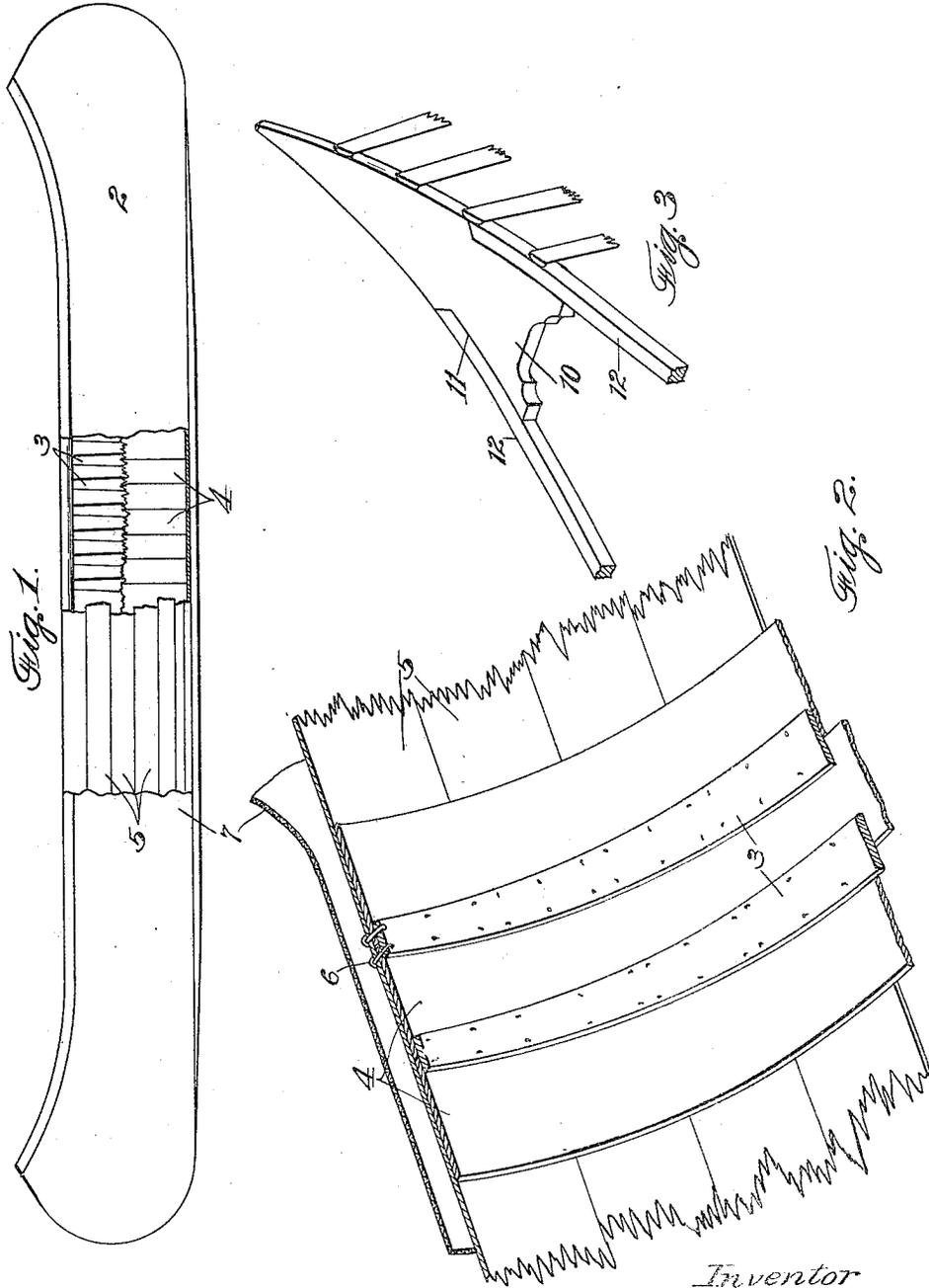


1,195,727.

J. RANCO.
CANOE.
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UNITED STATES PATENT OFFICE.

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CANOE.

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To all whom it may concern:

Be it known that I, JOSEPH RANCO, a citizen of the United States, residing at Oldtown, county of Penobscot, State of Maine, have invented certain new and useful Improvements in Canoes, of which the following is a specification.

This invention relates to boat construction and more particularly to canoes.

In the most common form of canoe structure the boat is built up of a series of inside, transverse, parallel, spaced ribs which are molded to the requisite canoe form upon molds or forms in a well known manner, and upon these shaped ribs there is laid a thin sheathing or body comprising longitudinally disposed strips with abutting edges, the strips being secured to the ribs and subsequently covered by an external sheath or canvas.

