

D. Giambastiani. Armor Clad Ship.

N^o 92,302.

Patented Jul. 6, 1869.

Fig. 1.

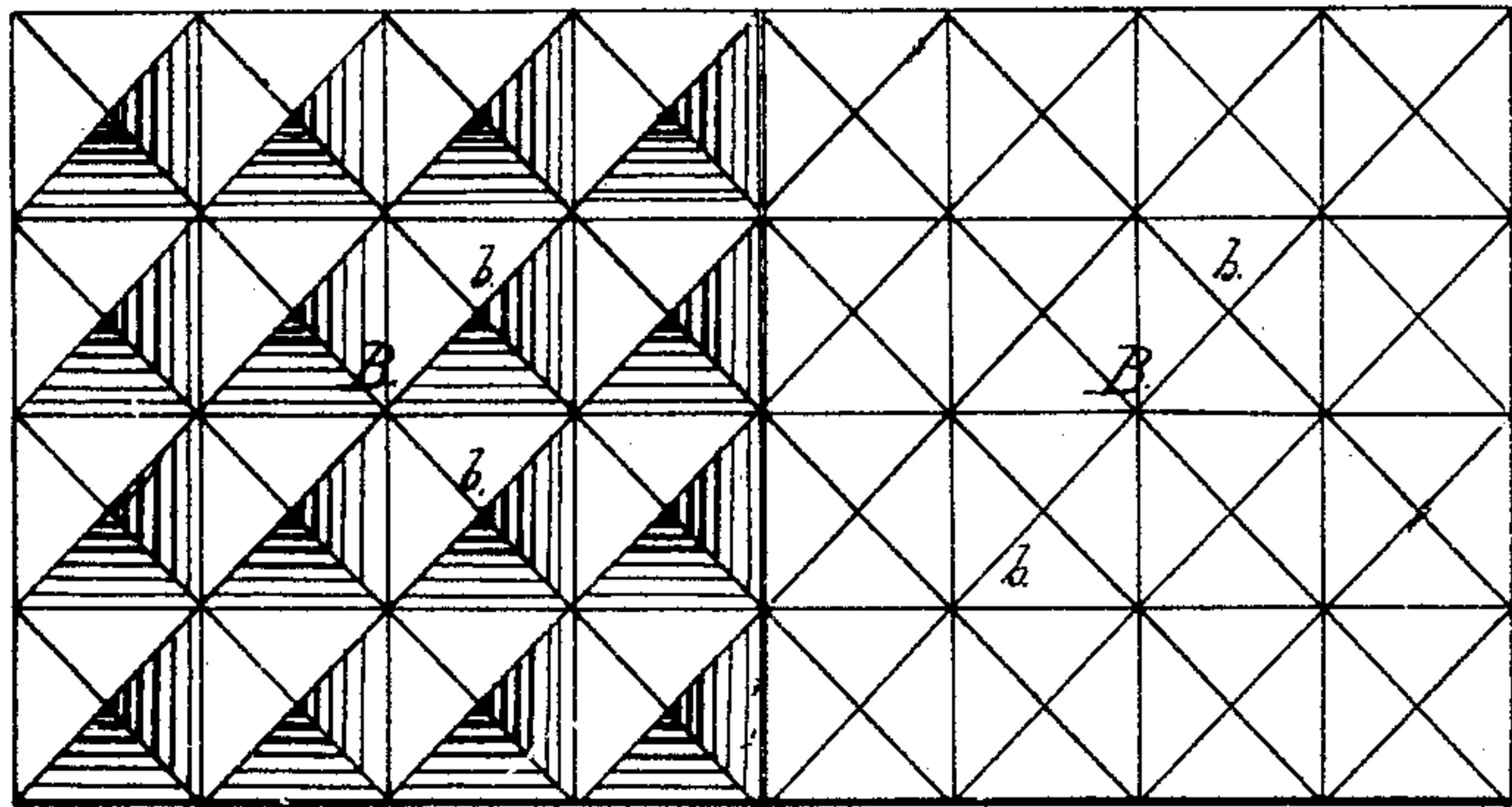


Fig. 2.

