

# F. P. Dimpfel, Armor Clad.

No 39,384.

Patented Aug. 4, 1863.

Fig. 2.

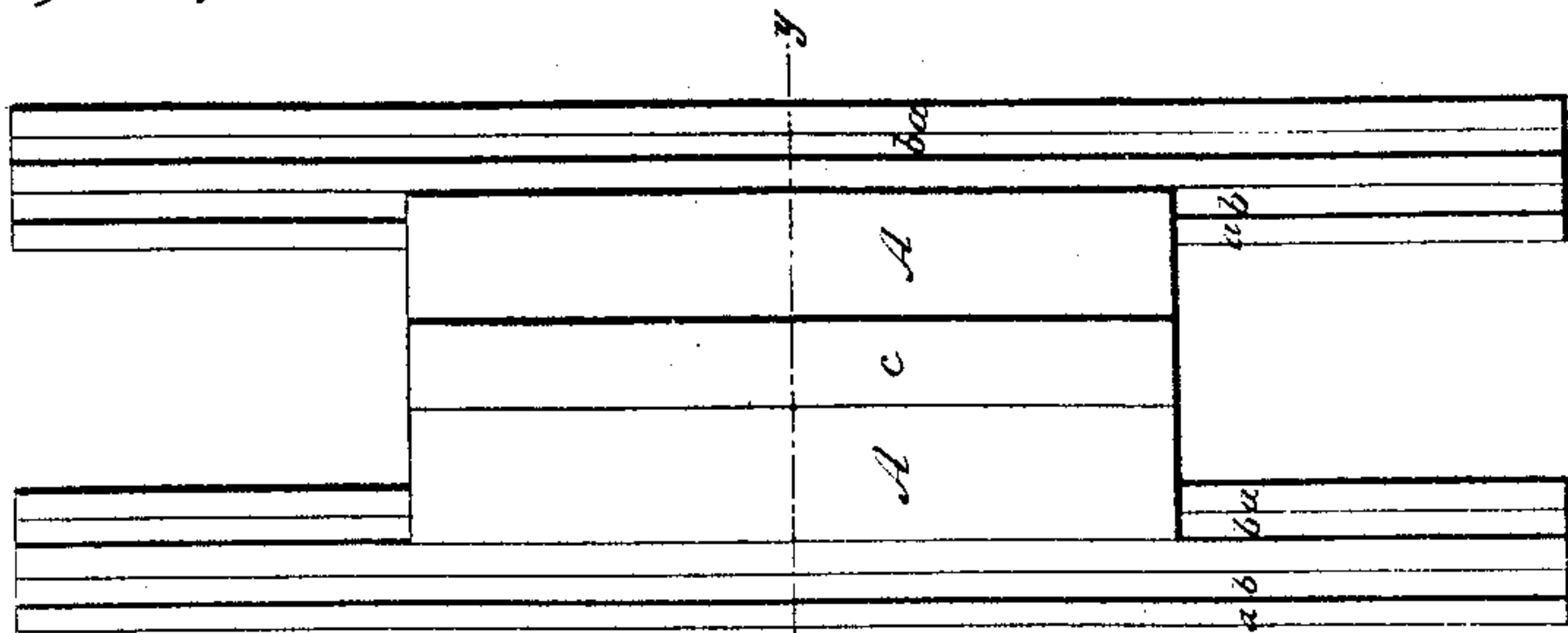


Fig. 1.

