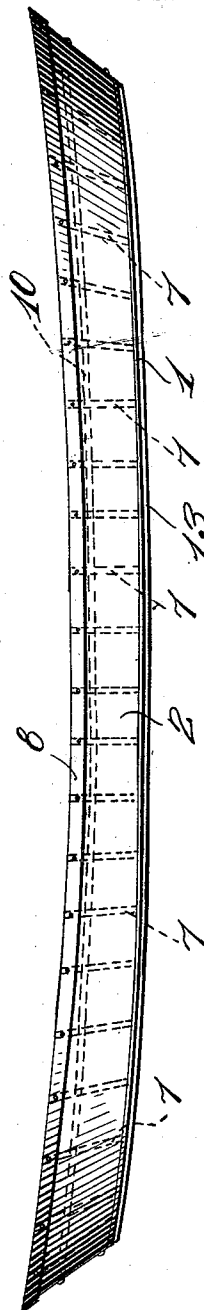
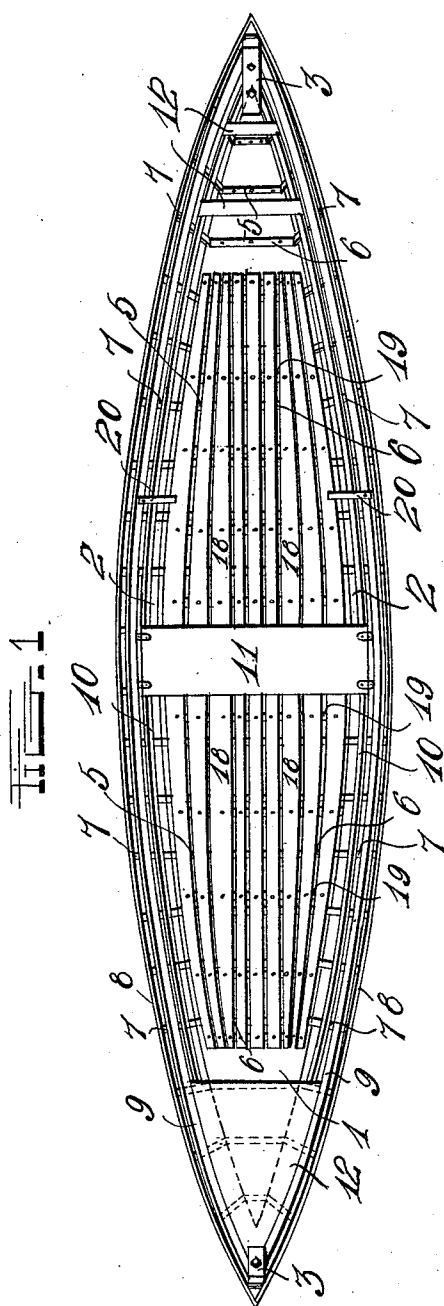


F. H. DARROW.
METALLIC BOAT.
APPLICATION FILED OCT. 10, 1910.

1,000,786.

Patented Aug. 15, 1911.

