(No Model.)

L. H. RAYMOND.

REMOVABLE CENTER AND BILGE KEELSON FOR METALLIC LIFE BOATS, &c.

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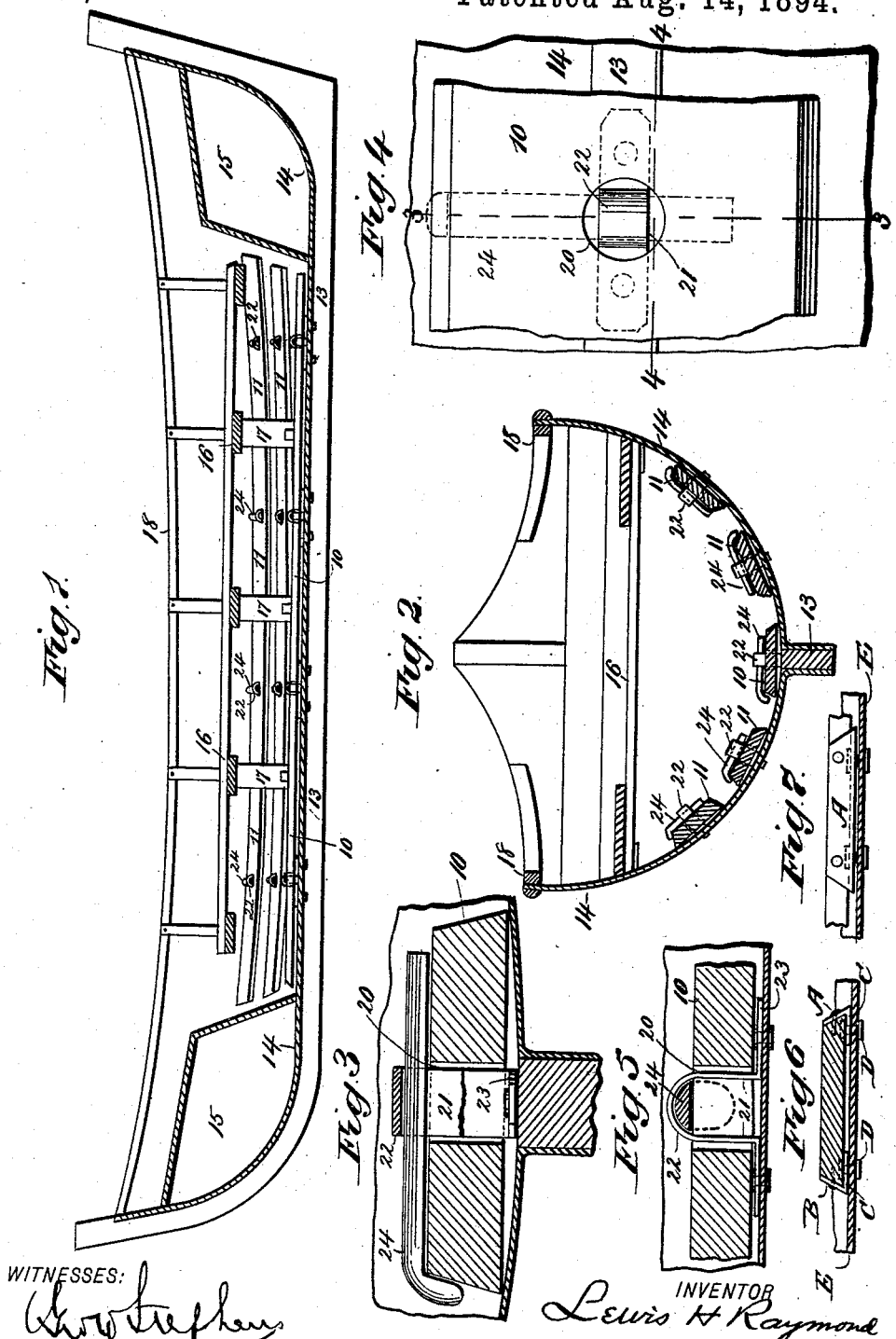

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REMOVABLE CENTER AND BILGE KEELSON FOR METALLIC LIFE-BOATS, &c.