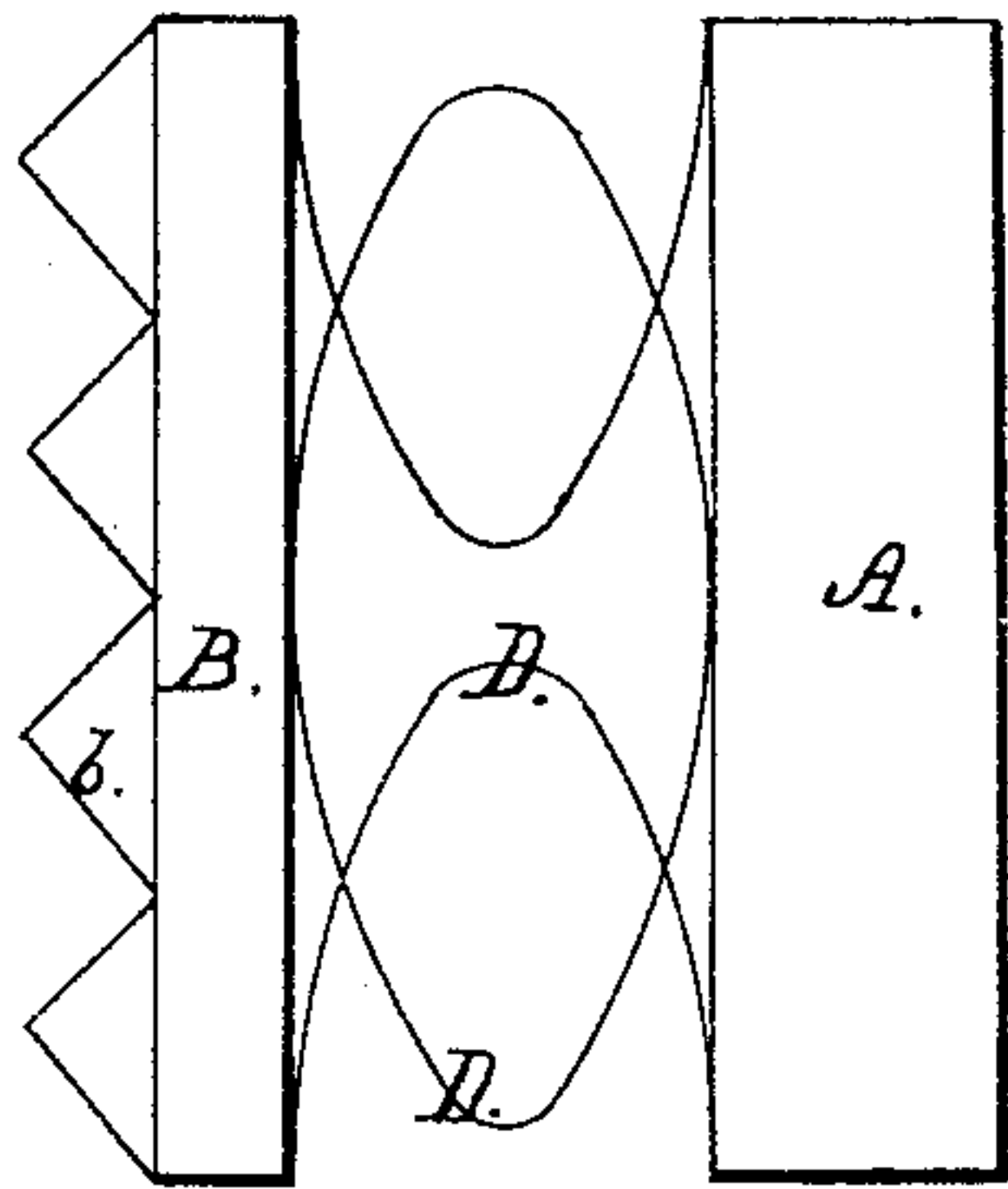


Fig. 3.