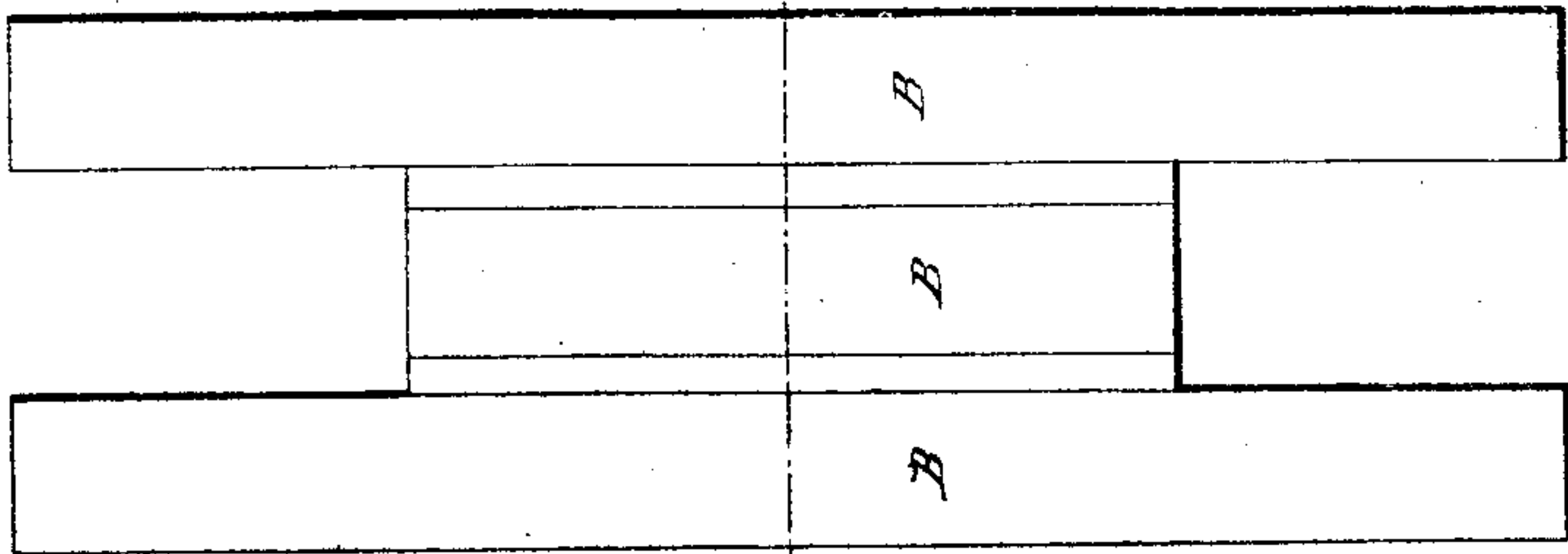


Fig. 3.

