Sheets, 2 Sheets.

J. P. Curry.
Building.

No. 48,795. Patented Jul. 18, 1865

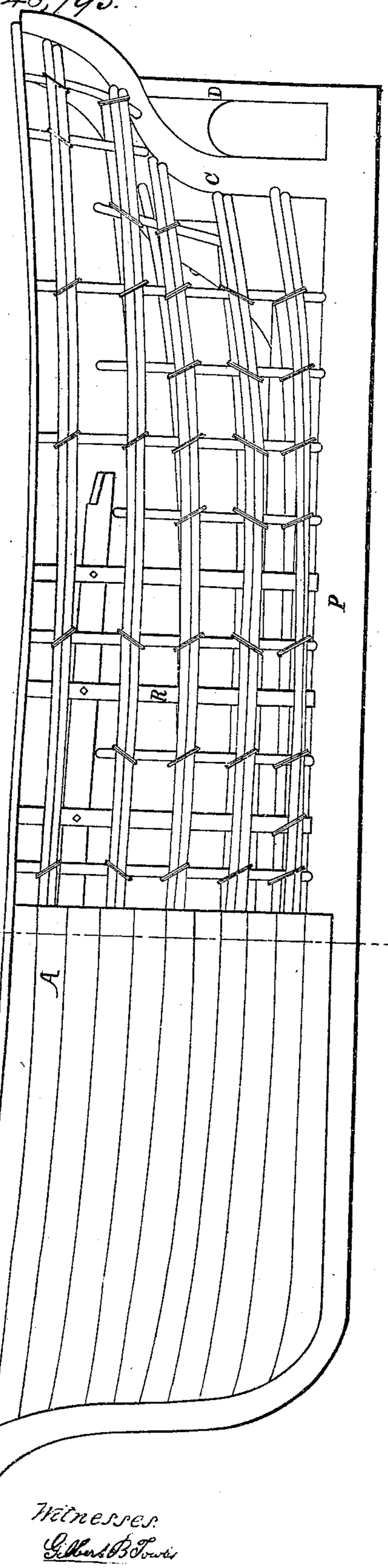

Fig 1.

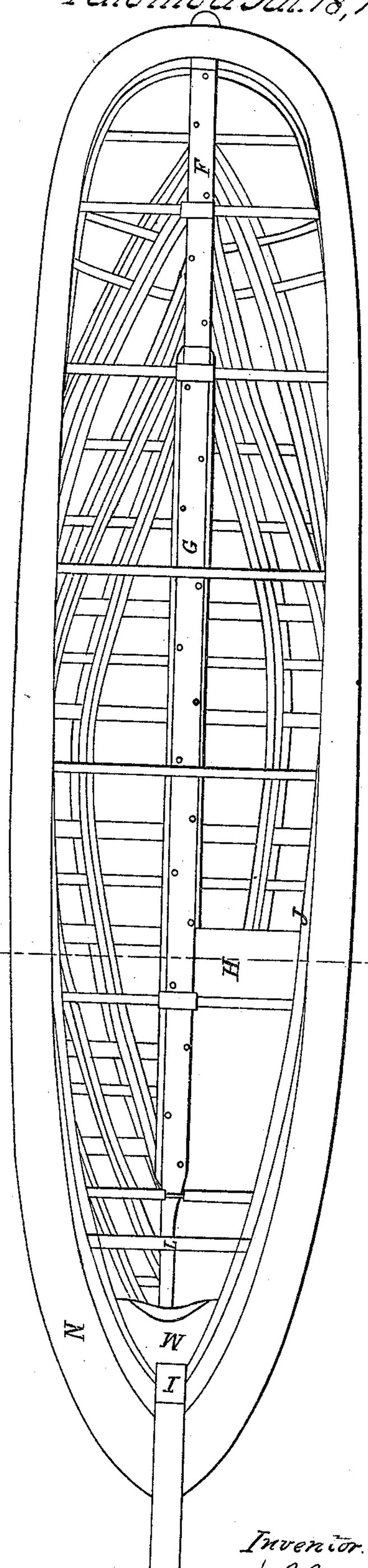

Fig 2.

