The Structure and Function of *Titanic's* 30 ft. Main Lifeboats

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Introduction

The purpose of this article is to describe the structure and function of *Titanic's* 30 ft. main lifeboats. These boats were the largest lifeboats carried aboard and had the greatest passenger carrying capacity. As such, the construction of these boats was to the highest standard of any of the lifeboats. Figure 1 is a post-disaster photo of *Titanic's* lifeboats in New York City.

Figure 1

Titanic's 30 ft. lifeboats (in foreground)

Classification

The British Board of Trade Marine Department set forth a classification system for lifeboats in the 1894 Merchant Shipping Act. This system of classification was based on the construction particulars of lifeboats. *Titanic's* 30 ft. main lifeboats were required to be under the "Section A" classification. The description of this classification follows:

Section (A) – A boat of this section shall be a life-boat, of whale-boat form, properly constructed of wood or metal, having for every 10 cubic feet of her capacity, at least 1 cubic foot of strong and serviceable enclosed air-tight compartments, so constructed that water cannot find its way into them. In the case of metal boats, an addition will have to be made to the cubic capacity of the air-tight compartments, so as to give them buoyancy equal to that of the wooden boat.

Drawings

As a companion to this article, drawings of *Titanic's* 30 ft. lifeboats were made. Figure 2 is a low-resolution image of these drawings. A link to the higher resolution original image follows.

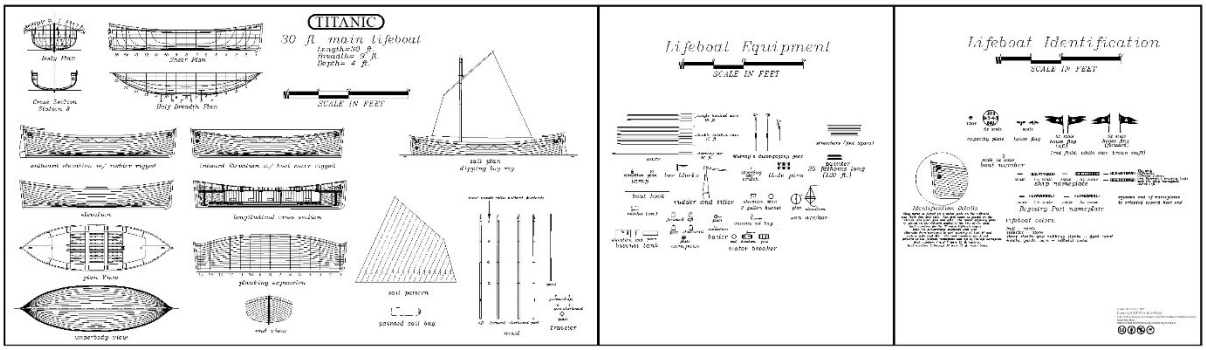

Figure 2

Image of *Titanic's* 30 ft. lifeboat drawings

[Link to higher resolution drawing]

Construction

The construction of the main lifeboats was of the finest materials. All the scantlings and methods of construction were closely overseen by Board of trade surveyors. The scantlings of *Titanic's* 30 ft. boats are show as follows from a Board of Trade document:

Keel – American Elm – 5"x 2-1/2" **Stem – English Oak – 5"x 2-1/2"**

Sternpost – English Oak – 5"x 2-1/2" **Frames – American Elm – 1-3/4" x 7/8" spaced 9"**

Keelson – Pitch Pine – 5"x 3-1/2" **Planking – Yellow Pine – 5/8"**

Top Strake – American Elm – 4-1/2" x 3/4" **Rubber – Pitch Pine – 1-1/2" x 1-1/2"**

Clamp – American Elm – 2" x 2-1/4" **Floors – Every Frame – 3"x 1-3/4"**

Thwarts – 4 in number, Pitch Pine – 8-1/2" x 1-3/4"

Plank fastenings all copper clenched on rooves.

Capacity

One of the most important aspects of the 30 ft. boats was the cubic foot capacity of the boat. Based on the tonnage of *Titanic* the Board of Trade required a certain total cubic foot capacity of all the lifeboats. The formula for calculating the capacity of the 30 ft. boat was:

(Length x Breadth x Depth) x .6

(30 ft. x 9 ft. x 4 ft.) x .6 = **648** cubic feet capacity of 30 ft. boat

Passenger capacity was by rule 10 cubic ft. per passenger which equals **64 passenger capacity**.