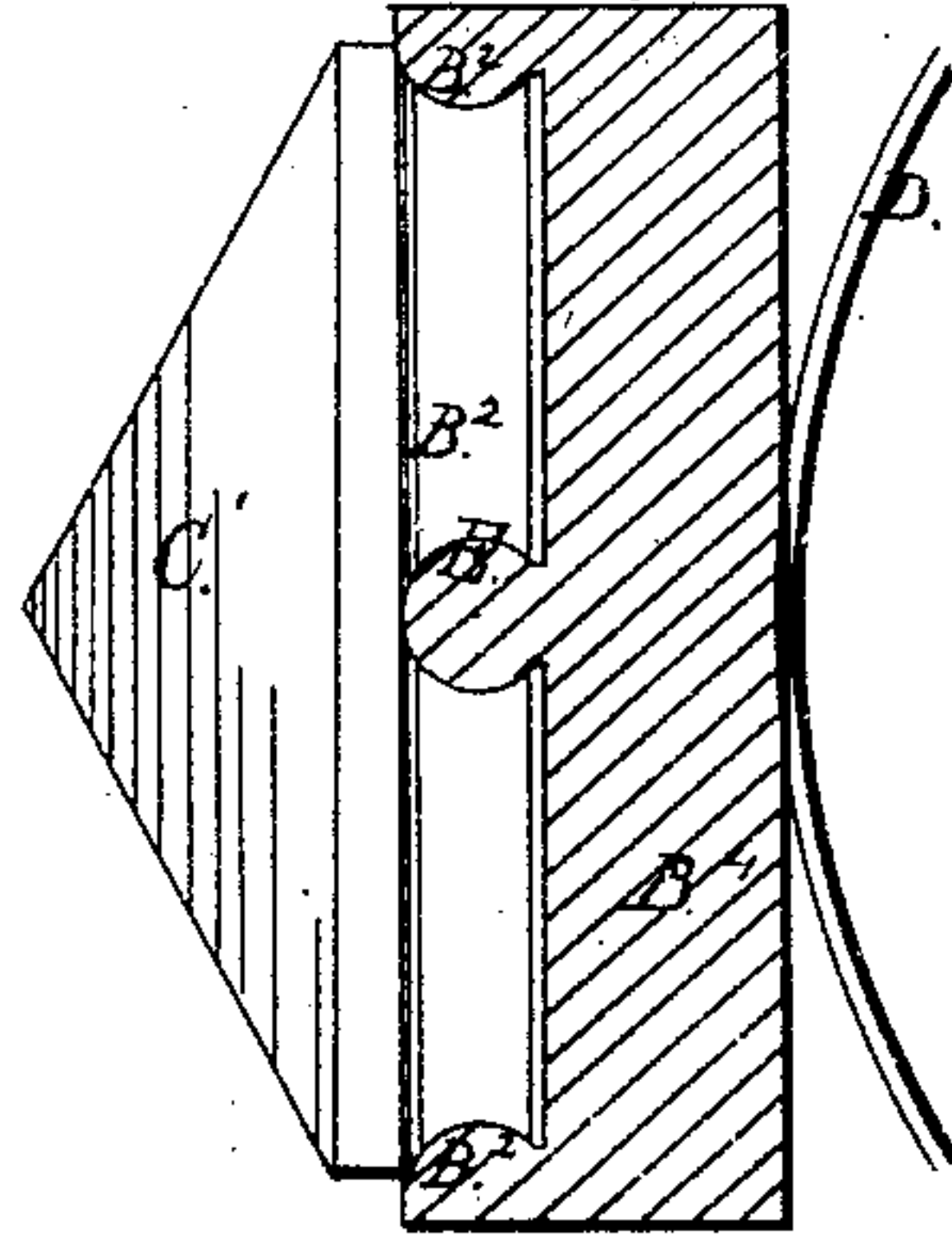


Fig. 4.

