J. S. Gibbons.

Armor Clad.

No. 37,020. Patented Feb. 10, 1863.

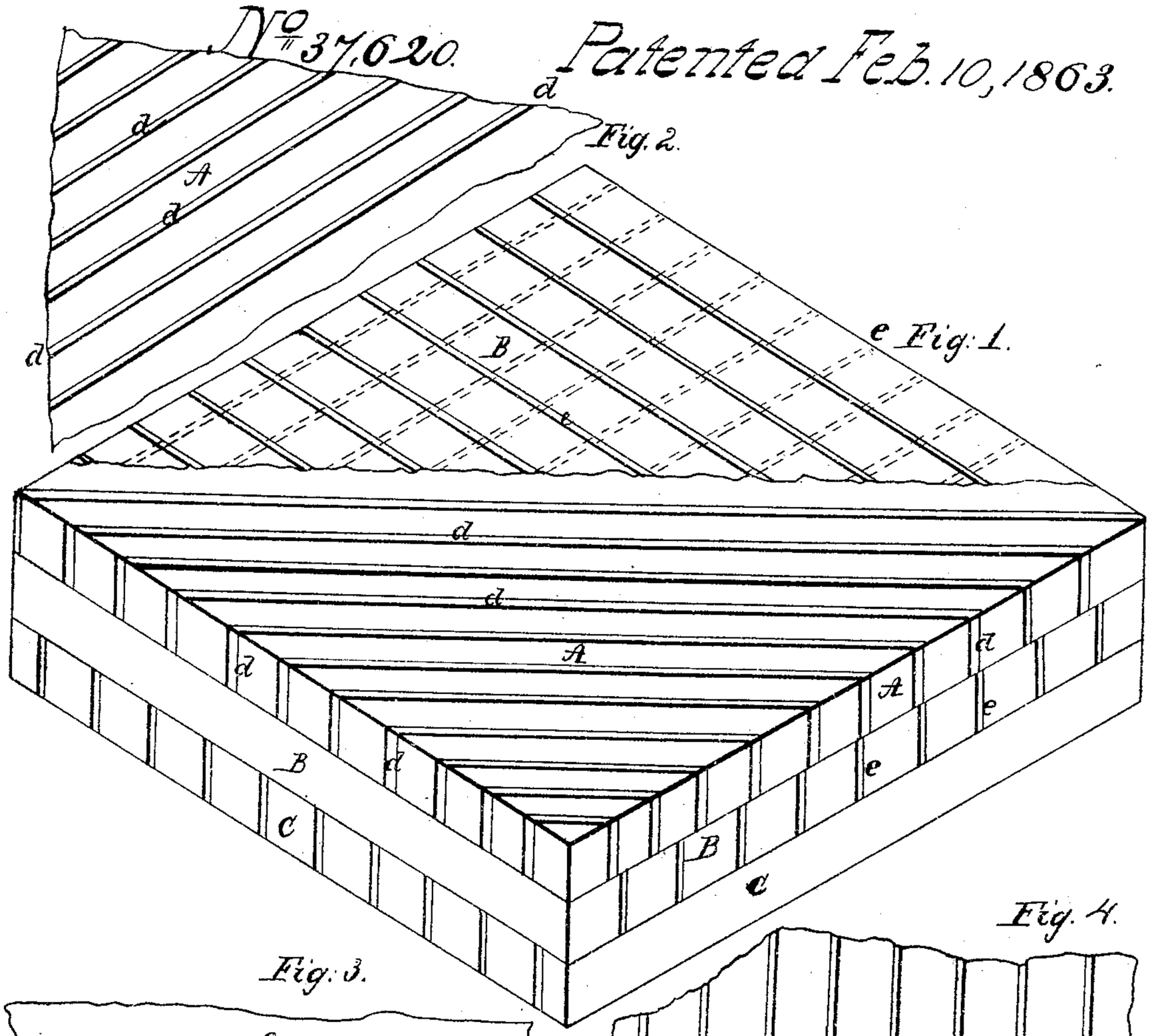


Fig. 1.

