

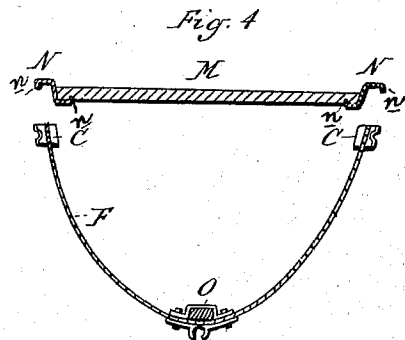
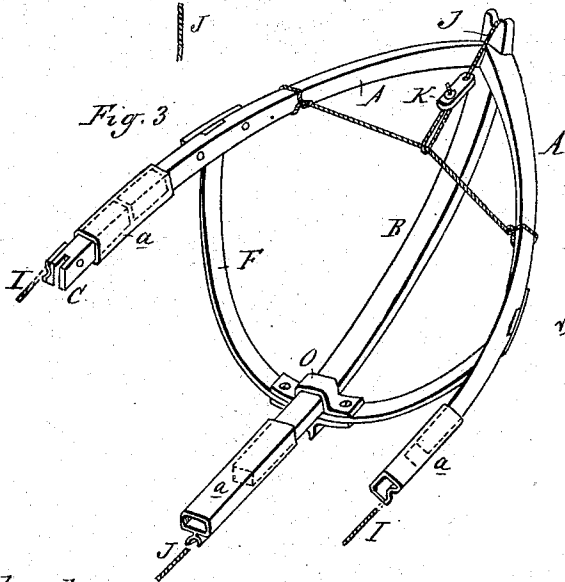
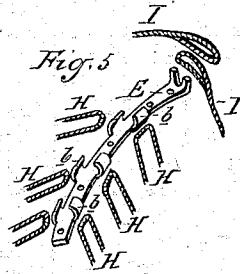
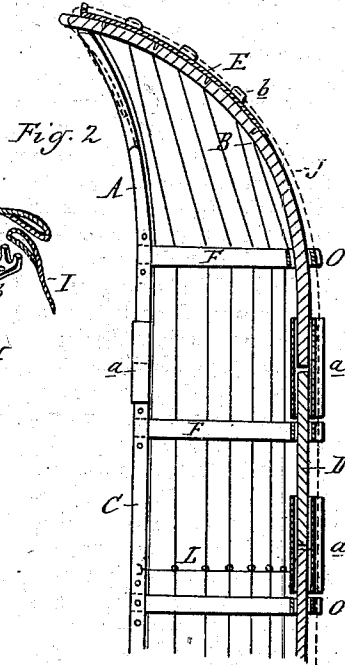
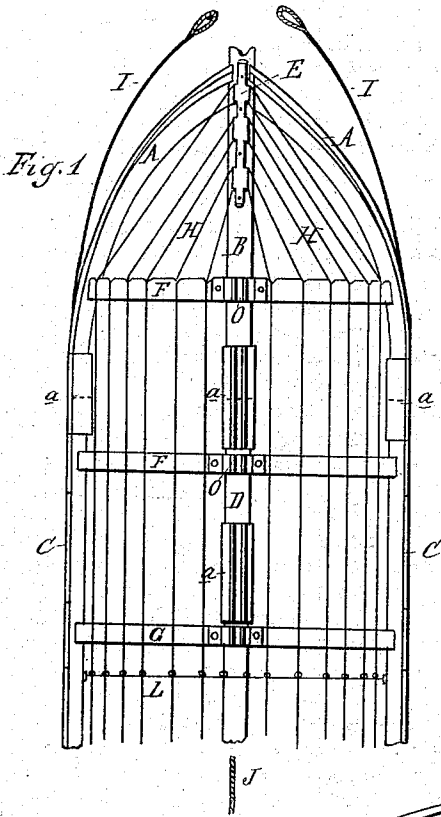
(No Model.)

C. L. & C. W. KING.

SECTIONAL BOAT FRAME.

No. 257,591.

Patented May 9, 1882.



Attest:
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1882

UNITED STATES PATENT OFFICE.

CHARLES L. KING AND CHARLES W. KING, OF KALAMAZOO, MICHIGAN.

SECTIONAL BOAT-FRAME.

SPECIFICATION forming part of Letters Patent No. 257,591, dated May 9, 1882.

Application filed September 28, 1881. (No model.)

To all whom it may concern:

Be it known that we, CHARLES L. KING and CHARLES W. KING, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented an Improvement in Boats, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in the construction of boats or canoes adapted for propulsion either by rowing or paddling.

The object of the invention is to construct a boat or canoe for the use of sportsmen or tourists that can be readily "knocked down" and compacted into a very small compass, and while it is durable and strong, it embraces features which allow it to be made extremely light and of the desired elasticity for safe and successful use and transportation, as the weight of a twelve-foot boat or canoe constructed upon the principle described will be but about twenty-five pounds.

The invention consists in the peculiar details of construction and the various combinations of such details, as are more fully herein-after described.