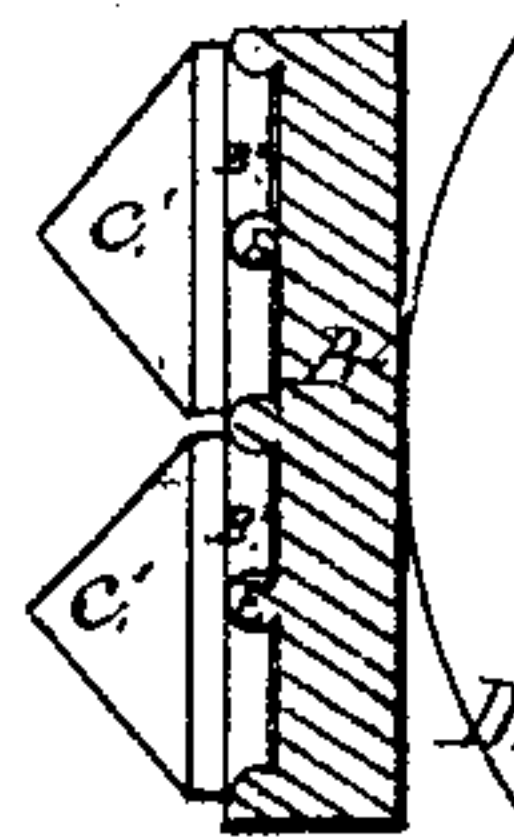


Fig. 5.

