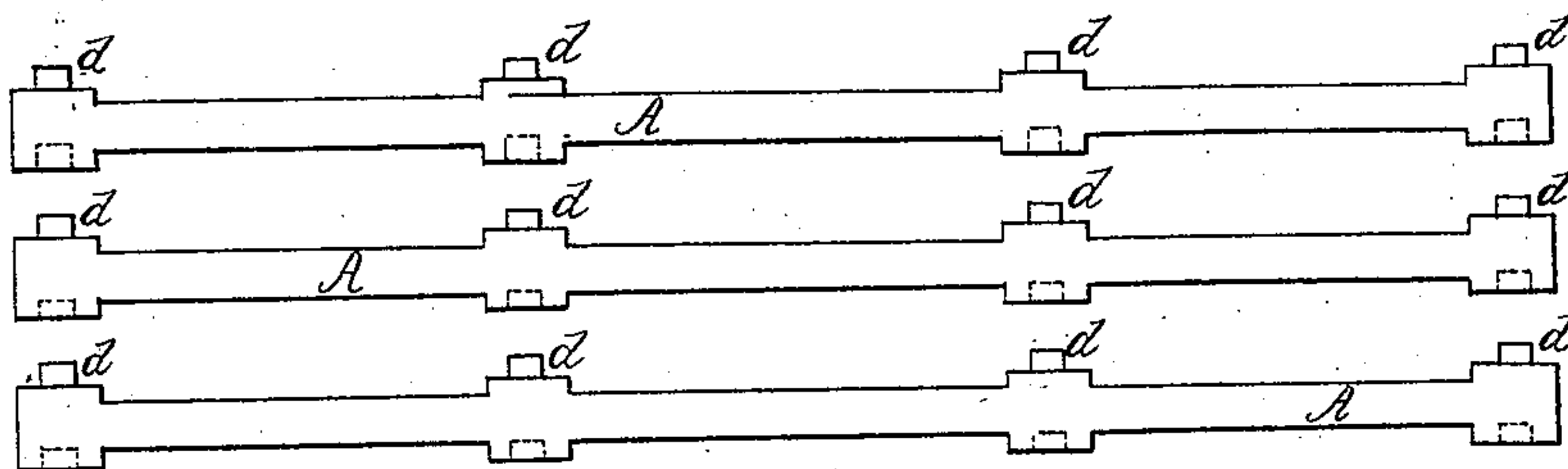
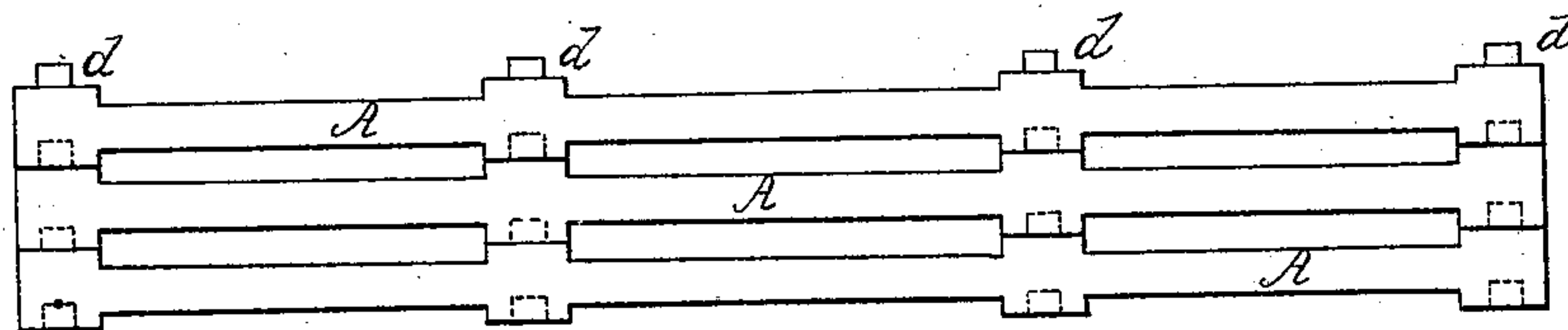


FIG. 3.



*Witnesses:*

*Samuel B. Smith  
Henry London*

*Inventor:*

*Jacob C. Schlough*

# UNITED STATES PATENT OFFICE.

JACOB C. SCHLOUGH, OF EASTON, PENNSYLVANIA.

## GRATE-BAR FOR FURNACES.

Specification of Letters Patent No. 12,967, dated May 29, 1855.

*To all whom it may concern:*

Be it known that I, JACOB C. SCHLOUGH, of the borough of Easton, Northampton county, and State of Pennsylvania, have invented a new and Improved Mode of Constructing Grate-Bars for Furnaces; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists in constructing each bar with any convenient number of tenons on one side and a corresponding number of mortises on the other, so that any number of these bars may be fitted loosely together, the tenons of one bar fitting into the mortises of the next bar and so on throughout the series which compose the grate, so that when the whole becomes heated it will be impossible for one bar to rise above the level of the other, a defect frequent in bars of ordinary construction, which causes them to be rapidly deteriorated or destroyed by the action of the fire.

On reference to drawing Figure 1 is a side view of my improved grate bar. Fig. 2 is a plan of three of the same bars situated some distance apart in order to show the tenons. Fig. 3 shows a plan of the same bars placed side by side with the tenons fitting into the mortises, as they appear when in actual service.

A is the grate bar the general features of which do not differ much from those of common construction.

C, C, are those portions of the bar which are somewhat thicker than the main part in order that when placed together the ashes may escape through the spaces formed by these pieces.

One side of each bar has square or oblong mortises *b* cast in it, the opposite side being furnished with a corresponding number of tenons *d* both situated in the thicker part C

of the bar, so that the tenons of one bar fit into the mortises of the next throughout the series. It should be understood that these tenons and mortises are so arranged and constructed that each bar may have a considerable longitudinal movement independent of the adjacent bars to allow for expansion when heated. Little or no vertical movement however should be allowed so that one cannot be raised without carrying with it the remainder.

It will be easily understood without further description that by this arrangement a uniform level will be maintained throughout the whole surface of the bars, thereby preventing the rapid destruction which takes place in bars of the ordinary construction, as the latter when heated become uneven on the tops and are thereby more readily exposed to the action of the fire. In placing these bars in their proper position so as to form a grate, it should be understood that the whole number with the exception of one may be slid together sidewise; the last bar being put in from the top and acting as a key must necessarily be without tenons.

I do not claim any particular number of mortises and tenons on each bar, as such must be decided by the length of said bars, but

What I do claim and desire to secure by Letters Patent, is—

The mode of constructing grate bars for furnaces, with any convenient number of square or oblong tenons on one side and a corresponding number of similar shaped mortises on the opposite side substantially in the manner described and for the purpose specified.

JACOB C. SCHLOUGH.

Witnesses:

DAVID BARNET,  
HENRY HOWSON.