

C. W. FILLMORE.

Tempering Clamp.

No. 10,404.

Patented Jan. 10, 1854.

Fig. 3.

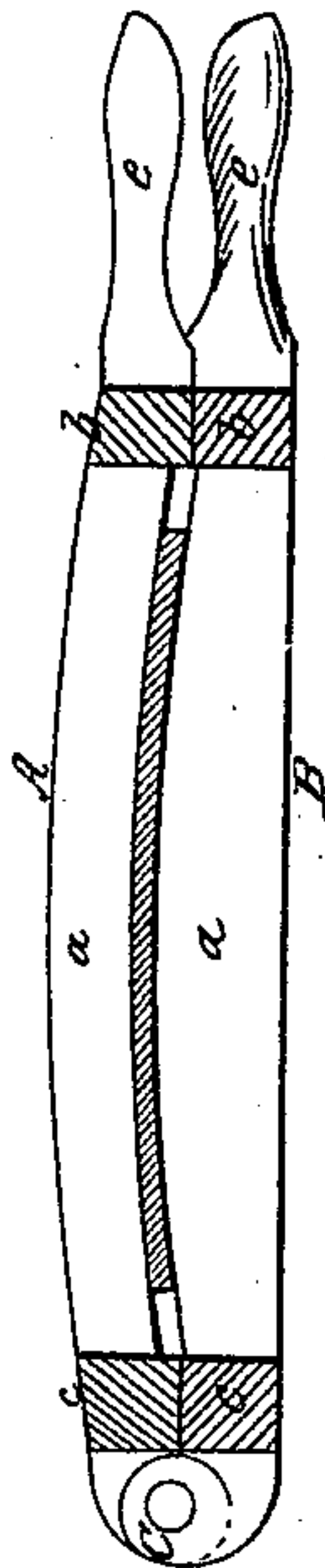


Fig. 2.

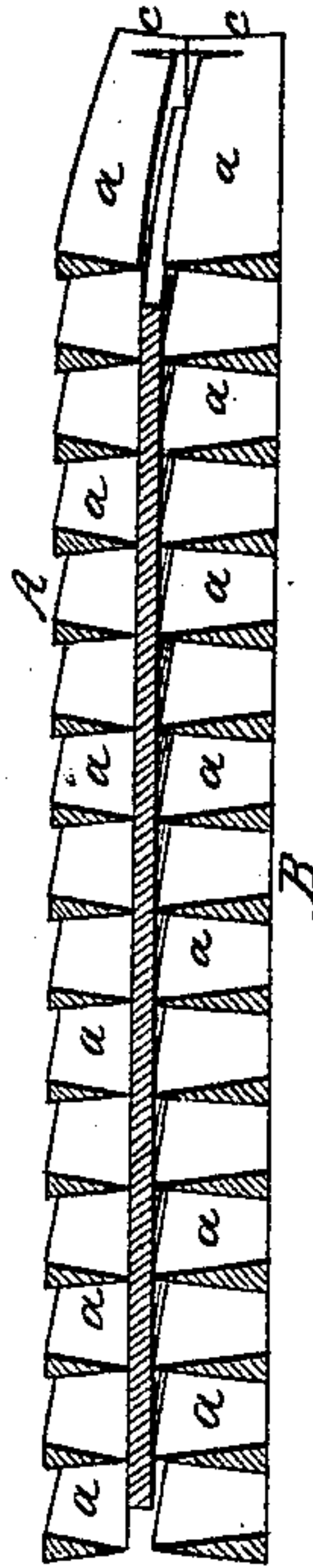
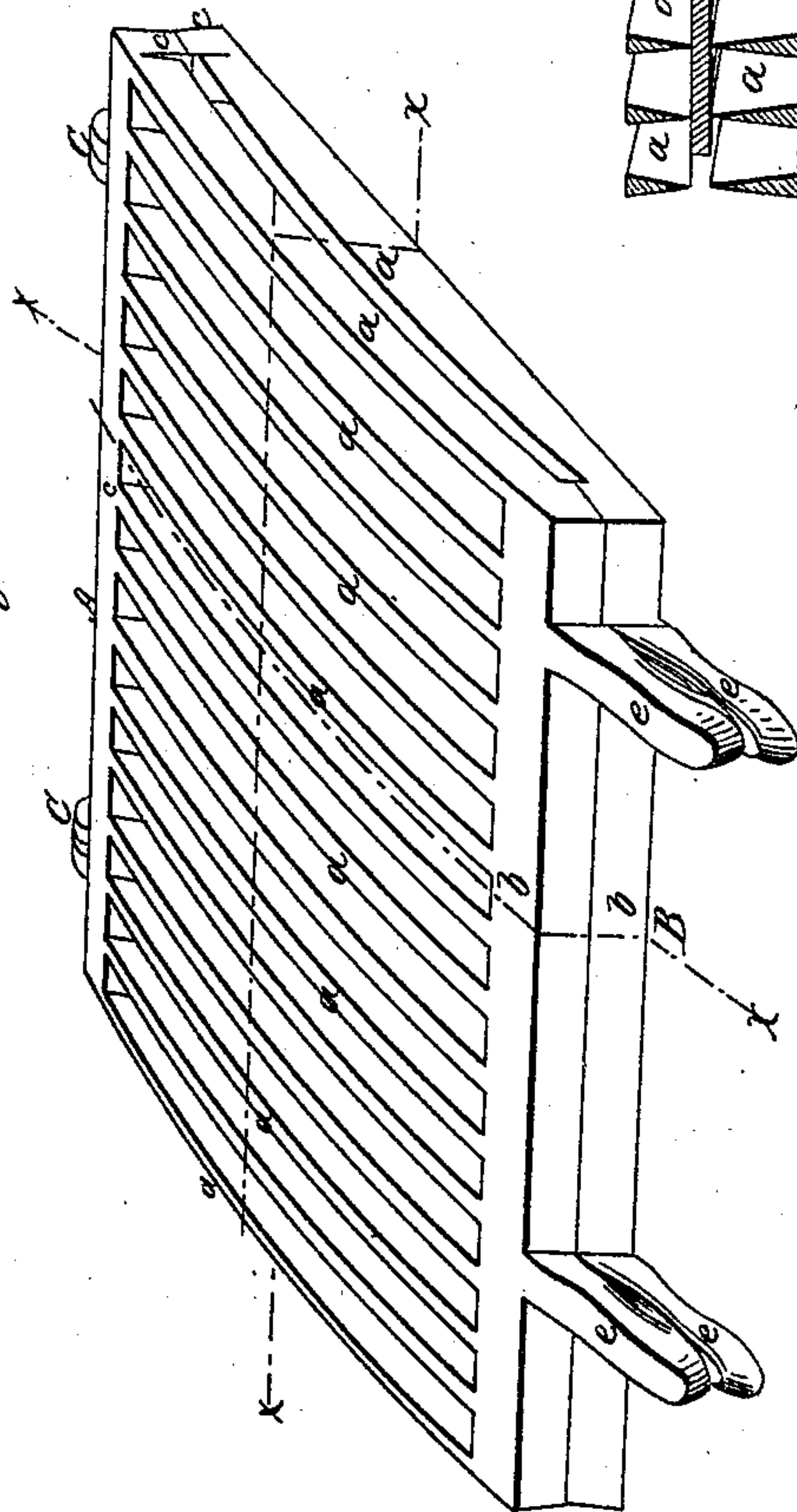