3 SHEETS-SHEET 1.



Witnesses
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O.B. Hopkins

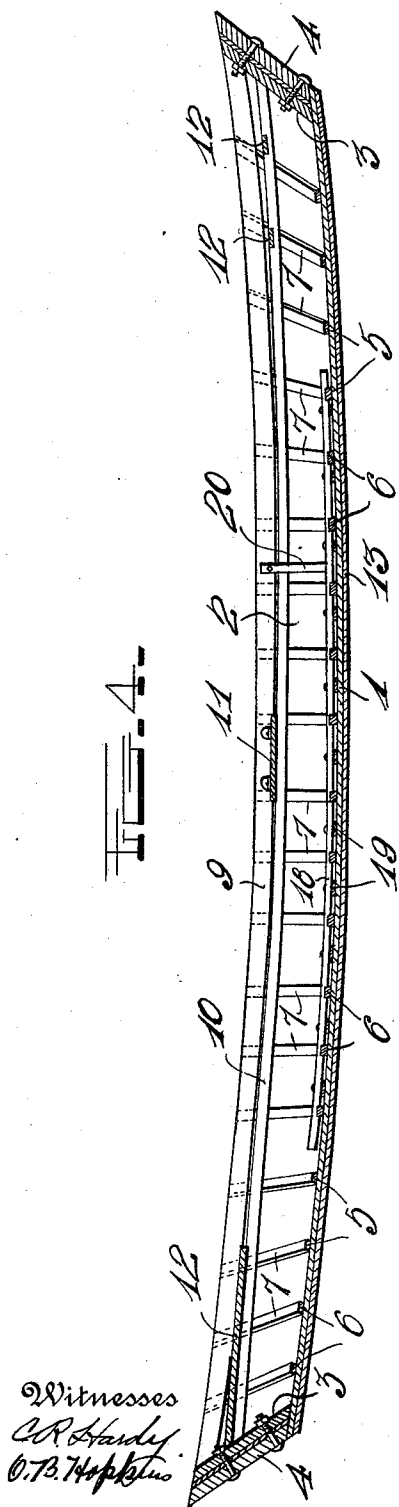
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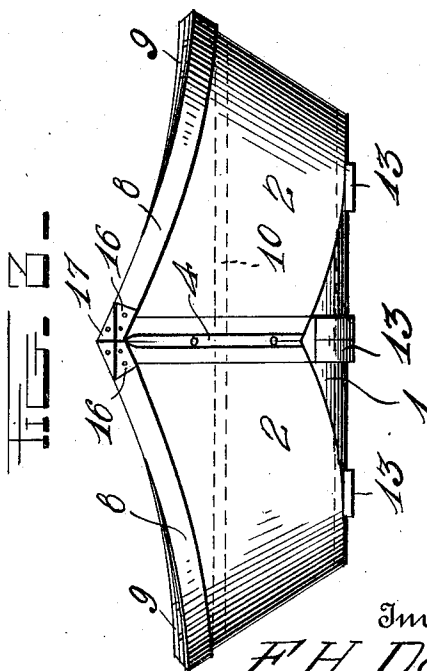
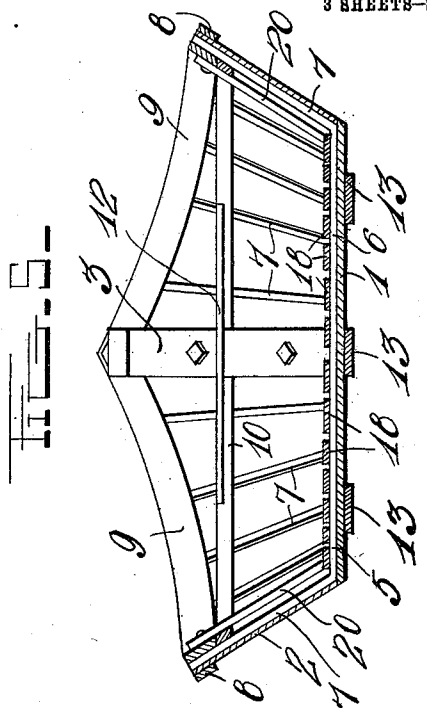
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3 SHEETS-SHEET 2.