This passenger capacity was not a hard and fast rule for boat loading because it assumed 64 adults. Children and small adults would undoubtedly be loaded on board the boat so it was up to the officer in charge of loading the boat to determine when a safe capacity had been reached.

In addition to the passenger capacity, watertight metal buoyancy cases had to be incorporated. This was calculated by dividing the boat capacity by 10.

Figures 3, 4, & 5 illustrate the landmarks from which the measurements were taken.

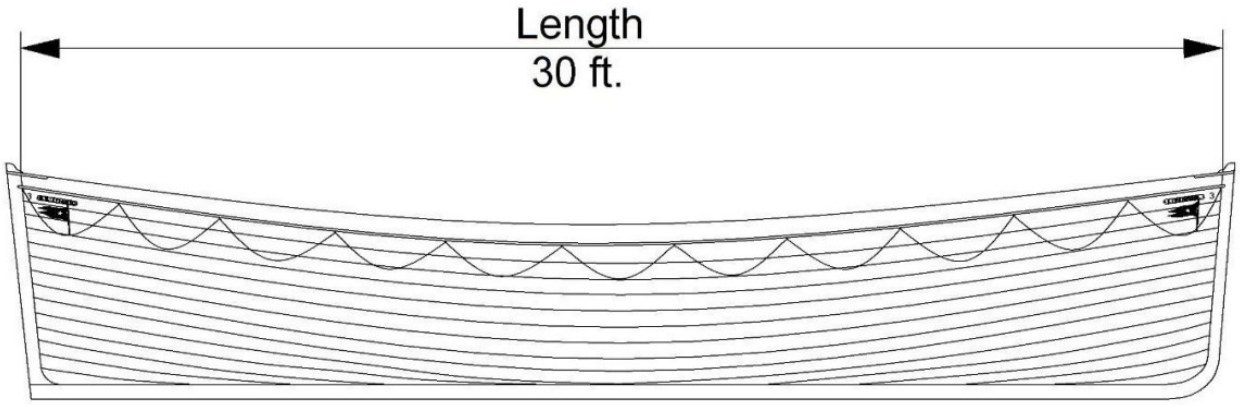

Figure 3

Length measurement of 30 ft. boat

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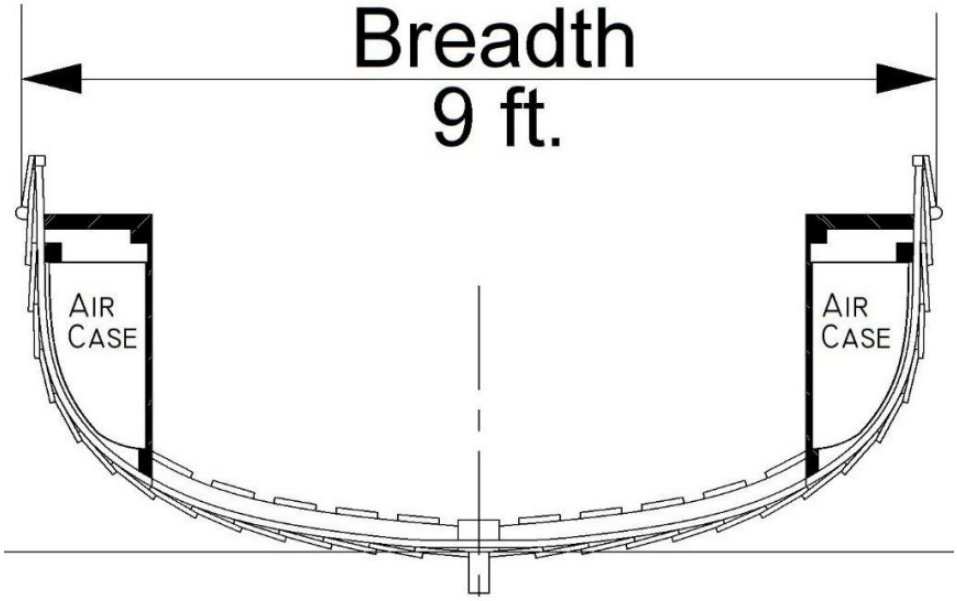