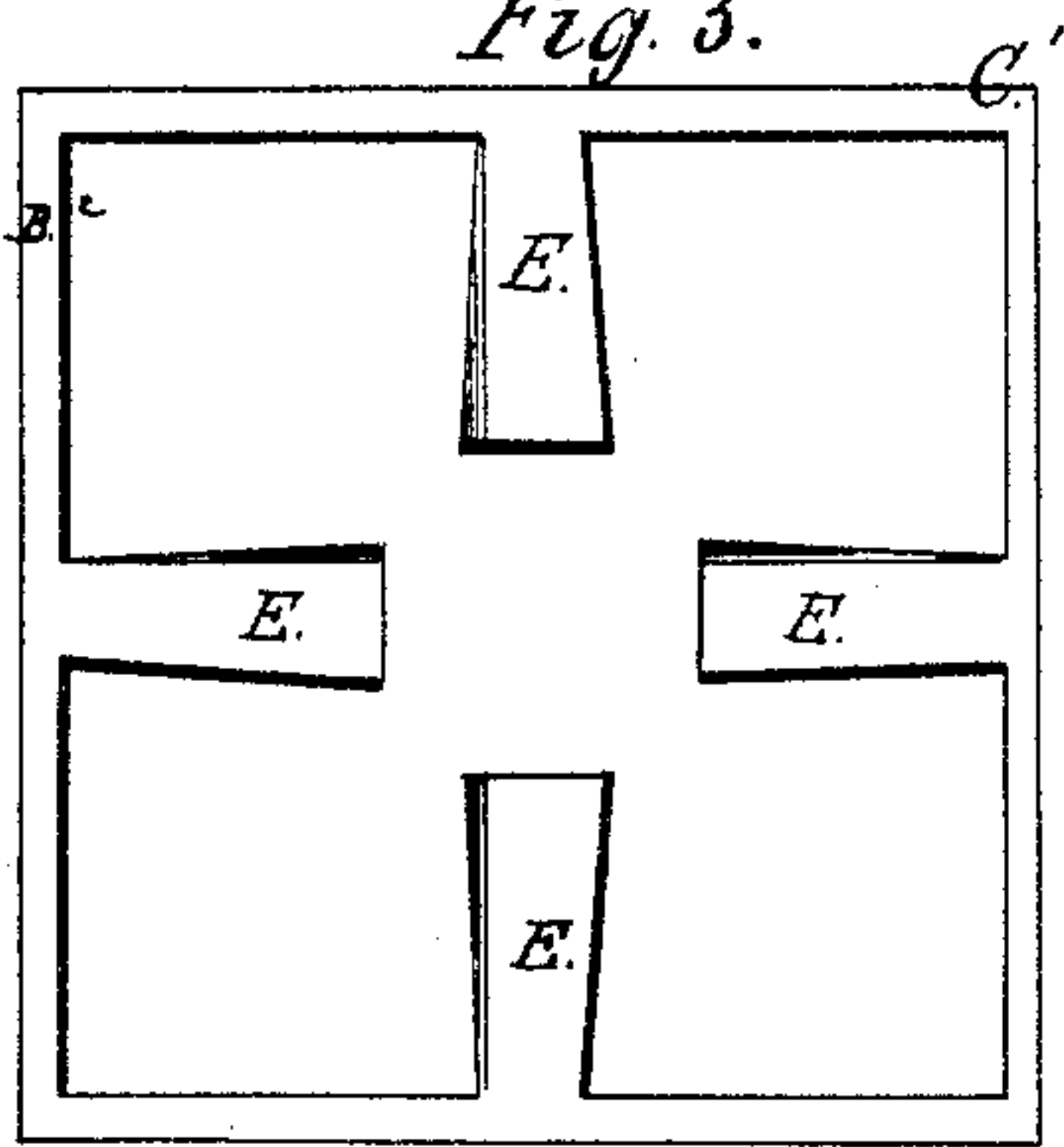
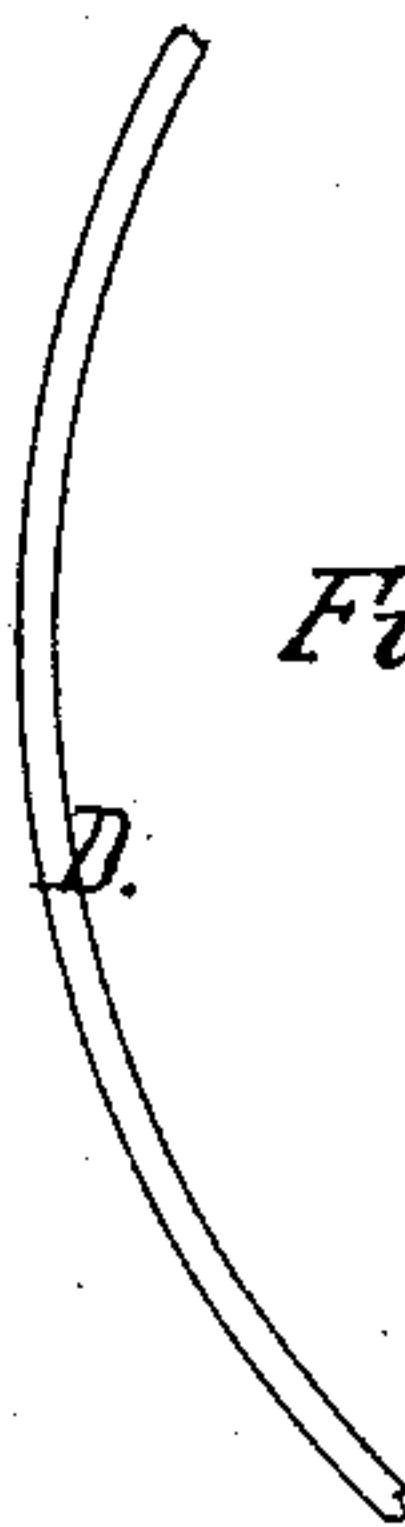


Fig. 6.



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DOMENICO GIAMBASTIANI, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 92,302, dated July 6, 1869.

