No. 670,942. Patented Apr. 2, 1901.

H. E. TRAUB.

FOLDING BOAT.

(Application filed May 18, 1900.)

(No Model.) 2 Sheets—Sheet 1.

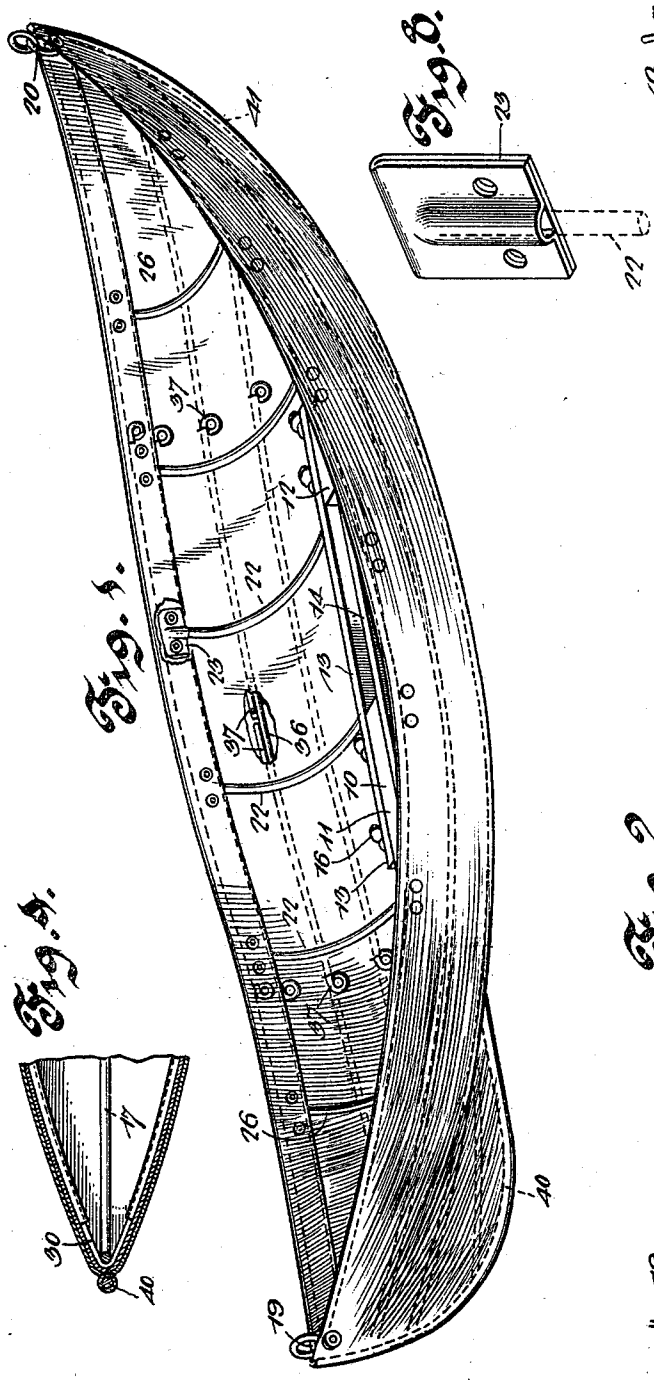


Fig. 4.

Fig. 4a.

Fig. 3.