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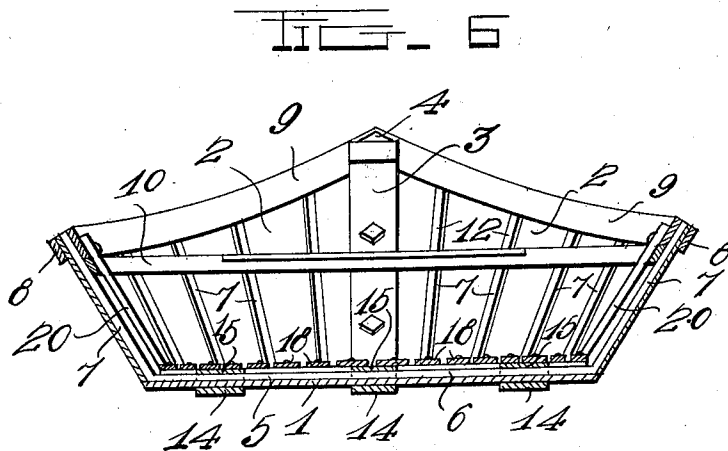
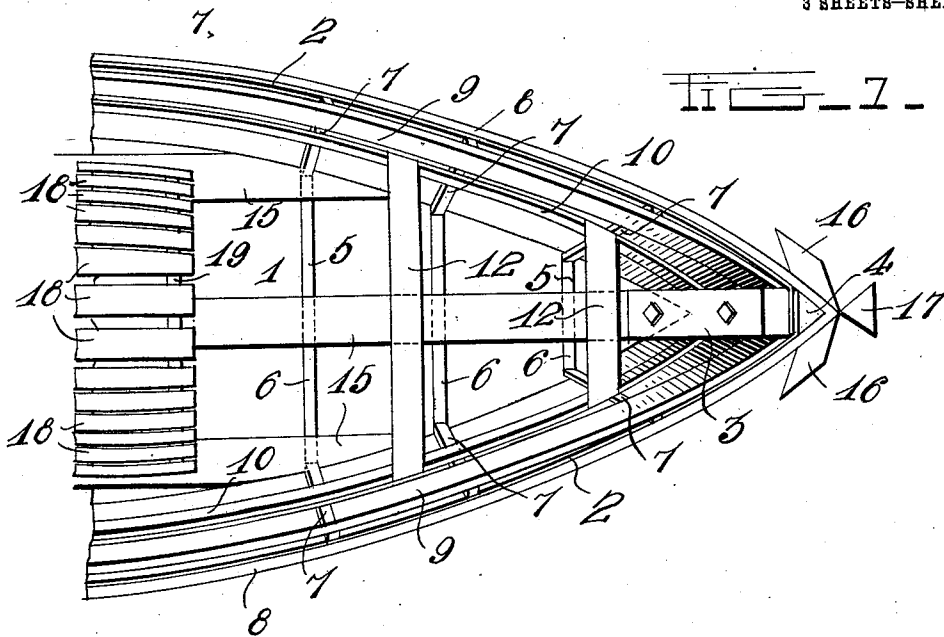
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FRANK H. DARROW, OF ALBION, MICHIGAN.

METALLIC BOAT.

1,000,786.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed October 10, 1910. Serial No. 586,380.

To all whom it may concern:

Be it known that I, FRANK H. DARROW, a citizen of the United States, residing at Albion, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Metallic Boats; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in metallic boats.

One object of the invention is to provide a boat of this character the construction of which requires no special forms and which may be readily built by any one having patterns and instructions.

Another object of the invention is to provide a metal boat which will be strong, durable, and inexpensive in construction, light in weight having few seams, and which cannot sink, swell or water-log.

A further object is to provide a metal boat which will be roomy and which will run easy and steady and which has a shallow draft.

In the accompanying drawings, Figure 1 is a plan view of a boat constructed in accordance with my invention. Fig. 2 is a side view thereof. Fig. 3 is an end view. Fig. 4 is a vertical longitudinal section. Fig. 5 is a vertical cross section. Fig. 6 is a detail vertical cross section of a modified form of the boat. Fig. 7 is a plan view of one end of the boat shown in Fig. 6, illustrating the construction of the copper end fastening before the latter is bent down into engagement with the bow or end of the boat.

In the embodiment of the invention I provide a bottom 1 formed of sheet metal and cut into the desired shape. In a flat bottom boat as shown in the present instance, the ends of the bottom are curved upwardly to a slight extent as shown. To the edges of the bottom 1 are secured the sides 2 of the boat said sides being also formed of sheet metal. The lower edges of the sides and the edges of the bottom are preferably double-seamed together or otherwise connected to form an absolutely watertight joint. The bottom and sides are here shown as being constructed from single

pieces of metal, said bottom and sides, however, may if desired be constructed from a series of sections riveted or otherwise secured together to form a watertight structure. The opposite ends of the side pieces 2 are bent around and securely fastened to the outer sides of inner end posts 3, to the lower ends of which are secured the adjacent ends of the bottom of the boat. The ends of the sides engaging the posts 3 are overlapped and to said overlapped ends of the sides and to the posts 3 are bolted or otherwise rigidly secured outer end posts or stems 4 which are triangular in cross-section to adapt them to fit the ends of the boat. The posts 3 and 4 and the ends of the sides are arranged at the desired angle of inclination as shown.

