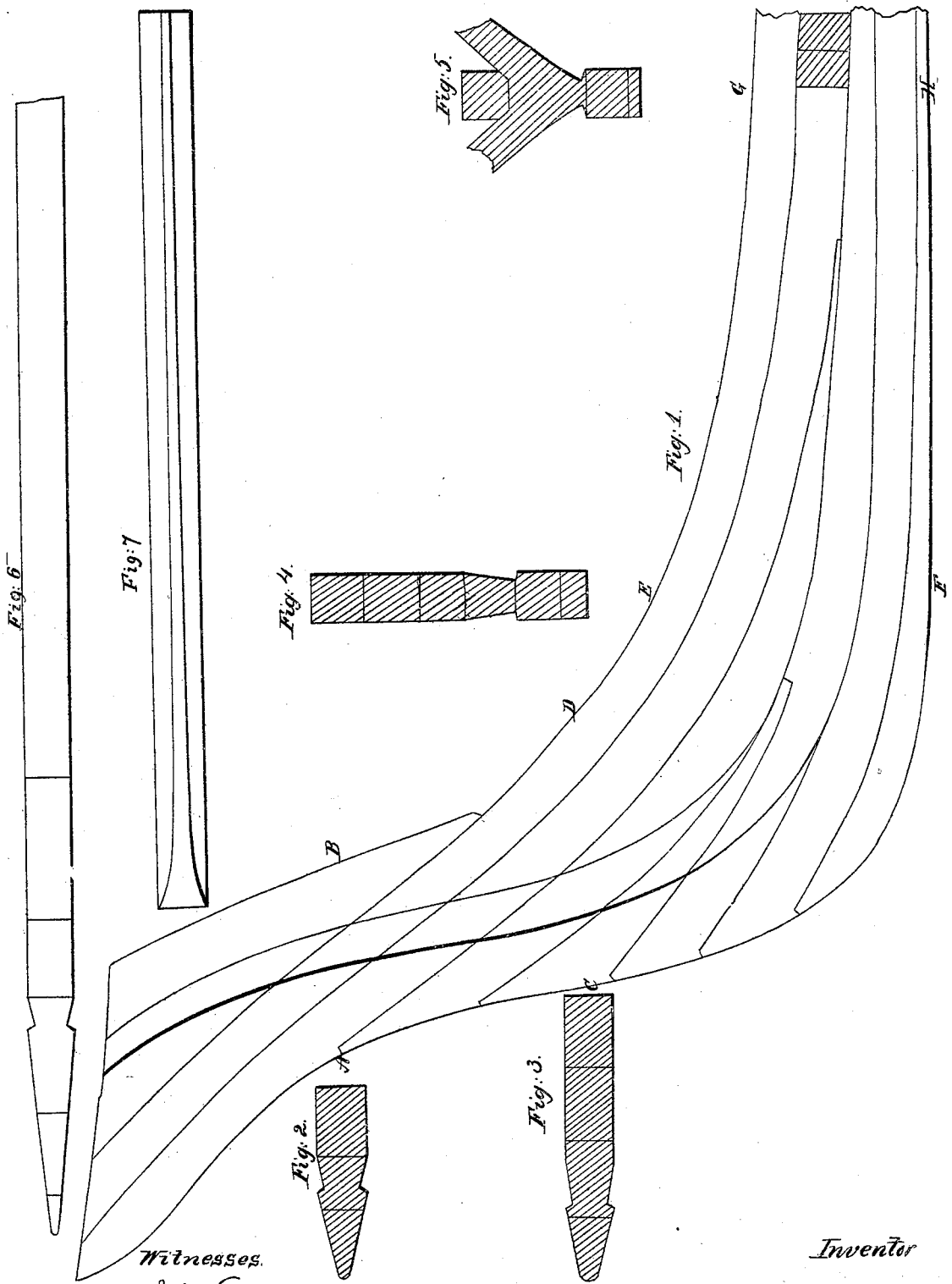
J. W. Griffiths.

Building.

No. 51,307. Patented Dec. 5, 1865.



Witnesses.
John Coon
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JOHN WILLIS GRIFFITHS, OF BROOKLYN, NEW YORK.

MODE OF FRAMING THE STEMS AND DEAD-WOODS OF SHIPS.

Specification forming part of Letters Patent No. **51,307**, dated December 5, 1865.

To all whom it may concern:

Be it known that I, JOHN WILLIS GRIFFITHS, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Framing the Stem, Stern-Posts, and Dead-Woods of Ships and other Vessels; and I 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.

In the mode of ship-building now practiced both the stem and stern posts are separate timbers, the grain in each following the direction of the rabbet, and each is held in place by in-and-out bolting. The object of my invention is to give additional strength to both of these parts to resist the calking strain and colliding thrusts and to support the rudder.

To enable others skilled in the art to make and use my invention, I will now proceed to describe it.

Figure 1 is a side elevation of the stem, showing the keel, dead-woods, cut-water, upper keelson, with rabbet for the planking and forward floor-timber. Fig. 2 is a longitudinal cross-section of the stem at A B. Fig. 3 is a longitudinal cross-section at C D. Fig. 4 is a vertical cross-section at E F. Fig. 5 is a vertical cross-section at G H. Fig. 6 is a plan, showing the siding size of the dead-woods, the taper of the cut-water, and the rabbet. Fig. 7 is a front view or elevation, showing the siding size of the stem at the rabbet and the thickness of the front edge.

I form the stem and dead-wood of the same timbers by causing the dead-wood, as shown in the drawings, to project longitudinally and diagonally forward of the "wooden ends" of the planking, the projecting parts thereof being made to conform to the lines of the vessel's model, and I embed the wooden ends of the planking in a rabbet. (Shown at R in the drawings.) Thus the grains of the timber forming the stem are placed in a direction transverse the direction of the rabbet, so that a colliding thrust directed against the stem so constructed of the ends of timbers of considerable length is resisted by a degree of strength much greater than could be offered by a stem constructed in the mode now practiced, since a greater degree of force is required to break the end of a timber across its grain than to split or separate its fibers in the direction of its grain.

I construct a stern-post, in a manner precisely similar to that given above for the construction of the stem, by projecting the dead-wood longitudinally and diagonally aft of the wooden ends of the planking and causing the projecting parts thereof to conform to the lines of the vessel's model.

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

The construction of the stems and stern-posts of ships and other vessels of the same timbers which form their respective dead-woods by projecting the dead-woods longitudinally and diagonally beyond the wooden ends of the planking and embedding the wooden ends of the planking in a rabbet cut in the dead woods, substantially as shown and described.

JOHN WILLIS GRIFFITHS.

Witnesses:

I. I. COOMBS,

JOHN COON.