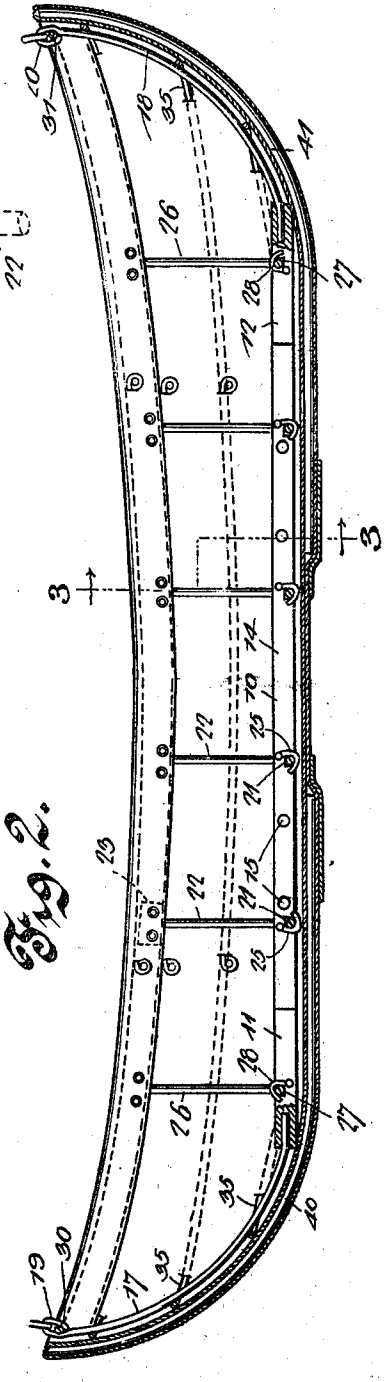


Fig. 2.

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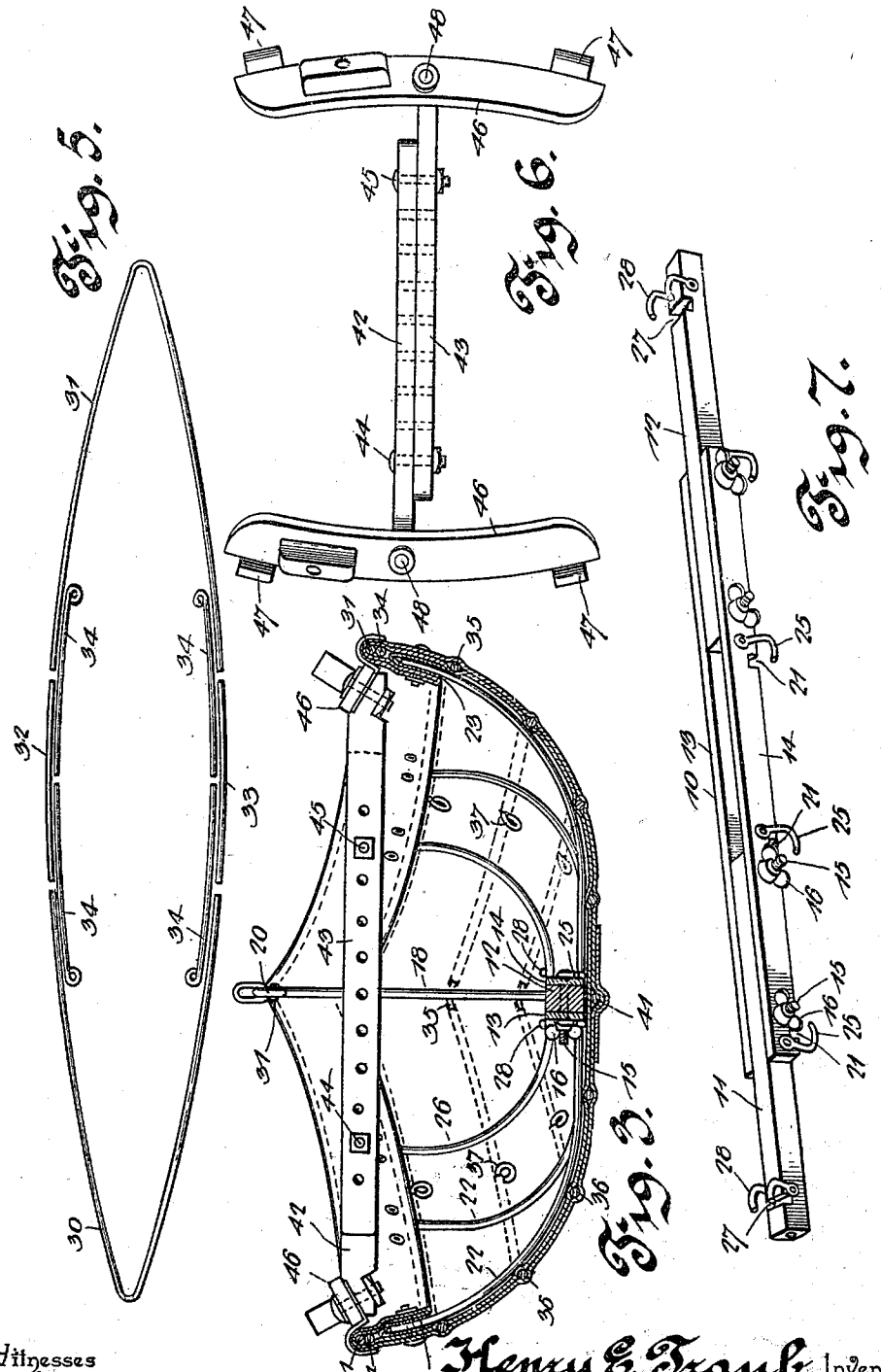


Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

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UNITED STATES PATENT OFFICE.

HENRY EMANUEL TRAUB, OF PEKIN, ILLINOIS.

FOLDING BOAT.

SPECIFICATION forming part of Letters Patent No. 670,942, dated April 2, 1901.

Application filed May 18, 1900. Serial No. 17,142. (No model.)

To all whom it may concern:

Be it known that I, HENRY EMANUEL TRAUB, a citizen of the United States, residing at Pekin, in the county of Tazewell and State of Illinois, have invented a new and useful Folding Boat, of which the following is a specification.

This invention relates to boats in general, and more particularly to the class of folding boats formed of fabric stretched upon suitably-formed frames, the frames being formed to be jointed and disjointed to set up and take down the boat, the object of the invention being to provide a simple and efficient construction wherein the parts of the boat may be folded to occupy a small compass and which when assembled operatively will form a rigid and efficient construction.

Further objects and advantages of the invention will be evident from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing the complete boat when set up. Fig. 2 is a longitudinal central section of the boat when set up. Fig. 3 is a transverse section taken through the boat when set up. Fig. 4 is an elevation view showing one end of the boat and illustrating the double stem and the arrangement of the keelsons with respect to the double stem. Fig. 5 is a plan view showing the gunwales and the reinforcements thereof. Fig. 6 is a plan view showing a removable and adjustable thwart. Fig. 7 is a perspective view showing the removable and folding keelson. Fig. 8 is a detail perspective view showing one of the socket-plates in which the upper ends of the ribs are engaged.

Referring now to the drawings, the present boat comprises a main keelson 10, comprising end pieces 11 and 12, which are disposed in axial alinement and are connected by means of side plates 13 and 14, which overlap at their ends the adjacent ends of the end pieces and are held thereagainst by transversely-disposed bolts 15, provided with thumb-nuts 16. At each end of the plates there are two of these clamping-bolts, and by removing one of them the plates may be folded, or, rather, the end pieces may be folded to lie between the plates, or, if preferred, the end pieces may be entirely disjointed from the plates.

In the outer ends of the end pieces 11 and 12 are formed axial perforations, with which are engaged the ends of stems 17 and 18, which are made of spring-metal rods and are provided with eyes 19 and 20 at their free ends.

In the under edges of the side plates 13 and 14 are formed recesses 21, with which are engaged the ribs 22 of the boat-frame, and the free ends of which ribs are engaged with the socket-plates 23, the functions of these plates being hereinafter explained. The plates 23 are each formed of a single section of sheet metal bent upon itself and one layer thereof having a struck-up portion which forms the socket to receive the rib end. The ribs are held in recessss 21 by means of hooks 25, which are pivoted on the outer faces of the plates and are adapted to swing down and under the ribs, as illustrated in Fig. 2 of the drawings, and additional ribs 26 are seated in recesses 27 in the upper faces of the end pieces 11 and 12 and are held in place therein by hooks 28, which are pivoted to the side faces of the end pieces, as shown.

The fabric covering for the frame consists of two thicknesses or layers which are fitted snugly over the frame, and the upper edges of the fabric are folded inwardly and sewed to form pockets to receive the gunwales. The gunwales consist of two sections 30 and 31, each comprising two arms which are curvingly diverged to form the end sections of ellipses, the bights of these end sections being engaged with the eyes in the ends of the stems 17 and 18. The mutually adjacent ends of these sections 30 and 31 lie against the ends of arc-shaped sections 32 and 33 to complete the ellipse, and the joints are covered by reinforcing sections or rods 34. Both the gunwale-sections and the reinforcing-rods are held in the pockets, and the outer end of each reinforcing-rod is projected through an opening in the inner layer of fabric and is bent into the form of an eye to facilitate withdrawal thereof and permit folding of the removed fabric on the lines of the joints of the gunwale-sections.

