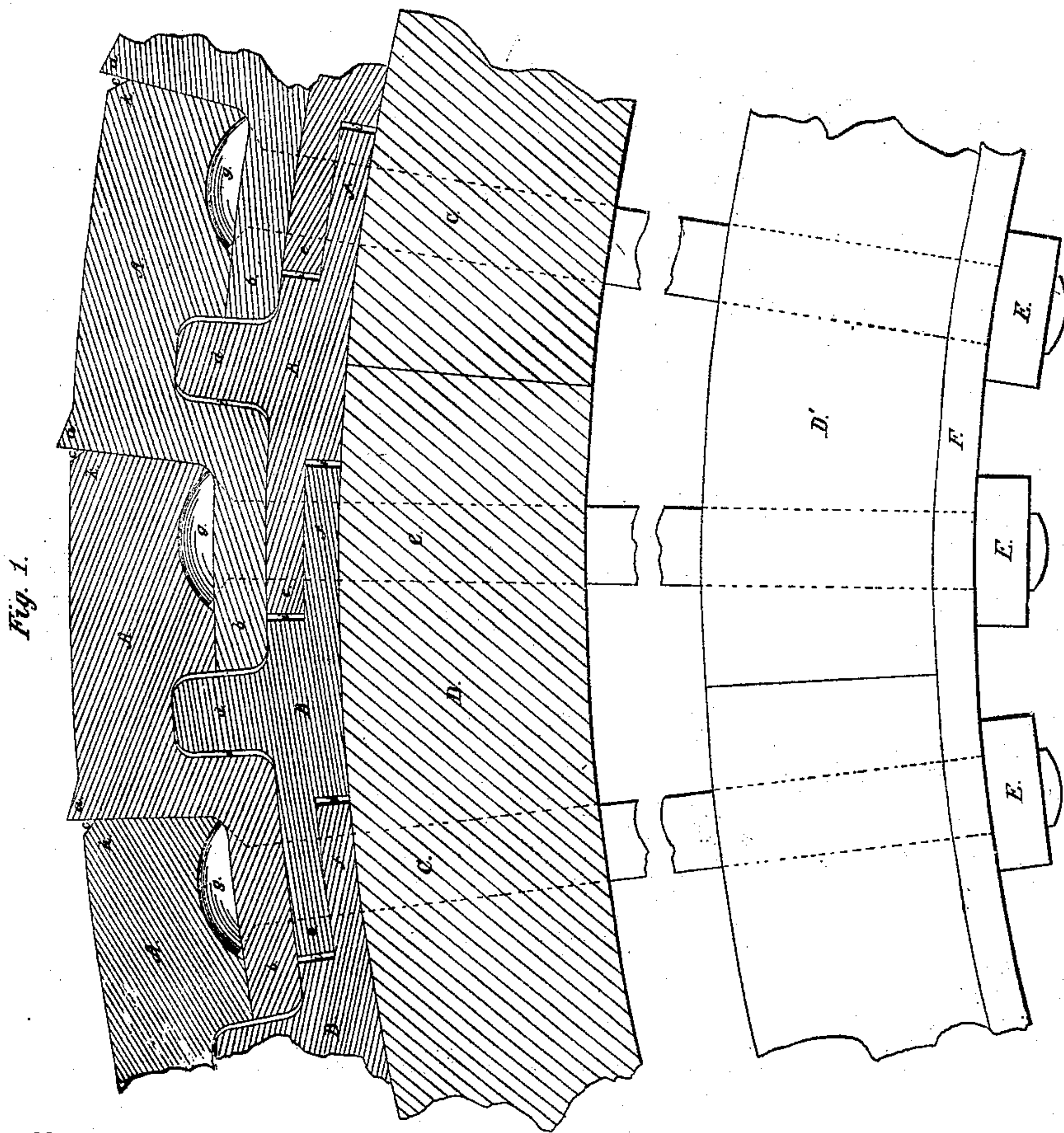
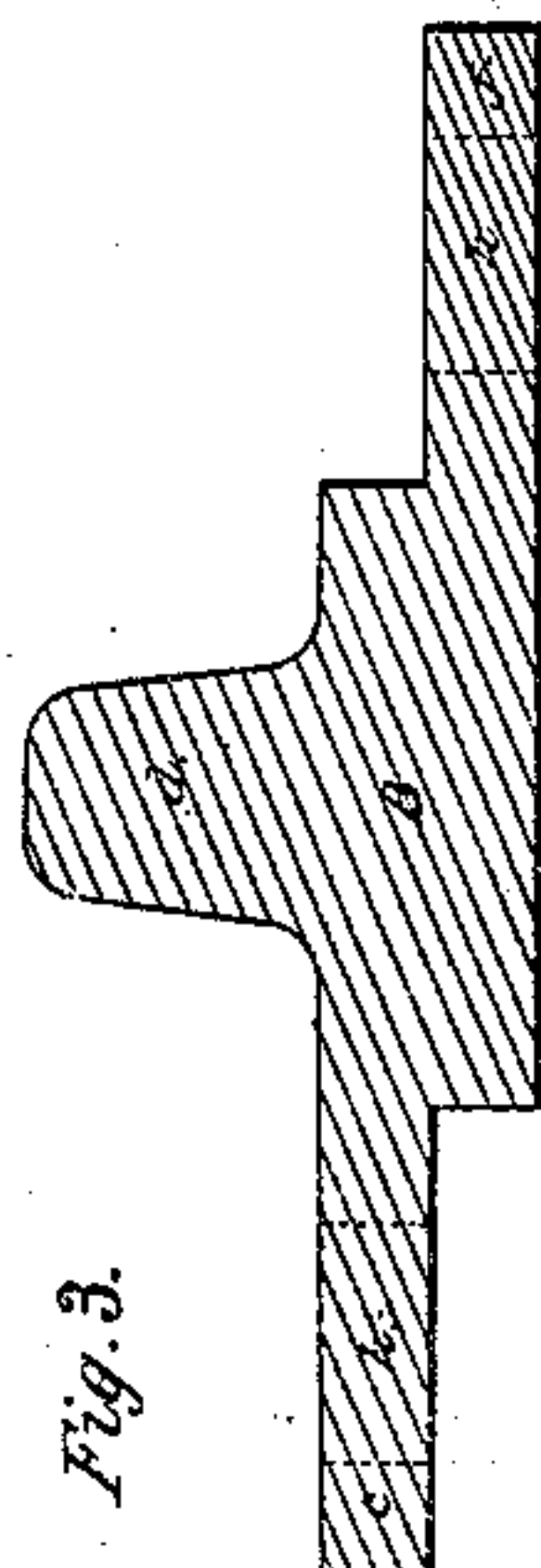
