

TAYLOR & HOLMES.

Forge.

No. 47,467.

Patented April 25, 1865.

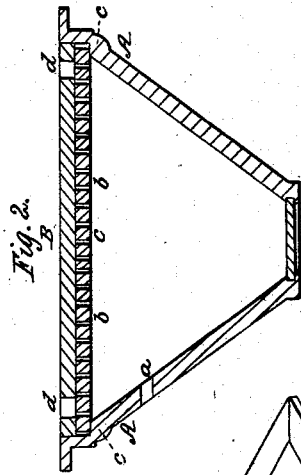


Fig. 3.

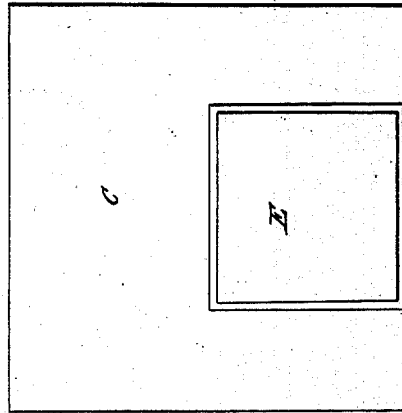


Fig. 4.

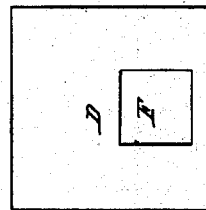
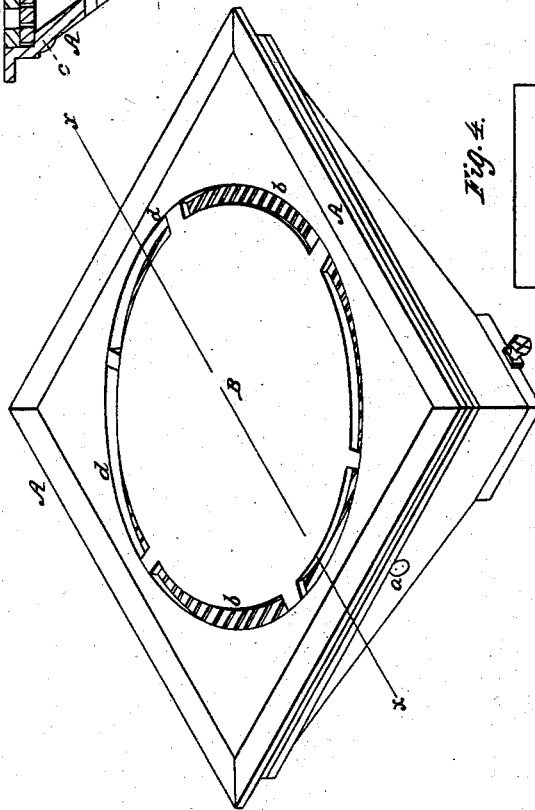


Fig. 1.



Witnesses:

Boeschmacker
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Inventors:

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UNITED STATES PATENT OFFICE.

CHARLES N. TAYLOR, OF UPTON, AND ELIJAH J. HOLMES, OF DEDHAM,
MASSACHUSETTS.

IMPROVED FORGE.

Specification forming part of Letters Patent No. **47,467**, dated April 25, 1865.

To all whom it may concern:

Be it known that we, CHARLES N. TAYLOR, of Upton, in the county of Worcester and State of Massachusetts, and ELIJAH J. HOLMES, of Dedham, in the county of Norfolk and State aforesaid, have invented certain new and useful Improvements in Forges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of a forge with our improvements applied thereto. Fig. 2 is a vertical section on the line *x x* of Fig. 1. Figs. 3 and 4 represent removable plates of different form to that shown in place in Fig. 1.

In the use of forges of the ordinary construction much time is lost in distributing the fuel properly around the piece of metal to be heated, and where the article is large and of irregular shape it is impossible to confine the draft to that portion only of the fuel which surrounds it, and a waste of fuel is thereby unavoidably occasioned.

To obviate these objections is the purpose of our invention, which consists in a forge provided with a large extent of grate-surface, which may be partially covered by plates of various forms and dimensions, so as to leave only a portion of the grate-surface exposed, which corresponds nearly to the form and size of the article to be heated, by which means we are enabled to concentrate the blast directly under it, and thus effect a considerable saving in the consumption of fuel.

To enable others skilled in the art to understand and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings, A represents the forge, which is set in the ordinary manner, and is provided with an opening, *a*, through which the blast is admitted. *b b* are grate-bars, placed at equal distances from each other,

their ends resting on a shoulder, *c*, formed around the inside of the forge near its top. B C D are metal plates, made to fit into the top of the forge and rest upon the grate-bars *b*, a portion of each plate being cut out so as to expose a portion of the grate-surface corresponding in form and of greater extent than that covered by the article to be heated.

When a locomotive-tire is to be forged, a plate, B, is put on the grate-surface *b*, and the annular space *d*, of a little greater width than the thickness of the tire, is filled with coal or other suitable fuel, which on being ignited and blast admitted to the forge a perfect combustion is produced, and no fuel is unnecessarily consumed. When smaller articles are to be forged, it is only necessary to remove the plate B and substitute instead a plate, C, Fig. 3, having an opening, E, of the required form and dimensions, the size of which may be reduced by inserting another plate, D, Fig. 4, provided with a smaller opening, F, thus contracting the area of the grate-surface exposed.

In order to utilize the full power of the blast, the edges of the plates may be luted with clay, so as to prevent the escape of air at the joints.

By the application of the removable plates, as described above, we are enabled to heat a piece of metal with greater ease and dispatch than has heretofore been attained, and at the same time effect a great saving of fuel.

What we claim as our invention, and desire to secure by Letters Patent, is—

The improved forge herein described, with its removable plates for the purpose of adapting it to the size and shape of the article to be heated.

CHARLES N. TAYLOR.
ELIJAH J. HOLMES.

Witnesses:

P. E. TESCHEMACHER,
N. W. STEARNS.