Witnesses.
Gilbert B Tower
T. Smith

Inventor.
J. P. Curry
by Atty Thos. T. Everett

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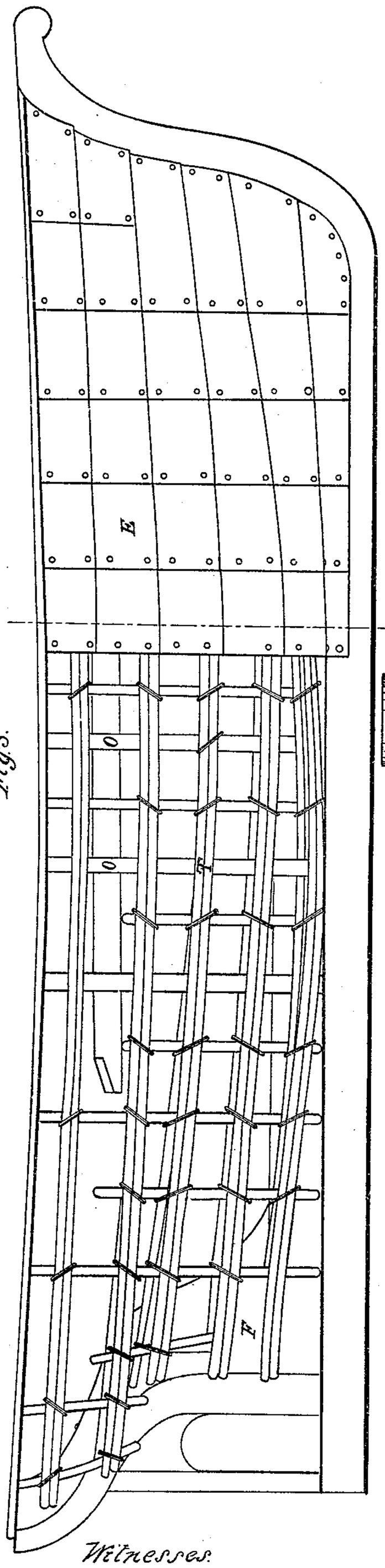

Fig. 3.

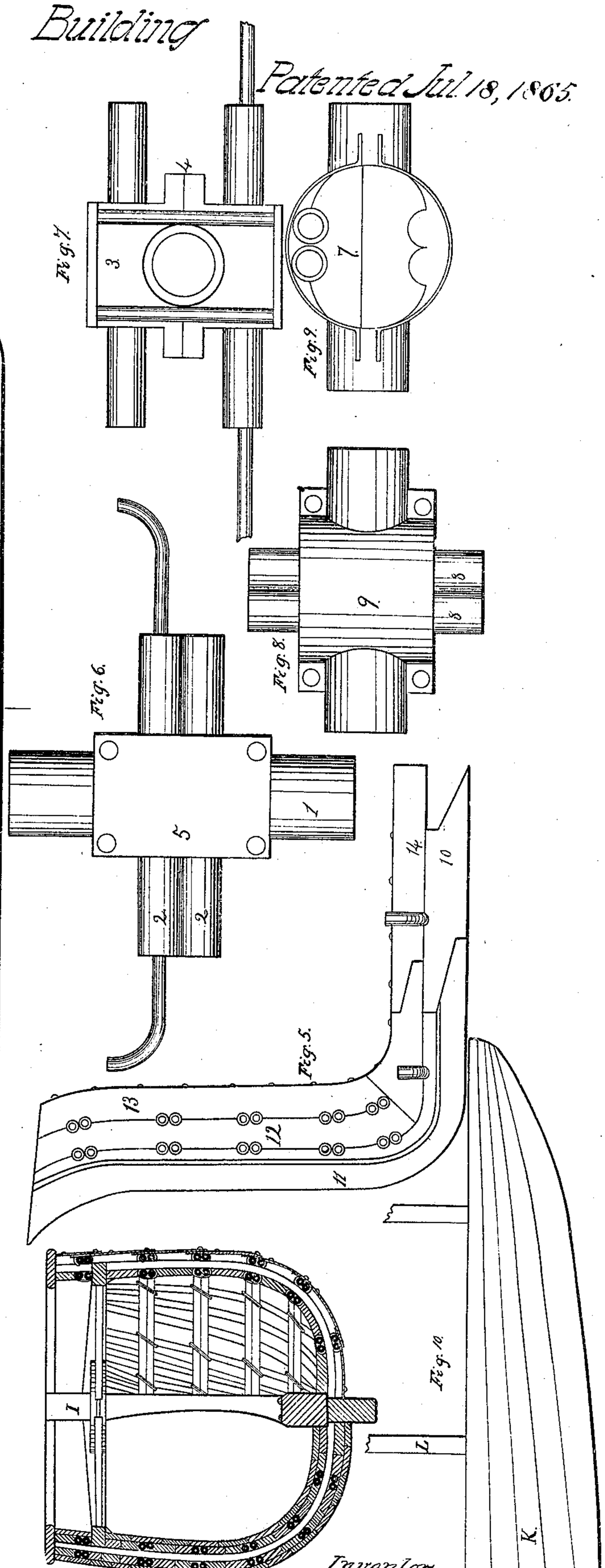

Fig. 4. Fig. 5. Fig. 6. Fig. 7. Fig. 8. Fig. 9. Fig. 10.