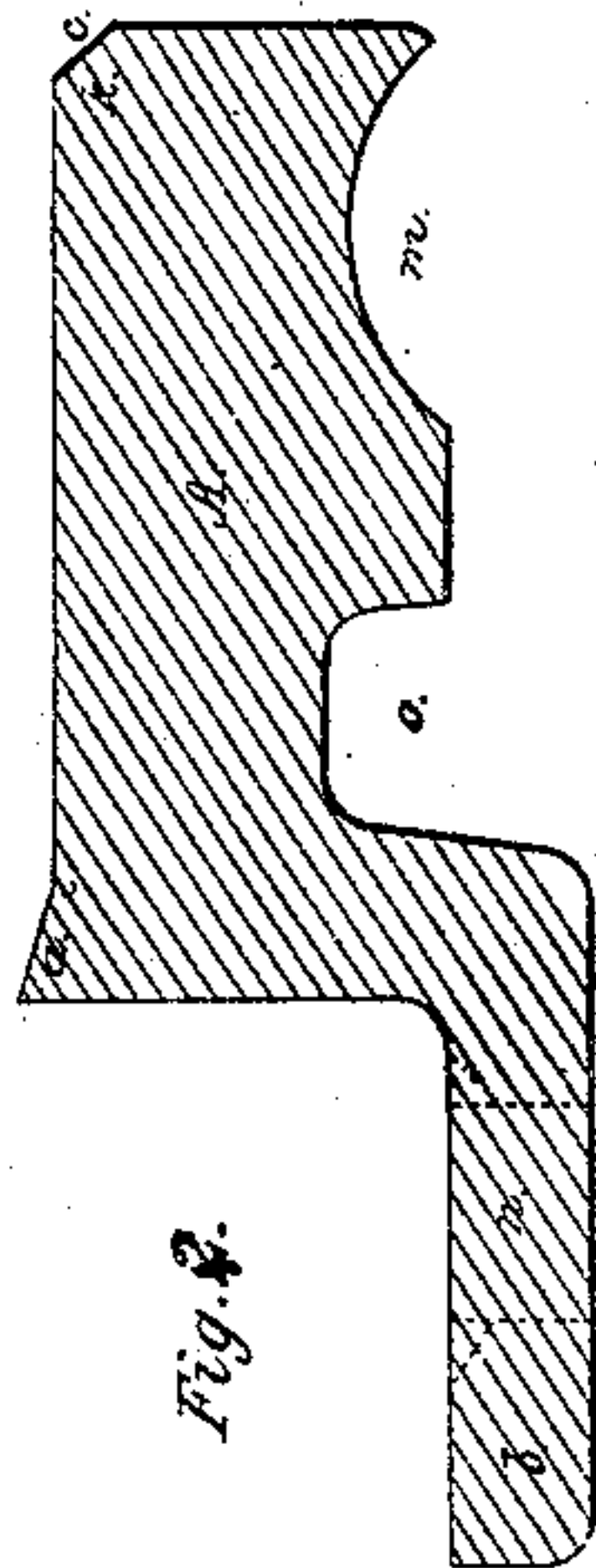