As a general type the "built up" canoe is superior to the pressed or molded craft, but this type of construction has various disadvantages among which may be mentioned the liability of the thin longitudinal sheathing to split with the grain or to break across the grain after which the canvas coat is certain to puncture. In this form of structure, furthermore, it is difficult to obtain the desired rigidity, without excess of weight. Moreover, owing to the natural tendency of the planking to shrink it is almost inevitable that their edges will separate, not only forming apertures through which sand and gravel readily pass in between the planking and the canvas with destructive results, but which spaces also permit ready ingress of water into the canoe upon the slightest laceration of the canvas sheathing. The inner surface of the usual planking is exposed between the spaced, parallel ribs and subjected to wear and tear during the occupancy of the canoe, and from this it will be seen that the appearance of the canoe from the interior is quickly spoiled when the seams open, and the heavy ribs themselves make an uneven surface uncomfortable either to sit or kneel upon.

It is one of the objects of the present invention to provide a method of construction for canoes which will make possible the production of a canoe free from many of the above disadvantages and result in the production of a canoe which is of greater

strength than that obtainable by any other method.

A further object of the invention is to provide a canoe having a built up double shell or sheathing, and thus reinforced, and in which all of the seams between the abutting structural elements are covered and protected, thereby not only rendering the canoe more proof against leak but also preventing the ingress of sand and gravel between the wooden planking or sheathing and the outer canvas.

In the attainment of the above objects the method of the construction involved herein consists in shaping or forming a series of transversely disposed, parallel, spaced battens to the requisite contour over a canoe form, overlapping the outer side of these battens with a series of parallel, transversely disposed, intermediate planks with their adjacent edges covered on the interior by the inner battens, laying upon the outer surface of the transverse intermediate planks a sheathing of longitudinally extending planking with the longitudinal edges of the several planks of the sheathing in close juxtaposition, securing the said battens and intermediate planks and the outer planking together, and covering the same on the outermost surface or water-side with a waterproof cover.

The invention further consists in a canoe which is built up with a series of inner, transversely disposed, parallel, laterally spaced battens, a secondary or intermediate series of transversely disposed, parallel strips or planks laid with their edges overlapping the outer surface of the inner series of battens, and having a sheathing of planking laid upon the water-side of the intermediate members with the longitudinal edges of the planking in close relation, the said planking, intermediate members and inner battens all being rigidly secured together.

The invention has for a further object to improve the method of deck construction in canoes. This step in the construction resides in utilizing a solid or integral deck piece at the canoe end and in rabbeting the edges of the deck piece for a portion of its length on each side and securing in the rabbet a complementary end of the respective gunwales.

An additional feature of the novel canoe therefore resides in the provision of solid deck structures and in the connection therewith of gunwales.

5 A canoe of the above mentioned structure and a process for the manufacture of a canoe will be more fully described in the following specification reference being had to the accompanying drawing showing an illustrative embodiment of the invention, in which—

10 Figure 1 is a side elevation of a canoe broken away in part to show details of construction according to the present invention. Fig. 2 is a perspective view showing on a larger scale than Fig. 1, a fragment of the improved canoe structure. Fig. 3 is a detail in section showing the deck structure.

20 In practising my invention the canoe 2 is built up by forming or molding in the usual well known manner upon a matrix, a series of inner battens 3 preferably of a strong and flexible wood of suitable width and thickness, disposed in parallel relation and space laterally from each other at a suitable pitch, which of course will vary according to the size, weight and other conditions predetermined in the construction of a given canoe. Upon these molded or formed rib-like strips 3 there is then laid, to conform therewith and on the outer surface thereof, a secondary series of intermediate slats or short planks 4 which are transversely disposed with their edges in juxtaposition, and with the seam at the longitudinal edges disposed intermediate the edges of the contiguous underlying piece so as to be fully covered by the latter. It is understood that the width of the intermediate ribs 4 may be equal or approximate to the centering or pitch of the battens 3 or that the width of the intermediate ribs may be any multiple of the pitch of the same.

45 After the intermediate elements have been laid or molded on the inner battens 3 from end to end of the canoe, the former are then covered on their outermost surface with a series of longitudinally extending planks 5 with their edges preferably in contact or abutment to form a tight joint or seam, the abutted planks 5 forming a longitudinally extending, stiffening sheathing for the canoe upon a primary, continuous inner planking.

55 The superposed battens 3, intermediate planks 4 and longitudinally extending planking 5 are all rigidly and securely fastened together by any suitable fastening means, a form of which consists of copper tacks or rivets 6 driven through the outer planking, through the edges of the planks 4 and through the battens 3 and clenched. The body of the canoe thus constructed is then covered and rendered waterproof by the application to the exterior or water-side

of the planking 5 a suitable covering of material which may consist of the usual and efficient sheathing of canvas 7.