Fig. 2.

Fig. 3.

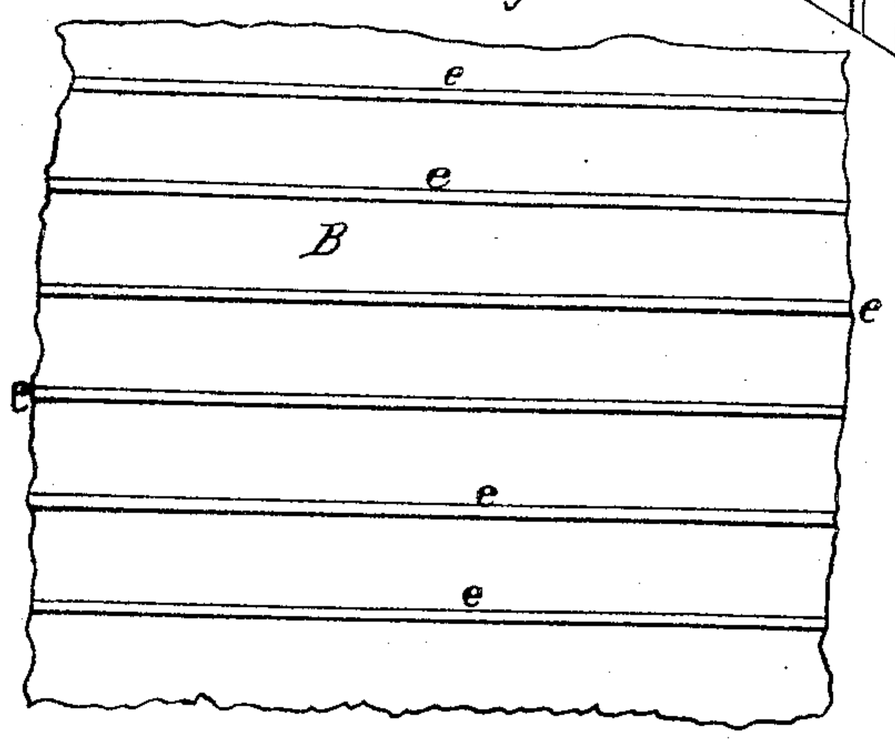
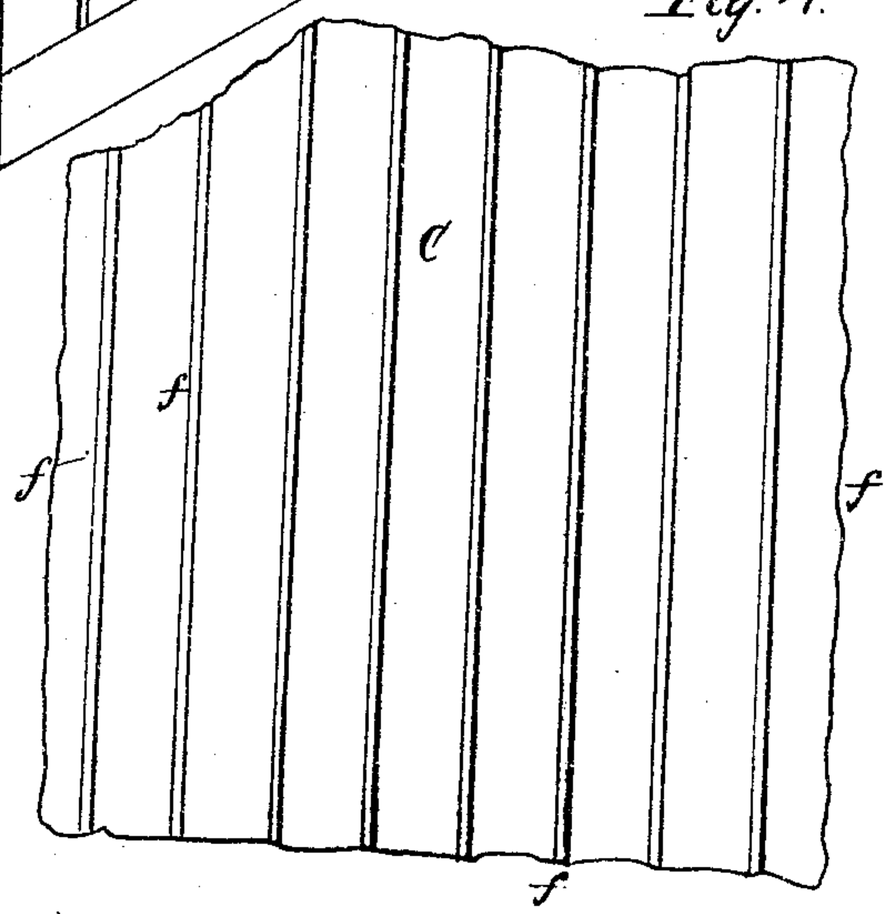