SPECIFICATION forming part of Letters Patent No. 524,350, dated August 14, 1894.

Application filed November 17, 1893. Serial No. 491,283. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. RAYMOND, a citizen of the United States, and a resident of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Removable Center and Bilge Keelsons for Metallic Life-Boats and other Boats Constructed of Metal, of which the following is a specification.

My invention relates principally to improvements in the class of boats known as metallic life boats, and other boats constructed of metal.

The object of my invention is to furnish, a device, for removably fastening the keelson, to the keel, and the side or bilge keelsons to the skin of said metallic life boats, or other metal boats so that they may be quickly removed, to clean or paint the interior of the hull of the said metallic boats, or for any other purpose for which their removal may be deemed necessary, and that said keelsons may be as quickly replaced in their proper positions and securely fastened therein when the said objects are accomplished.

The invention consists in certain novel constructions and combinations of parts as will be hereinafter fully described and pointed out in the claims.

Referring to the drawings accompanying this specification, in which similarly numbered portions indicate corresponding parts in all the views, Figure 1 represents a vertical longitudinal section taken through a metallic boat provided with my invention on a line slightly to one side of the keel, showing the keelsons as they appear when fastened in place in the said boat, and provided with my novel method of attaching the same. Fig. 2 is a vertical cross section of a metallic boat, taken on a line about amidships, showing the keelson and the side or bilge keelsons, as they will appear in place in the boat and fastened therein with my improvements. Fig. 3 is a detail cross section taken through the keelson, showing my improved method of fastening the keelson to the keel of a metallic boat, the section being taken on line 3. 3 of Fig. 4. Fig. 4 is a detail plan view of a portion of the keelson, and hull of a metallic boat, showing one of my fastening clips in place, and the fastening pin removed, but its position indicated by dotted lines. Fig. 5 is a detail longitudinal section taken on the line 5 5 of Fig. 4, illustrating my keelson fastening. Fig. 6 is a detail cross section of the old method of fastening the keelsons in the metallic boats, and Fig. 7 is a detail longitudinal section through a portion of the skin of the metallic boat showing a side view of the old method of fastening, and a portion of a keelson.

As illustrated by Figs. 6 and 7 the keelson, and side or bilge keelsons were heretofore immovably fastened to the keel or skin, of metallic life boats especially, by angularly shaped clips A. These clips A were placed in pairs, on the opposite edges of the keelsons, at certain intervals, and made to conform to, and embrace the side edges of the keelsons as shown in Fig. 6, and also to extend underneath the keelsons a short distance toward each other. The upwardly extending angle B of said clips A were fastened by nails to the side edges of the keelsons, while the horizontal angle C of said clips A were riveted by through rivets D to the skin E of the metallic boat.

The rain water and dampness which collect in all boats, found secure lodgment beneath the keelsons, and the moisture being held in constant contact with the metallic skin, where it was covered and shielded by the keelsons, would soon rust and eventually destroy the metallic skin and render the boat leaky and worthless; as it was impossible to remove the keelsons and paint the interior of the hull beneath the said keelsons without a great expenditure of labor, and time, and substantial injury to the boat itself. In my improved keelson fastenings these objections are entirely removed as I will now proceed to describe.

Referring to Fig. 1 the numeral 10, represents the keelson, and 11, represents the side or bilge keelsons, 13 represents the keel, 14 the metallic skin or hull, 15 air compartments at either end, 16 the thwarts, 17 thwart supports and 18 the gunwales of a well known form of metallic life boat.