J. F. Winslow

Armor Clad.

Patented May 27, 1862.

Nº 35,404.



Witnesses,

Wm. H. Seymour
Robert Bairbridge

Inventor,

John F. Winslow

UNITED STATES PATENT OFFICE.

JOHN F. WINSLOW, OF TROY, NEW YORK.

IMPROVED ARMOR-PLATE FOR VESSELS.

Specification forming part of Letters Patent No. **35,407**, dated May 27, 1862.

To all whom it may concern:

Be it known that I, JOHN F. WINSLOW, of the city of Troy, county of Rensselaer, State of New York, have invented a new and Improved Bomb and Shot Proof Armor for War-Ships; and I do hereby declare that the following is a full, clear, and exact description of the construction, combination, and object of the same, reference being hereby had to the annexed drawings, making a part of the same.

Like letters represent and refer to like parts.

Figure 1 shows the different parts of the armor, hereinafter described, as applied to war-vessels. Fig. 2 shows the outside plate or bar hereinafter described, and forming the outside part of the said armor. Fig. 3 shows the inside plate or bar hereinafter described, and which forms the inside part of the said armor.

The nature of my improvements or invention consists in the construction, interlacing, and interlocking of plates or bars or their equivalents for armor for warships or vessels, so that the same shall be protected from injury by bombs or balls thrown from cannon battery or batteries, and at the same time be of light draft of water, the said armor-plates being securely fastened to the sides of such ships or vessels without exposing the heads of the fastening-bolts to the outside surface of said outside armor-plate, as hereinafter described.

To enable others skilled in the art to which my improvements or invention relates to make and use the same, I will here proceed to describe the construction of and the manner in which the same is put together upon war ships and vessels.

