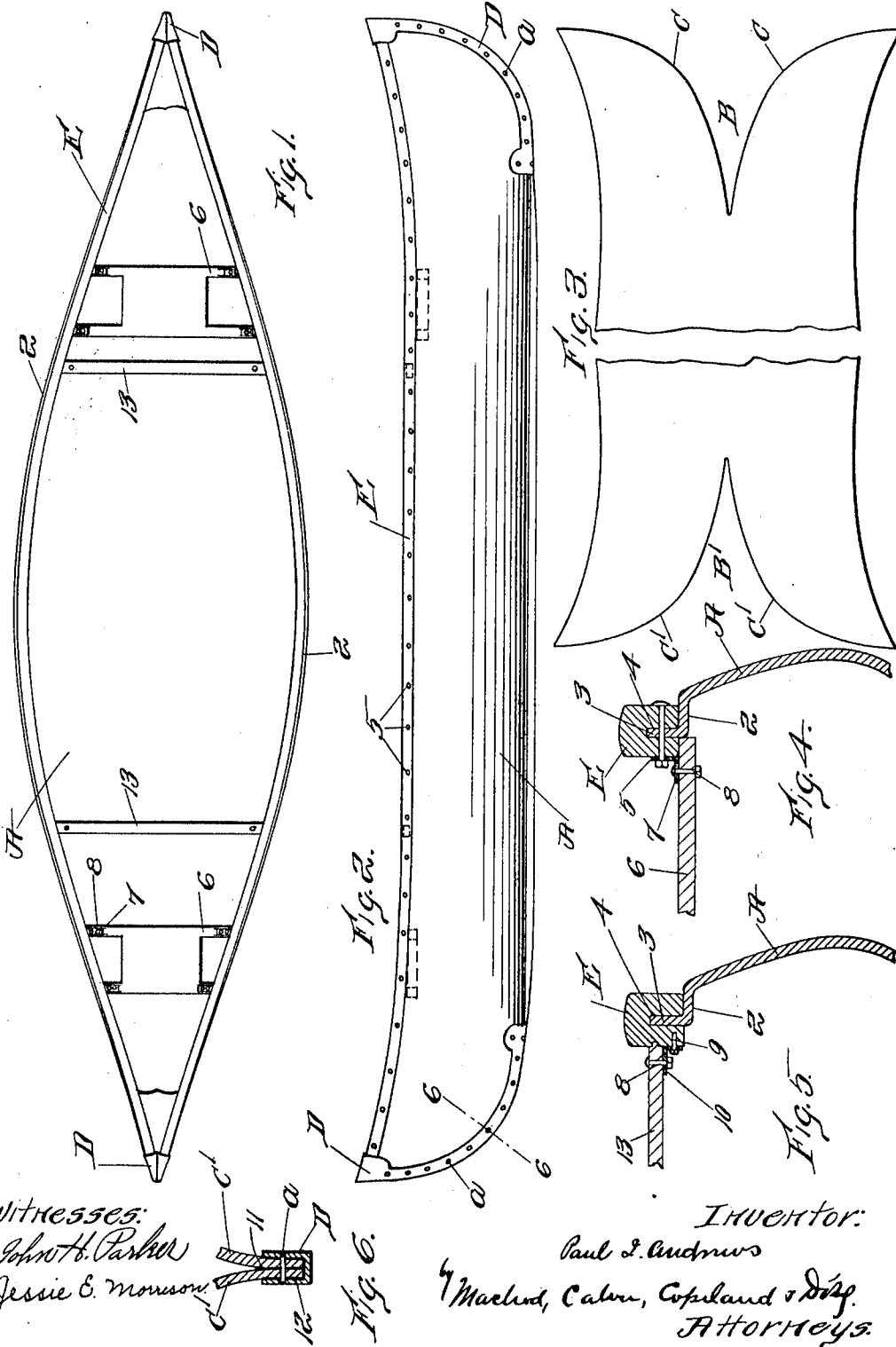


P. I. ANDREWS.
BOAT.
APPLICATION FILED JAN. 10, 1911.

1,001,601.

Patented Aug. 29, 1911.



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UNITED STATES PATENT OFFICE.

PAUL I. ANDREWS, OF KENNEBUNK, MAINE.

BOAT.

1,001,601.

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To all whom it may concern:

Be it known that I, PAUL I. ANDREWS, a citizen of the United States, residing at Kennebunk, county of York, State of Maine, have invented a certain new and useful Improvement in Boats, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a new and useful improvement in boats.

The object of my invention is to provide a boat of simple and inexpensive construction and relatively light in weight yet having great strength and stiffness.

The main feature of the invention consists substantially in making the hull of the boat of a single piece of chemical fiber cut and molded into proper shape.