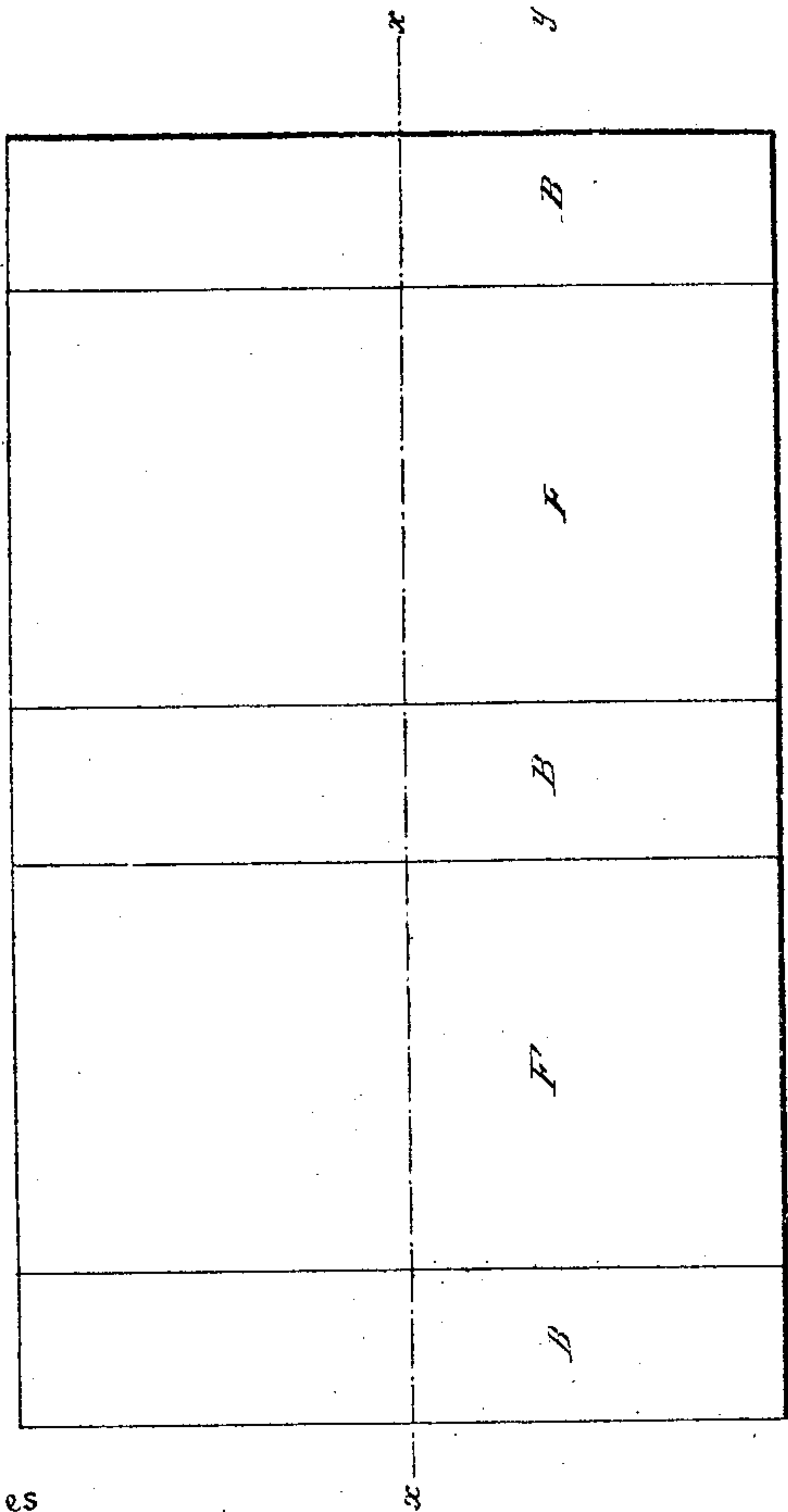


Fig. 4.

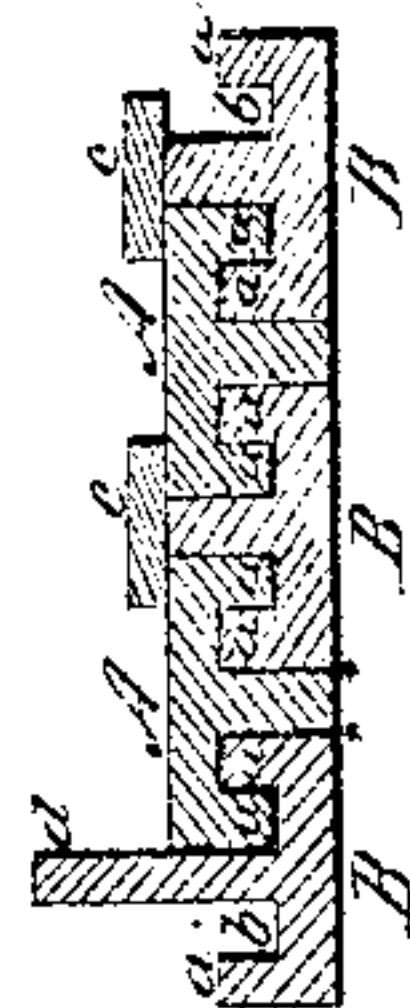
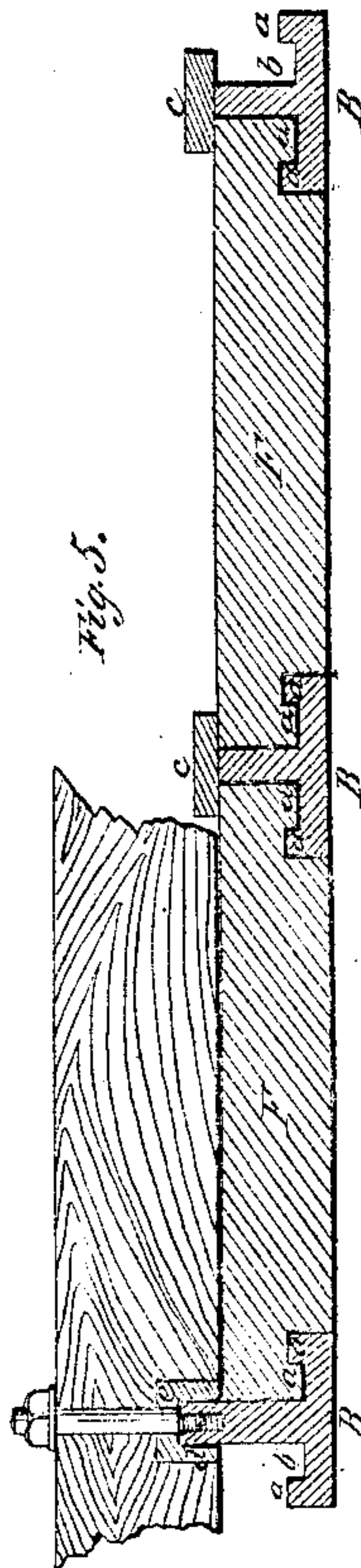


Fig. 5.



