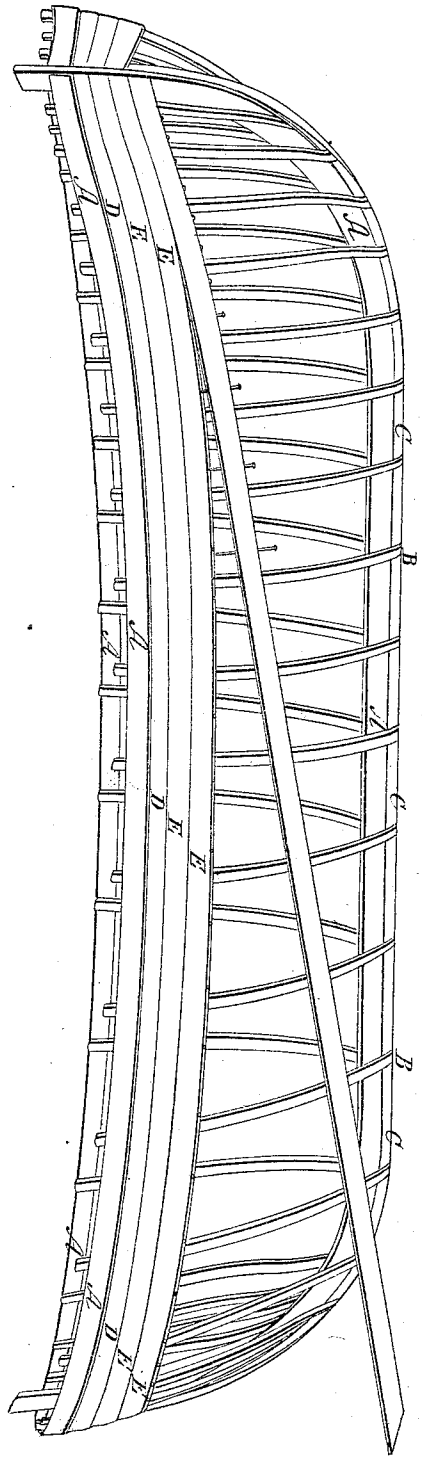
J. Francis,

Ship Building

No. 2293. Patented Oct. 11. 1841.



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UNITED STATES PATENT OFFICE.

JOSEPH FRANCIS, OF NEW YORK, N. Y.

IMPROVEMENT IN THE METHOD OF BUILDING BOATS, VESSELS, &c.

Specification forming part of Letters Patent No. **2,293**, dated October 11, 1841.

To all whom it may concern:

Be it known that I, JOSEPH FRANCIS, of the State and city of New York, have invented a new and useful Improvement in the Method of Building Boats, Vessels, &c., which I call "Molding Method," of which the following is a true and exact description.

I first build a frame or mold upon which the boat or vessel is to be formed, as letter A per drawing annexed. The timbers of this mold drop two or three inches below the keel of the mold, as letter B. The mold completed, it is turned over and fastened down to the floor. I then begin by laying a keelson along the keel of the mold and a stem and stern-post upon those of the mold, securing their ends to those of keelson, as letter C.

The planking is made in narrow strips fastened at the ends to the stem and stern-post (said strips of planking to be wider or narrower according to the size of the boat) and to be fastened edgewise together by wire, screws, bolts, nails, or dowels, as may be preferred. If fastened by wire, one end is secured to the keel, and passes through all the separate plank across the side of the boat to the top streak. Here on the end is a screw and nut to draw the whole tightly together edgewise. The first strip of planking being well steamed, is fastened at one end to the stem, then sprung or bent around the shape of the mold (securing it temporarily to the mold by buttons) and fastened at the other end to the stern-post, as letter D. A second strip or plank is next fastened at the end to the inner stem or post and bent around the mold, so that the edge fits close to the first piece, and then fastened down tight to the edge by means of screws, bolts, nails, dowels, or other fastenings going through edgewise and their heads covered by the third piece, as letter E. Piece after piece is thus put on and fastened together edgewise to each other until the whole mold is covered and the planking is completed, secured to each other and to the keelson and inner stem and stern-post. The boat thus formed and modeled is taken off the mold. An outer stem, stern-post, and keel are then bolted through to the inner stem, stern-post, and keelson, thus securing the wood ends and garboard-streak firmly between the two. I then place in copper or iron bands, or timbers if considered requisite, and finish the boat in the ordinary manner.

The advantages of this mode of construction are, first, extreme simplicity, by which the most ordinary carpenter may build a boat, the trouble and difficulty of modeling being entirely dispensed with; second, facility of repair, either as applicable to building a new or an old frame or partially repairing an old boat. This may be done at sea by ordinary workmen; third, strength, which is greatly increased, each plank being fastened to the other, so that a boat of great strength is actually formed, even without the usual frame or timbers, and the wood ends bound fast; fourth, economy, as the materials are all used up, the plank being cut into narrow straight strips to the whole width of the plank and sprung or forced to the shape of the boat and not formed to the required crooked shape by wasting one-third the material, and the cost of labor is much less by employing ordinary workmen and machinery; fifth, calking is not necessary, as the narrow planking is drawn so closely together by the wire with screw and nut or by the nails or other fastening edgewise that no water can pass through, and the chafing and bruising the edges of the plank by the calking-iron is avoided, and the wood is less liable to become saturated with water on a smooth surface than a bruised one; sixth, the metal fastening being in the edges and inclosed and surrounded by wood does not come in contact with the water.

What I claim as my improvement and invention on the mode herein described of building boats, vessels, &c., on temporary frames or molds is—

The method of fastening the planking together edgewise, as herein described.

JOSEPH FRANCIS.

Witnesses:

JAMES VAIL,

ROBT. D. HOLMES.