Arranged at intervals across the boat from one end to the other of the same are a series of ribs 5, the bottom engaging portions 6 of which are riveted or otherwise secured to the bottom 1 while the side engaging portion 7 are similarly secured to the inner surfaces of the sides 2 as shown. Arranged around the outer side of the upper edge of the sides 2 is an outer rail 8 which is secured to the sides and to the outer ends of the side portions 7 of the ribs. Around the upper edges of the inner sides of the boat and secured to the upper ends of the side portions 7 of the ribs are the inner side rails 9. Below the inner side rails 9 and suitably secured to the side portions 7 of the ribs are seat supporting rails 10 to which are secured the desired number of seats. In the present instance the boat is shown as being provided with a center seat 11 and with end seats 12, said end seats being also engaged with seat supports in the form of cross bars 12 having their opposite ends secured to the seat rails as shown.

The boat is provided with one or more keels 13 which extend along the bottom from one end to the other of the boat. In the first figures of the drawings the boat is shown as being provided with center and side keels arranged along and secured to the under side of the bottom while in Fig. 6 of the drawings the boat is shown as being provided with outer keels 14 and inner keels 15, said inner keels being arranged along the inner side of the bottom immediately above

the outer keels. When the inner keels 15 are employed the same are notched at intervals to receive the bottom portion of the ribs 5.

The ends of the inner rail 9 and the seat 5 rails 10 engage and are secured to the inner side of the inner end posts 3 in any suitable manner while the ends of the outer side rails 8 engage and come to a point around the outer sides of the outer end posts 4, said 10 posts being of triangular shape in cross section as shown in Fig. 1 of the drawings. The ends of the outer rails where they engage with the posts 4 are securely fastened to the posts and are protected by copper or other 15 sheet metal fastening and protecting plates which are cut in the shape shown in Fig. 7 of the drawings to form side plates or lugs 16 and an end plate 17, said side plates being adapted to be bent down into engagement 20 with the sides of the rails 8 while the end plate 17 is bent down over and into engagement with the meeting ends of the rails overlapping the upper edges of the side plates 16, thus forming a firm fastening and 25 also a guard or shield for the ends of the rails.

In connection with the boat I preferably employ a false bottom formed of a series of longitudinally disposed slats or strips 30 which are secured together in spaced relation by a series of cleats 19 fastened to the under sides of the slats by rivets or other suitable fastening devices. The false bottom extends clear across the bottom of the 35 boat between the ribs thereof and said false bottom is preferably held in position by means of turn buttons or cleats 20 which are pivoted on the inner sides of the inner rails 9 and are adapted to have their lower ends 40 swung down into engagement with the false bottom as shown. When thus engaged by the buttons or cleats 20 the false bottom will be securely held in position in the bottom of the boat. If desired suitable air chambers 45 (not shown) may be secured in the opposite

ends of the boat beneath the end seats or separate receptacles may be provided to fit into the spaces beneath the said opposite end seats.

From the foregoing description taken in 50 connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a further explanation.

Various changes in the form, proportion 55 and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claim.

What I claim is: 60

In a boat of the character described, a sheet metal bottom and sides, said bottom and sides being secured together at their outer edges to form a fluid-tight joint, 65 inner and outer end posts, the outer posts being triangular in cross section and arranged at the opposite ends of the boat and adapted to receive between themselves the inwardly bent ends of the side pieces, said posts being bolted together to firmly grip the ends of the 70 sides, a series of ribs arranged in and secured to the bottom and sides of the boat, inner side rails secured to the upper edges of the ribs and to the inner end post, outer side rails secured to the upper edges of the sides 75 and to the ribs, said outer side pieces being secured at their opposite ends to the outer end posts, and sheet metal fastening and protecting plates adapted to be bent into engagement with the outer end of the outer 80 end post and with the engaging ends of the outer side rails.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANK H. DARROW.

Witnesses:

C. G. BIGELOW,
C. S. LOUD.