Witnesses

Gustav Dietrich  
Edwin S. Garob

Inventor

by F. P. Dimpfel  
Mason, Kenwick & Lawrence  
attys

# UNITED STATES PATENT OFFICE.

FREDERICK P. DIMPFEL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVED ARMOR-PLATES FOR LAND OR MARINE BATTERIES.

Specification forming part of Letters Patent No. **39,384**, dated August 4, 1863; antedated October 16, 1862.

*To all whom it may concern:*

Be it known that I, FREDERICK P. DIMPFEL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Armor-Plates for War Structures; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a face view of several plates of grooved T-iron interlocked and extended so as to aid in forming the ribs of the hull of a vessel while they constitute the defensive armor. Fig. 2 is a back view of the same. Fig. 3 is a face view of several tongued-and-grooved T-iron plates interlocked with broad tongued-and-grooved armor-plates. Fig. 4 is a section in the line *y y* of Figs. 1 and 2. Fig. 5 is a section in the line *x x* of Fig. 3.

Similar letters of reference in the several figures indicate corresponding parts.

The nature of my invention consists in the application of interlocking tongued and grooved T-iron plates, of uniform or nearly uniform width, as a defensive armor to casemates and other similar war structures, and to the construction or clothing of vessels, and in the application of the same in connection with broad tongued and grooved armor-plates for like purposes, all in such manner that external bolting and the use of strong foundation-structures is to a very great extent obviated, the T-iron plates constituting in themselves, or in their combination with broad armor-plates, the necessary support, and offering the requisite resistance to the penetration of war missiles.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A B are T-iron plates, with tongues *a a* and grooves *b b* rolled on and in the under side of their broadest or top portion. These plates are united together, so that they form inner and outer plain closed surfaces, as shown, and so that they form, as it were, a solid plate, by alternately inverting them, and inserting the leg of the inverted T between the edges of

the tops or heads of two adjoining T-iron plates, and the tongues *a a* into the grooves *b b* in the manner shown in Fig. 4. The plates thus interlocked are held so by means of plates *c c*, bolted firmly to the legs of the inverted T iron plates, and overlapping the joints on the inner side of the compounded armor-plate. In some cases the leg of the T-iron is extended, as shown at *d*, Fig. 4, so as to receive a cap-plate, such as shown at *e*, Fig. 5, and thus greater strength at the joint imparted.

The T-iron plates, if used to form a casemate or the clothing thereto, are generally all of the same length and width, and are secured in position after being interlocked and keyed or clamped together by means of strong screw-bolts, as illustrated in red lines in Fig. 5.

When the T-iron plates are used to form the hull of the vessel, and by their arrangement constitute at the same time the defensive armor, that portion of the vessel which is above the water-line, or thereabout, is erected by interlocking and compounding the T-iron plates, and then that portion between the armor and the keel is formed by extending at suitable intervals the length of some of the plates used to form the armor portion of the vessel. These extended portions are conformed to the outline of the vessel, and the part of the T-iron plates heretofore called the "leg" of the T is increased in width, so as to constitute strong ribs to the vessel. The ribs being set in such manner relatively that boiler-plating may be riveted both on the inside and outside of the hull below the compounded armor-plating in a manner to have a hollow chamber between the boiler plating.

It is believed that a very strong, and yet sufficiently light, iron vessel can be erected by simply using interlocking T-iron plates, such as shown and described in connection with other necessary parts of a vessel. And if the vessel has simply a closed, curved, or slanting top, the extension of the plates to form ribs may be made above the armor-plating, so as to support said top.

If the T-iron plates are used in connection with broad tongued and grooved plates F F, that part of the plates F F which has hereto-



fore been denominated the "leg," and which is included between \* \* \*, is greatly increased in width, as will be evident from a comparison of the plates B B in Fig. 4 with the plates F F, Fig. 5.

What I claim as my invention, and desire to secure by Letters Patent, is—

The interlocking tongued and grooved T-iron plates, constructed and applied together substantially as described as a defensive armor for casemates and other similar war struc-

ures, and for the clothing or construction of vessels, as set forth.

Witness my hand and seal in the matter of my application for a patent for improvement in armor-plates for war-vessels this 21st day of March, A. D. 1862.

F. P. DIMPFEL.

Witnesses:

JOSEPH SHORT,  
THOMAS C. DONN.