Witnesses.
Gilbert B. Tooke
T. Smith

Inventor.
J. P. Curry
by Atty Thos. T. Everett

UNITED STATES PATENT OFFICE.

JOHN PENN CURRY, OF NEW YORK, N. Y.

IMPROVED CONSTRUCTION OF VESSELS.

Specification forming part of Letters Patent No. **48,795**, dated July 18, 1865.

To all whom it may concern:

Be it known that I, JOHN PENN CURRY, of the city of New York, State of New York, have invented a new and Improved Mode of Constructing Ships and other Vessels, adapted either to warlike purposes or our commercial marine; and I do hereby declare the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, explanatory of the plan, and to the letters inscribed thereon, illustrating the various parts, making a portion of this specification, in which—

Figure 1 represents a side view of a vessel partially planked and partially in skeleton. Fig. 2 represents a top plan. Fig. 3 represents a side view, partially covered and partially not. Fig. 4 represents a transverse section through a vessel constructed after my plan. Figs. 5, 6, 7, 8, 9, and 10 represent detached portions, and on an enlarged scale, of some of the details of the vessel.

Similar letters and other marks of reference, where they occur in the separate figures, denote like parts in all cases.

I am aware that the frames of vessels have been made of tubular iron. This I do not lay claim to.

My invention consists in the peculiar manner in which I unite and combine the tubular frame with the wooden frame, planking, or exterior covering of the vessel, so that a combined tubular iron and wooden frame shall be made without puncturing the iron by the bolts that secure the planking or timber to each other, and by fitting and clamping them together to the iron frame, the effect of such combined framing being to allow the metal to expand and contract without straining the bolts or wood-work, while each frame takes its due proportion of the strain upon the whole.

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

The material parts of the frame are designated as follows: A is a section of the plank-shear; B, the stem; C, the stern-post; D, a false stern-post; E, a section of iron plating; F, dead-wood and aprons; G, keelson; H, section of inside planking or ceiling; I, forward apron; J, thick strake or water-way; K, section of main deck; L, main deck and supplemental beams; M, forward breast-hook; N, main rail; O, timber fillings or chocks; P, the keel; R, wood timbers or riders for planking with wood; T, longitudinal or fore and aft iron pipes, crossing at intervals the vertical pipes or tubes.

Where the fore and aft tubes T meet or lie against the vertical tubes they are clamped together by straps, as shown in Figs. 1, 3, 4, or by clamps, as shown at 5 9 in Figs. 6 and 8, and in all cases so that the metal tubes shall not be perforated or the fastenings pass through them, the object of this loose or play fastening or clamping being to allow free expansion and contraction of the metal without straining the tubes and breaking or loosening the fastenings. The form of these fastenings may be varied, but I have shown but three, which will fully explain the objects in view.

The timber fillings or chocks O are strapped to the tubular iron frame, as shown in Fig. 3, and also to the wood timbers R, and the planking and ceiling bolted to said timbers. The bolts passing through the timbers are so placed as that they shall not penetrate the metal portion of the frame, but closely embrace it between the timbers, so that it shall be a combined frame to resist strain, but leave the metal free to expand and contract.

The spaces between the tubes may be filled with wood, so as to leave, in connection with the timbers, flush sides to plank or ceil to, and the frames may be double, with an intervening space, as shown in Fig. 4.

The stem-piece B, with its aprons 12 and 13, Fig. 5, is fitted to the tubular frame, as shown, and held in place, as also holding the tubes, by compression, the bolts passing through the timbers, but not through the tubes. The keel 10 and keelson 14 are here represented as united to the stern-post. The same construction may be applied to the stern and stern-post and to the deck. Iron plating

may also be used in connection with this combined metallic and wooden frame.

Having thus fully described and represented my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

A combined tubular iron and wood frame for vessels, so united as to conjointly receive, resist, or transmit the strain throughout the whole, while the tubular iron frame is free to expand or contract by atmospheric changes without injury to itself or to the fastenings of the wooden frame, as herein described and represented.

JOHN PENN CURRY.

In presence of—
J. C. BABCOCK,
JOHN M. HARRINGTON.