IMPROVEMENT IN ARMOR-PLATING FOR VESSELS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DOMENICO GIAMBASTIANI, of Washington, in the county of Washington, and District of Columbia, have invented a new and important Naval Defensive-Armor, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an armor for ships and batteries, the most important features of which consist of many distinct separated blocks of highly-tempered steel, between which and the body of the vessel steel elliptic springs are arranged, connecting the armor and the vessel, the springs being coated with a material non-corrosive in itself, and impervious to the action of the salt sea-water.

In the accompanying drawings—

Figure 1 is a face view of part of said armor.

Figure 2, side view of the same.

Figures 3 and 4, side views and sections of modifications in the construction and arrangement of armor.

Figure 5, back view of steel blocks shown in figs. 3 and 4.

Figure 6, section of spring.

In fig. 2, the part marked A represents the body of the vessel; and

B, the armor, consisting of a number of highly-tempered steel plates, unconnected with one another, the face of each being formed into several diamond-shaped, or four-sided, pointed projections *b*.

D are steel elliptic springs, attached to the backs of the plates B, and to the body of the vessel, leaving a space between the plates and the vessel's body sufficient to contain suitably-sized springs, and permit of their free expansion and compression.

These springs are each connected with but one distinct plate, but their exact arrangement between the plates to which they are attached and the ship is not material, though I prefer the arrangement shown in fig. 2—alternately an entire elliptic and two reversed halves, as securing a firm and equal pressure on all parts of the plate.

In order to preserve these springs from the corrosive action of the salt water, they are coated or galvanized with copper, as shown in fig. 6, or other equivalent material, which will, in itself, be uninjured by the salt water, and be impenetrable, to prevent its reaching the steel in the springs, which otherwise would be speedily rendered unfit for service, and render constant renewing necessary, for the arrangement of the plating is such that a space is left between each plate and the next, through which the salt water will enter and surround the springs.

In this invention, as described, there are secured three distinct and co-operating elements of defense against the force of projectiles.

First. The highly-tempered steel plating, which,

independently of its peculiarly-formed face, is a most effective guard in itself, being almost, if not wholly, impossible to indent, break, or otherwise injuriously affect by the stroke of a ball.

Second. The formation of the face of the armor-plates into pointed diamond, or pyramid-shaped projections, whose slanting sides, when struck, compels the ball to glance off, and thus repel the directness of the blow.

Third. The springs between the plating, thus constructed, and the body of the ship, which give as the plating is struck, thus absorbing and destroying the remaining force of the concussion.

In figs. 3, 4, and 5, I show a method of constructing and arranging the armor, which I prefer to that I have already described.

In this each block of steel C' is made in the shape of a single pyramid or diamond, as shown, around the base or back part of which is a groove or grooves, B², semicircular in form.

From the centre of these grooves, on each side of the block to near the centre of the steel block, as seen clearly in fig. 5, rounded, dovetailed recesses E are cut, of about a three-quarter-circle curve, open at the back of the steel block.

Thus formed, the steel block is placed in a suitable mould, and the back part covered in with wrought-iron, filling up the grooves and recesses until a square-sided wrought-iron block, B', is formed, fig. 3; or, instead of a single block of steel, thus covered, several, as in fig. 4, may be connected, as may be deemed advisable.

The wrought-iron casing, thus applied, forms a substantial foundation for the steel block, and can easily have the springs attached.

It also has sufficient elasticity to counteract the solidity of a blow on the steel, and to cause the ball to rebound, and, being joined to the steel by rounded connections, is not liable to be clipped or broken off around said connections.

A very effective defensive armor could be obtained by using the steel and wrought-iron together, without the addition of springs; but when the three are combined, a doubly-effective result is obtained.

What I claim as my invention, is—

1. A defensive armor for ships or batteries, consisting of many distinct blocks or plates of steel, with bevelled, pointed faces, as described, in combination with the elliptic springs, as and for the purpose set forth.

2. The combination and arrangement, as described, of the blocks C', B', and elliptic springs D, for the purpose specified.

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