The keelsons I use in connection with my improved keelson fastening, are made from the ordinary planking now used, with edges slightly beveled downwardly as best represented in cross section in Fig. 3, and extending

any suitable length of the boat. At certain intervals the entire length of all the keelsons, and upon the central longitudinal line of said keelsons, I provide a number of holes or apertures 20, preferably circular in outline, so as to be quickly bored by an ordinary wood auger, and these apertures extend entirely through the keelsons, and are bored vertically through said keelsons, as shown in Figs. 3, 4 and 5. These apertures 20, are of such a diameter, as to admit of the loose insertion of the central and upwardly arched portion 22 of a metallic clip 21, as best shown in Fig. 5. The clip 21 is in the form of an inverted U the central and upwardly arched portion 22, having flanges or ears 23, formed integral with the arched portion, extending outwardly from the arched portion in different directions, and these ears are securely riveted to the keel as shown in Fig. 3 for detachably fastening the keelson to the keel, or the bilge keelson to the metallic skin of boat as shown in Fig. 5 as will be hereinafter more fully explained. The strip of metal forming the clip is preferably of the same width its entire length, as best shown in Fig. 4 partly in dotted lines. The central arched portions 22 of clips 21, must be of sufficient height to allow the said central portion of clip, to pass entirely through the aperture provided in the keelsons, for their reception, and project above the upper face of the keelson, through which they are inserted a sufficient distance to receive a pin 24, that is pushed into the arched portion 22 of clips 21 and above the upper face of the keelson to be fastened, said pin 24 having a thickness sufficient to snugly fit between the inner face of the arched portion of clip 21, and the upper face of keelson, and also to tightly press the keelson downwardly against the skin of the boat, when driven home. To insure this the lower face of the pin 24 is made flat, to lie snugly against the upper surface of the keelson, while the upper portion, is preferably curved to conform with the inner surface of the arch of clip 21, as shown. In order to provide a head for pin 24, at one end it is bent downwardly upon itself for a short distance, as shown best in Fig. 3, and the inner face of this head when the pin is driven through the clip 21, as far as it should go will abut against one of the side edges of the keelsons. This head is provided on the pin so that it will form a striking surface for the blow of a hammer, to drive the pin securely and tightly into its clip and wedge the keelsons beneath, tightly against the skin of the boat and also to prevent the pins working loose and being lost.

The operation is as follows: The clips 21 being fastened to the interior of the boat, take the keelson for instance, lay it along the keel in the bottom of the boat, so that its apertures 20, will register with and receive the arched portion of each of the successive clips, 21, press the keelson down firmly, enter the ends of the pins 24, from either side of the keelson into the arched portion 22 of clips 21, and drive the pins 24 home, until the heads of pins 24 strike the side edge of keelson. To remove the keelson, drive out the pins 24 from engagement with the arched portion of clips 21, lift out the keelsons, and you can thoroughly paint and clean the interior of the hull.

It is evident that the arched portion of clip will prevent the lateral or longitudinal displacement of the keelsons, while the pin 24 when inserted in the arch 22 of the clips 21 and confining the keelson below it, will prevent its vertical movement.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. Removable center and bilge keelsons for metallic life and other metal boats, provided with a series of apertures, clips fastened to the hulls of said boats, and entering said apertures in combination with pins adapted to removably lock the said clips and keelsons together substantially as herein described heretofore.

2. Removable center and bilge keelsons for metallic life and other metal boats, provided with a series of apertures, clips fastened to the boat having a looped portion extending through said apertures in the keelson, in combination with pins inserted in the looped portions of the clips, and above the keelson substantially as shown and described.

3. The combination with center and bilge keelsons for metallic life and other boats provided with apertures at intervals, clips fastened to the hull and being received in said apertures, of pins, adapted to lock said keelsons and clips removably together, said pins having heads formed integral with the bodies of the said pins as and for the purposes herein specified and heretofore set forth.

4. The combination of a clip for metallic life and other metal boats having an arched section and flanges for fastening the said clips to the hull of a vessel, of center and bilge keelsons provided with apertures adapted to receive the arched section of said clips, and locking pins engaging the arched sections of clips and the keelsons substantially as shown and described herein.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 23d day of September, 1893.

LEWIS H. RAYMOND.

Witnesses:
GEO. W. STEPHENS,
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