Other features relate to the means for closing and protecting the joints at the ends and also to the gunwale.

Other features will be more particularly described hereinafter.

The novel features of the invention are more fully set forth in the following specification, and are clearly defined in the claims at the close thereof.

The invention may be employed in the construction of boats of any form or purpose so long as they are of a size to permit them to be made from a single piece or sheet of chemical fiber.

For the purpose of illustrating the invention I have shown it in the accompanying drawings as embodied in a canoe, although it is to be understood that the claims are not to be limited to the employment of the invention in a canoe or any other special form or design.

In the drawings,—Figure 1 is a plan view of a canoe embodying the invention. Fig. 2 is a side elevation of the canoe shown in Fig. 1. Fig. 3 is a plan view broken away intermediate the ends showing the form of flat sheet of material employed in making the canoe after the sheet has been cut ready for being molded over the form. Figs. 4 and 5 are cross sectional details on a larger scale showing the shape of the hull adjacent the gunwale and also showing the way in which the gunwale, thwarts and seat supports are secured. Fig. 6 is a sectional view broken away on line 6—6 Fig. 2.

Referring now to the drawings, A repre-

sents the hull or body of the canoe which consists of chemical fiber. Preferably this is made from a flat sheet of chemical fiber of proper size and thickness, (as shown in Fig. 3), said sheet being cut away or otherwise notched at the ends as shown at B, B', to form the bow and stern of the canoe or boat. The blank sheet thus produced is then molded over a form of the right shape while the blank is in a green and workable condition. After it is closely fitted to the form it is secured and allowed to set. After the body or hull thus shaped and dried is removed from the form the adjacent edges C and C' of the notches B, B', at the ends are practically in contact with each other. The contiguous edges C at one end and C' at the other end are secured by suitable waterproof adhesive 11, preferably marine glue, as shown in Fig. 6. A fender or shoe D preferably of metal is then applied, covering the said edges C at one end and C' at the other end and is firmly secured in place by rivets a. Adhesive 12, preferably marine glue, as above described is applied to the inside of the shoe D, so that when the shoe is in place and is securely riveted, the edges C and C' are embedded in the adhesive thereby making a water tight joint at the bow and stern.

The top of the sides of the canoe adjacent the gunwale are when the hull is molded, turned inwardly and then upwardly forming an L-shaped flange having a substantially horizontal portion 2, and a substantially vertical lip 3, and adding greatly to the rigidity and strength of the structure.

A gunwale E, preferably of wood, is formed with a longitudinal slot or groove 4 in the lower face thereof to receive the upwardly projecting flanges or lips 3 of the hull, as shown in Figs. 4 and 5. The groove 4 is preferably made sufficiently deep to receive the full height of the upturned lip or flange 3 so that the bottom of the gunwale on the outer side of the lip 3 will rest upon the horizontal portion 2 of the said flange. The gunwale is firmly secured to the upturned lip 3 by bolts 5 which pass transversely through the gunwale and the inclosed lip 3.

Cross pieces 6, for seat supports, are secured under the gunwale by angle irons 7 and bolts 5 and 8, as shown in Fig. 4. Thwarts 13 are preferably mortised into the

gunwale as shown in Fig. 5, and secured by bolts 8, 9 and angle irons 10 in the usual manner.

5 The hull or body of the boat is varnished both interiorly and exteriorly with several coats of marine varnish which gives it a hard, glossy, waterproof surface.

10 A boat thus constructed does not need and is not provided with ribs but has a substantially smooth continuous interior surface, it is comparatively inexpensive to make, is light and is very efficient in resisting abrasion or puncture from sharp rocks or other obstructions.

15 What I claim is—

1. A boat having a hull made from an integral piece of molded material with smooth sides whose upper edge is formed with an L-shaped off-set integral therewith, the base
20 leg of said off-set extending horizontally inward and thence vertically upward.

2. A boat, the hull of which is made from an integral piece of molded material and having an L-shaped rim integral therewith
25 to receive a gunwale and a gunwale formed

with a longitudinal groove which engages with the upwardly extending lip of said L-shaped rim.

3. A boat having a hull consisting of molded chemical fiber having the upper
30 edges thereof formed with an L-shaped off-set and a gunwale formed with a longitudinal groove in the under side thereof fitted into the upwardly extending lip of said L-shaped off-set. 35

4. A boat having a hull consisting of molded chemical fiber having the upper
edges thereof formed with an L-shaped off-set and a gunwale formed with a longitudinal groove in the under side thereof fitted
40 onto the upwardly extending lip of said L-shaped off-set, and seats held by angle iron hangers secured to the inner sides of the gunwale.

In testimony whereof I affix my signature, 45
in presence of two witnesses.

PAUL I. ANDREWS.

Witnesses:

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