Below the pockets which receive the gun-

wales are formed additional pockets, as shown, by sewing through both thicknesses of fabric in parallel lines, and in these additional pockets are disposed keelsons 35, each of which consists of two end sections, similar to the end sections of the gunwales, the mutually adjacent ends of which are separated, and the resultant interspace is bridged by an arc-shaped section 36 at each side, the joints of these several sections being lapped by reinforcing-rods 37, which are similar in form and arrangement to the reinforcing-rods of the gunwales. It will be thus seen that the gunwales are counterparts of the side keelsons therebelow and that when the fabric covering is removed from the frame and the reinforcing-rods withdrawn the entire fabric may be folded.

Beneath the keelson 10 and between the two layers of fabric are formed two pockets at opposite ends of the boat, and in these pockets are disposed the lower ends of arc-shaped stems 40 and 41, the upper portions of which conform to the curvatures of the stems 17 and 18, the several keelsons 35 being held between the inner and outer stems, as shown, and the bights of the rods forming these keelsons being brought through the inner fabric and disposed directly against the outer faces of the inner stems 17 and 18.

In order to brace the boat amidships, an adjustable thwart is employed and comprises two beams 42 and 43, having each a series of perforations adapted for alinement and to receive clamping-bolts 44 and 45 to hold them in mutual relation, these bolts permitting the beams to be adjusted to lengthen or shorten the resultant thwart. At the outer end of each beam is pivoted a head 46, which is arc-shaped to lie against the inner face of the boat at the gunwales thereof, and which heads each have plates 47 secured adjacent its ends and bent upwardly and outwardly to form hooks adapted for engagement over the gunwales. The heads 46 are pivotally held to the beams of the thwart by bolts 48, which are passed upwardly and outwardly through the ends of the beams and through perforations in the heads. By this means the heads may be adjusted to lie snugly against the inner face of the boat and may be moved outwardly to hold the structure with great stiffness. In practice the floor-sections are laid directly upon the ribs.

With the above construction it will be seen that there is provided a boat having its frame, with the exception of the main keelson 10, formed of steel, while the parts are so formed and combined that the boat may be readily set up and taken down and when taken down may be folded into a small compass.

It will of course be understood that in practice various modifications of the structure shown may be made and that any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. A boat comprising a frame including a main keelson having stem-pieces connected therewith, ribs held to the main keelson, a covering fabric for the frame having pockets, keelsons disposed in the pockets and lying exteriorly of the stem-pieces, pockets below the main keelson, and additional stem-pieces disposed in the last-named pockets and lying exteriorly of the keelsons.

2. A boat comprising a frame including keelsons formed in sections with their ends abutting, and reinforcing members lapping the abutting ends, said keelsons and reinforcing members being held in fixed relation.

3. A boat comprising a frame including keelsons formed in sections with their ends abutting, reinforcing members lapping the abutting ends, and a fabric covering for the frame including pockets which receive the keelsons and reinforcing members and from which the latter project inwardly of the boat.

4. A boat comprising a frame including keelsons, ribs, stems, gunwales and cover, and an adjustable thwart comprising beams adjustably connected and having pivoted arc-shaped heads adapted to lie against the inner face of the boat adjacent the gunwales.

5. The combination with a boat of a removable and adjustable thwart comprising beams adjustably connected, arc-shaped heads pivoted to the ends of the beams and adapted to lie against the inner face of the boat, and hooks upon the heads for engagement over the gunwales.

6. A boat comprising a frame including keelsons formed in sections with their ends abutting, reinforcing members lapping the abutting ends, and a fabric covering for the frame including layers united to form pockets which receive the keelsons and reinforcing members and from which the latter project inwardly of the boat.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY EMANUEL TRAUB.

Witnesses:

H. C. HATCHER,

EMANUEL TRAUB.