From the above it will be seen that by this method of construction a canoe is produced which is substantially double-planked, the inner battens being suitably spaced or pitched, form a protecting and sealing cover for the meeting edges of the series of transverse intermediate planks 4 which are placed from end to end of the canoe, and form a continuous cover for the inside of the longitudinally extending and stiffening planking 5, the edges of which, as stated, are preferably abutted so that, in addition to the waterproofing secured by the canvas cover 7, leakage into the canoe body is prevented through the tight sheath formed by the planks 5, and the inner, substantial wall formed by the transverse planks 4 the seam or joint of whose edges is covered by the inner, spaced battens 3. Therefore, in addition to the material reinforcement obtained by the continuous wall formed by the planks 4, the planking 5 is protected by the covering 4 on the inside of the canoe and in the event of the shrinkage of the planking 5, the danger of leakage of water into the canoe, owing to the puncturing of the canvas 7, the battens 3 covering the seams at the adjacent edges of the pieces 4 serve to prevent the ingress of water through the puncture, this being the case even if the puncture should go through the planking 5. In the old form of construction where the planking was exposed directly to the interior of the canoe the latter will rapidly fill in the event of puncture of the canvas 7 by reason of the flow of water through the open seams between the edges of the planking 5.

Briefly, the gunwales are placed in position, next the stems or ends, then the main or inner rib-like battens are bent over the forms and fastened to the gunwales, the inner planking is then laid piece by piece from end to end and transversely the body, and the longitudinal planking is then applied. The transverse planking need not be over $\frac{1}{2}$ inch in thickness and the inner battens not over $\frac{1}{4}$ inch thick. These battens are an advantage in thus being much thinner than the usual ribs as they offer a smoother flooring to sit or kneel upon and thereby eliminate the common complaint of "canoe-knee." To further very materially improve the structure of the canoe my invention contemplates also the making of the deck members in one solid piece and fastening the gunwales thereto directly. In practice the deck piece 10 Fig. 3, is cut and shaped up from a solid piece of stock, the diverging edges of which are cut in or rabbeted at 11 for a distance of about one-half their length and to a depth sufficient to receive the ends of the

gunwales 12. The cross section of the area of the rabbet 11 in which the gunwale 12 lies is substantially equal to the cross-section of the gunwale so that this when finished off
 5 lies flush with the top, bottom and edge of the deck piece 10. In assembling the canoe the gunwales are sprung in against their rabbets or seats 11 on the deck pieces and are fastened securely thereon. By this construction a material gain is made in strength and efficiency, and the boat handles and beaches better, and to bail or shelter is more easily overturned than the canoe with deck of ordinary construction, and is firmer.

15 A canoe as above constructed will hold its shape for a longer period than will a canoe which does not have the intermediate reinforcing 4 and the double covering 3 and 4 over the seams between the planking 5 to prevent the entrance from the interior of sand and gravel to the canvas skin, and make a canoe almost water-tight even without the canvas 7.

From the above it will be seen that a canoe
 25 built according to the present method will comprise substantially a continuous inner planking extending from end to end of the body, the elements of the planking consisting of the transverse strips or short planks
 30 4 and this is incased in an exterior planking which also is continuous from end to end of the canoe with the planks running transversely to the planks 4 thus resulting in a double planked canoe body of extreme rigidity and of comparatively light weight.

35 Various modifications in the form and construction of my invention may obviously be resorted to within the limits of the appended claims:

40 1. A canoe structure comprising a series of spaced, parallel, inner battens disposed transversely the canoe body, an intermediate series of transverse, parallel slats overlap-

ping the said inner battens and forming an inner planking from end to end of the canoe, 45 and longitudinally extending planking laid upon and secured to said intermediate planking.

2. A canoe structure comprising a series of spaced, parallel, inner seam-covering bat- 50 tens disposed transversely the canoe body, an intermediate series of transverse planks overlapping the said inner battens, and longitudinally extending stiffening planks forming a sheathing laid upon and secured to 55 said intermediate planks.

3. A canoe structure comprising a series of spaced, inside battens, an inside continuous planking consisting of a series of intermediate slats laid upon the said inner bat- 60 tens and fastened at their edges thereto, and an exterior planking on said intermediate slat-planking.

4. A canoe structure comprising solid deck-pieces having rabbets in their diver- 65 gent edges, gunwales secured at their ends to the said deck-pieces and lying in said rabbets, inner seam-covering battens secured to the adjacent surfaces of the gunwales and deck-pieces, the outer edges of the gun- 70 wales continuing in the lines of the respective edges of the deck-pieces.

5. A canoe having a double planked wall or body superposed upon and secured upon seam-covering battens, the said double 75 planked wall consisting of an inner series of transversely disposed planks overlapped by a series of longitudinally extending planks laid with edges abutting.

In testimony whereof I affix my signature 80 in presence of two witnesses.

JOSEPH RANCO.

Witnesses:

R. J. PLUMMER,
 H. F. SAWYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."