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES S. GIBBONS, OF NEW YORK, N. Y.

IMPROVED CONSTRUCTION OF SHIPS OF WAR AND OTHER BATTERIES FOR DEFENSE AGAINST PROJECTILES.

Specification forming part of Letters Patent No. **37,620**, dated February 10, 1863.

To all whom it may concern:

Be it known that I, JAMES S. GIBBONS, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in the Construction of Ships, Forts, and Batteries; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in a peculiar arrangement and combination of timbers and iron plates in the construction of ships, forts, and batteries for the purpose of resisting projectiles, said plates being set edgewise, so as to offer the greatest resistance to the projectiles.

In the accompanying drawings, Figure 1 is an isometric perspective of three layers of timbers and iron plates intended to form part of a ship's side. Figs. 2, 3, 4 represent the same layers when separated.

In the drawings, A B C indicate the timbers and *d e f* the iron plates. The timbers and plates in the separate layers, Figs. 2, 3, 4, all are bolted together, and the separate layers are also bolted to each other, so as to make the wall of the ship's side one solid mass of timber and iron plates. By this arrangement of iron plates, alternated with the timbers, each stick of timber is firmly iron-bound, and therefore capable of resisting a tremendous stroke from a projectile without being shattered, and the iron plates themselves, being set edgewise, offer the greatest possible resistance to a projectile without being broken.

The number of layers of timber and iron plates in a vessel's sides may be varied, and the entire wall may be made of any thickness so as to resist the most destructive projectiles. The timbers and plates in the different layers are arranged to run in different directions, crossing each other at differing angles, thus presenting both iron and wood at short intervals over the whole area of the ship.

It may be better to set the iron plates obliquely, (or at least some of them,) and make the timbers wedge-shaped laterally, or with one side thicker than the other, so as to fit between the iron plates. For instance, two iron plates may be set so that their front edges meet with a thin wedge of wood fitted between their back edges. Then the broader timbers set between each pair of such plates would wedge in from the front, and if struck by a projectile the broad timbers would be pressed between two pairs of plates and wedge tighter and tighter according to the force of the projectile. Other arrangements of wedge-shaped timbers would have a similar effect.

In this case the timber when struck by a projectile will be pressed between the iron plates, tightening the joints, and thus rendering the wall firmer and more capable of resisting the action of the projectile.

This construction of vessel will resist the action of projectiles which are liable to break an iron vessel by repeated battering in one place, and at the same time the comparatively small amount of iron employed enables the vessel to sail much better than those made principally of iron or heavily iron-clad, because of the lighter draft obtained.

My improvement is perfectly applicable to forts, batteries, and other fortifications, as well as to vessels of war.

I am aware that the use of iron plates set edgewise to resist projectiles is not new in the construction of ships, but my improved arrangement of making several series of iron plates cross each other, and the use of wedge-shaped timbers, is both new and useful.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The use of wedge shaped timbers, in connection with iron plates, for the purpose of resisting projectiles, substantially as specified, and in combination therewith so arranging the plates in one series that they cross those of another, substantially in the manner and for the purposes set forth.

J. S. GIBBONS.

Witnesses:

EDM. F. BROWN,

DANIEL BREED.