Figure 1 is a plan, looking from the under side of the boat, of one half thereof, the other half being of similar construction. Fig. 2 is a vertical central longitudinal section of the same. Fig. 3 is a perspective of one of the end sections, showing only the wooden part of the frame. Fig. 4 is a vertical cross-section through one of the lateral ribs and the seat, the latter being shown detached; Fig. 5, a detail perspective view of the hook-plate for holding the binding-cords.

The accompanying drawings represent the skeleton of the boat without the canvas or outer covering, which can be applied and secured in any desired manner.

A A represent those portions of the sectional gunwale or upper rail which form the bow and stern sections, said portions of the gunwale being detachably secured to the keel B in any suitable manner, and each comprising about one-quarter of the entire length of the boat. The bow and stern portions of the gunwale are secured to the side gunwales, C, by means of clips *a*, which embrace their abutting ends. The keel is also made in sections B C, which are detachably secured together by

similar clips *a*. Any number of ribs F G are removably secured to the sectional gunwale and keel by mortises, clips, or in any other desired and convenient manner. Upon the upper outer surfaces of the keel portions or sections B are secured metallic plates E, provided with clips or hooks *b*. A series of cords, H, are stretched outside of the ribs, (which are provided with notches to receive them,) and are engaged with the hooks *b* of the plates E at the bow and stern, these cords being designed to support the canvas or other flexible covering of the boat. Another cord, I, secured to the plate I at the bow of the keel, extends along the outer side of the gunwale of one side of the boat, around the stern, and back along the opposite side to its starting-point, and is drawn tightly to place and prevented from slipping out of position by a groove in the gunwale or in the clips or fastenings securing the sections thereof together, or by separate clips or fastenings. J is another cord passing from stem to stern under the whole length of the keel, and each end of said cord is brought over the upper ends of the sectional keel and secured to suitable tightening device, K, having a resistance extending across the boat from gunwale to gunwale, as shown in Fig. 3. This cord is the only cord which it is necessary to disturb in detaching the sections of the keel and gunwales or in putting them together. To detach them the cord J is loosened at the tighteners K. The other cords, being flexible, can be easily unhooked from the plates E when required. When the parts are replaced they are securely held together by tightening the cord J.

A series of lighter cords, L, (shown in Figs. 1 and 2,) may be interwoven laterally with the longitudinal cords H, and the ends of these interwoven cords are secured to the gunwale on each side, to prevent displacement of the cords H and to hold the same in their relative position to each other.

A sectional flooring is laid in the bottom of this boat, and is constructed of light pieces of thin boards secured together side by side with lacing, so as to be flexible, while it furnishes a seat for the paddle, or a foot-rest for the rower when the boat is used as a row-boat, in which case proper rowlocks (not shown in the draw-

ings) are used. M represents a seat, and N clips provided with bent edges *n*, designed to engage with the ends thereof and of the gunwales, as shown in Fig. 4, where the seat is represented as resting upon such clips, the inner ends of which engage with slots in the under side of the seat.

Clips O are secured to each of the ribs F G, which clips embrace the keel, and the free ends of said ribs are either mortised into the gunwale or secured thereto in any manner that will allow the gunwale or sections thereof to be readily removed, while each rib may also be detached from the sectional keel by sliding the clips off the latter.

By the construction above described the required lightness, elasticity, and durability are obtained, while the entire boat may be knocked down and packed into a very small compass, and when desired for use can be readily put together without tools or skilled labor, the parts being strongly held together by the binding-cords, the cord J especially allowing the keel to be made very light and yet strong.

What we claim as our invention is—

1. A skeleton boat or canoe frame having its keel and gunwale made in sections adapted to be detachably fitted together and to the ribs, in combination with a cord strained under the keel in the direction of its length and detachably secured at both ends of the same, and a cord strained around the gunwale at each side of the boat and having its ends detachably secured to the bow and stern of said boat, as and for the purpose specified.

2. In combination with a boat or canoe frame having its gunwale and keel made in sections detachable from each other and from the ribs and straining-cords for holding the whole together, as described, a series of cords, H,

passing around said frame, and the fastenings *b*, for securing said cords for the purpose of providing a support for a canvas or other covering, substantially as described.

3. In combination with a boat-gunwale made in sections detachably secured together and to a sectional keel and ribs, the cord I, passing entirely around said gunwale and tightly strained around the same in a groove in its outer surface or in its fastening-clips by means substantially as described, as and for the purpose specified.

4. In a boat made in sections, the sectional keel B, detachably connected to the ribs and gunwale, in combination with the cord J, strained around the under surface of said keel in the direction of its length, and a suitable fastening device for securing its ends, substantially as described.

5. In a boat made in sections adapted to be detachably fitted together and secured by cords, as described, and in combination with the meeting ends of said sections, the clips *a*, fitting on said meeting ends and having grooved or recessed outer surfaces for the purpose of holding the fastening-cords, substantially as described.

6. In a boat-frame made in sections adapted to be detachably secured together, and in combination with the cords I J, grooved clips *a* and the hook-plates E for fastening the sections in place, the notched ribs G, and the cords H, fitting in the notches in said rib, substantially as and for the purpose specified.

CHAS. L. KING.
CHAS. W. KING.

Witnesses:

MELITA N. KING.
JAMES M. DAVIS.