I construct the inside armor plate or bar, B, Fig. 3, of wrought-iron of any thickness, width, or length required or desired to answer the purpose and size of ships or vessels to which the same is applied. This plate or bar has a rib or projection, *d*, rolled thereon and therewith for the entire length thereof, which rib interlocks with the outside armor-plate, A, at recess *o*, Fig. 2. This inside plate or bar is rolled so as to overlap the edge of the next adjoining plate or bar of same construction, as seen at *e* and *f*, Fig. 1. *h h*, Fig. 3, are bolt-holes through said plates at or near the edges thereof. The exposed parts of such ships are entirely covered with this inside plate or bar,

each interlacing and overlapping each, as aforesaid. These plates are placed upon the outside plank, C, of such ship and then securely fastened, as hereinafter described. I then construct an outside armor-plate of wrought-iron, as seen at A, Fig. 2, which may also be of any required thickness, width, or length. This plate or bar has a recess, *o*, Fig. 2, rolled in the inside thereof, so as to receive the rib or projection *d* of the inside plate, Fig. 3, the bottom of which recess shall rest firmly upon the said rib *d*. *m* is also a recess rolled the entire length of said plate, so as to give place for the head *g* of the fastening-bolt *c*, Fig. 1. The said bolt-head *g* may be made so as to exactly fit this recess whenever such bolts may be used. *b*, Figs. 1 and 2, is a flange rolled upon the inside edge of the said armor-plate, which flange extends from the said rib *d* to the next adjoining rib *d*, Fig. 1, and rests firmly upon the said inside plates, B B, interlocked at *e* and *f*, as aforesaid, Fig. 1. I then firmly secure the three said armor-plates thus interlaced and interlocked to the plank D of any such ship by means of the bolt *c*, which is countersunk in the said flange *b*, and which has also a raised head, as seen at *g*, Fig. 1, and which bolt passes through said flange *b* and through *e* and *f* of said inside plates or bars, B B, overlapped and interlaced, as aforesaid, and which bolt passes through the said plank D and inside plank, D', and through the washer F, upon which rest the nuts E, which nuts bring the said armor bars or plates firmly together upon the outside plank of any such ship. When the said outside armor-plate, A, is thus put on and thus fastened to the said inside plate, I then rivet down the rivet *a*, Figs. 1 and 2, rolled the entire length of said armor-plate, upon the next adjoining armor-plate of the same construction, which has one corner rolled back on an angle, as seen at *c*, Figs. 1 and 2, which, when done, firmly holds the edge *k* of said plate down and upon the said flange *b* of the next adjoining armor-plate of same construction, and thereby making a firm and tight joint. The spaces *i* are for the purpose of allowing the expansion and contraction of the said plates or bars by reason of heat or cold, also to aid and facilitate the putting of the same upon such vessels. I use as many of the

said bolts *c* as may be required to secure the said armor-plates to such ships or vessels. There are no bolt-heads exposed upon the outside surface of the said armor. The surface of this armor exposed to bombs and shot, as aforesaid, may be corrugated, if thought advantageous so to do. There may also be several of such armor-plates added to the thickness of the armor herein described, which may be constructed in the same manner as aforesaid, if required. This is a strong and effective armor for war ships and vessels, and does not overburden any vessel to which it may be applied, nor does the weight of the said armor strain the vessel's sides, for being put on in bars of twenty-five feet long each, or more, and lengthwise of her, serve, with the interlocking, overlapping, and breaking of the joints, to greatly stiffen her, thus becoming practically iron planking. The heads of the aforesaid fastening-bolts are not exposed upon the outside surface of the said armor and are out of the way of shot striking them, said bolt-heads being between the said inside and outside armor-plates, as described aforesaid. This mode of fastening is also convenient for displacing damaged bars and replacing the same with new ones, if such should be required, and

may be known as "blind fastening" in iron-planking vessels by the aforesaid described armor plates or bars.

There may be modifications of this plan which shall be equivalents for the same, among which may be those described in my caveat dated August 30, 1861, and filed in the United States Patent Office on the 10th day of September, 1861.

Having thus described my improvements and invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of one or more series of armor-plates with rabbets, projections, and corresponding indentations, constructed and applied substantially as herein described.

2. The recess *m* for the bolt-heads *g*, in combination with the flange *a* of the armor-plate A, riveted over and upon the plank C of the next adjoining armor-plate A, substantially as herein described.

In testimony whereof I have on this 7th day of March, 1862, hereunto set my hand.

JOHN F. WINSLOW.

Witnesses:

WM. H. SEYMOUR,
ROBT. BAINBRIDGE.