Fig. 1.



UNITED STATES PATENT OFFICE.

CHARLES W. FILLMORE, OF CORAL, ILLINOIS.

CLAMP FOR HOLDING STEEL PLATES WHILE BEING HARDENED AND TEMPERED.

Specification of Letters Patent No. 10,404, dated January 10, 1854.

To all whom it may concern:

Be it known that I, CHARLES W. FILLMORE, of Coral, in the county of McHenry and State of Illinois, have invented certain
5 new and useful Improvements in Clamps for Holding Steel Plates to Prevent Them from Warping During the Operation of Hardening and Tempering, of which the
10 following is a full, clear, and exact description, reference being had to the annexed drawing of the same, making part of this specification, and in which—

Figure 1 represents a view in perspective of the clamp with its leaves closed upon a
15 plate of steel undergoing hardening; Fig. 2 represents a section through the line *x x* of Fig. 1, to show the form of the bars, and the manner in which they grasp the plate; and Fig. 3 represents a section of the same
20 at the line *x x*.

The clamp consists of jaws (A and B) united by hinges (C) so as to open and shut like folding doors. The jaws are hinged in such manner, that when closed, a
25 space will be included between them of the thickness of the plate to be tempered, while the length and breadth of the jaws must be such that the largest plate which they are designed to temper may be held between
30 them without overreaching their edges.

Each jaw of the clamp consists of a series of ribs (*a*) united at their opposite extremities to bars (*b*, and *c*), the bars (*c*) are fitted with the hinges (C) which unite them;
35 and the bars *b*, are fitted with handle (*e*) for opening and closing the jaws, and ap-

plying clamps or other fastenings to, for the purpose of keeping them closed, when the plate is between them. The ribs (*a*) are wedge shaped or triangular in section; thick
40 on the back or outside, and thin on the inside, where they bear on the plate of steel held between them to be hardened.

The ribs should be equal in number in each jaw, and those in one jaw exactly opposite those in the other, they should also
45 be straight or curved on their inner edge, as required to conform to the shape of the plate to be hardened, if the plate should have a double curvature, like the moldboard
50 of a plow for example, the inner edges of the bars should be so shaped as to conform to such a shape, then the ribs will bear upon the plate of steel on opposite sides, in a series of lines, holding it firmly, but per-
55 mitting a free access of heat, or water, on each side of these lines, so that, in effect, the entire surface of the plate is so exposed, as to be heated, hardened, and tempered
60 evenly, while held in the clamp.

Having thus described my improved clamp for holding steel plates while being tempered, what I claim therein as new, and desire to secure by Letters Patent is—

Making the ribs wedge shaped; thick ex-
65 teriorly, and thin at the edge where they come in contact with the plate undergoing hardening.

CHARLES W. FILLMORE.

Witnesses:

WM. J. FILLMORE,
S. H. PELTON.