Figure 4

Breadth measurement of 30 ft. boat

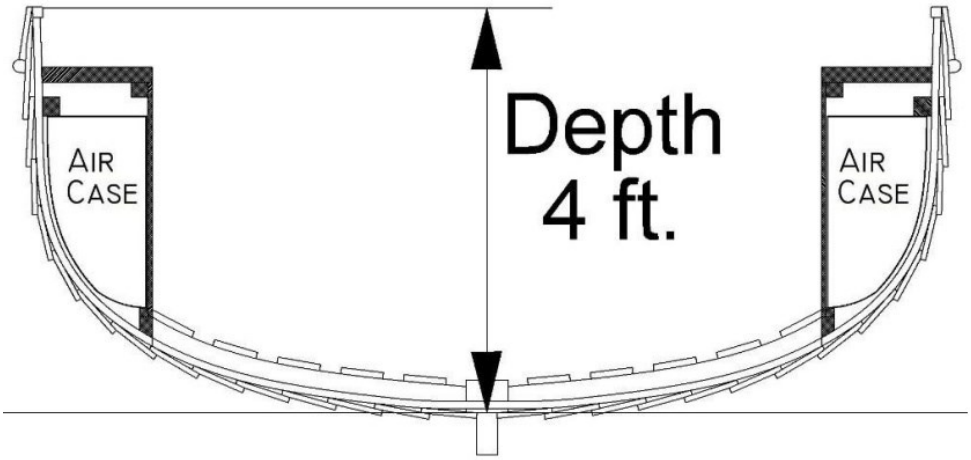

Figure 5

Depth measurement of 30 ft. boat

A more complete explanation of the determination of the lifeboat capacity aboard *Titanic* can be found here: Link to Titanic lifeboat capacity article

Equipment

The 30 ft. boats carried numerous items of equipment which are illustrated in the lifeboat drawings previously linked above.

Stowage

Titanic's fourteen 30 ft. lifeboats were stowed on the Boat Deck directly under Welin double acting boat davits. The boats sat atop inboard half boat chocks. They were made fast by inboard chain gripes and falls attached to the davit arms and the boat disengaging gear. Figure 6 shows an end view of one of the 30 ft. boats with the chocks and gripes shown in red.

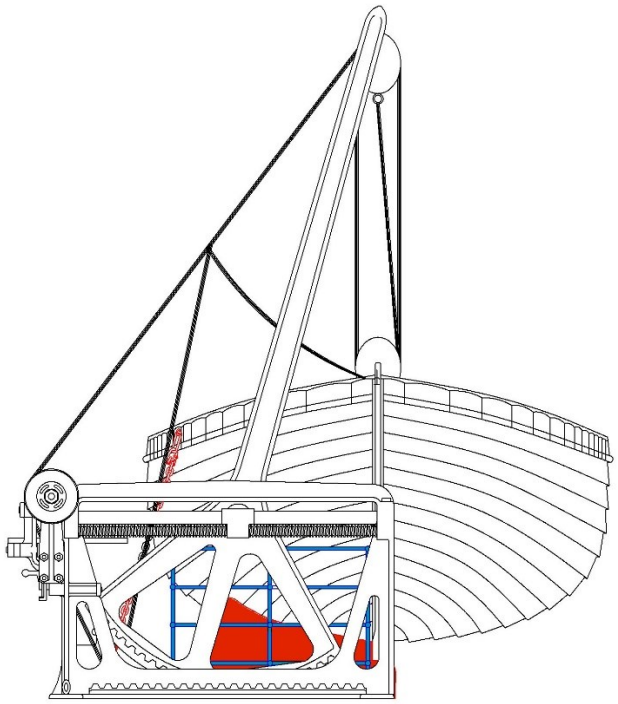

Figure 6

30 ft. boat stowed on inboard chocks and gripes (in red)

Figure 7 show a photo of *Titanic's* 30 ft. boats stowed on the Boat Deck.

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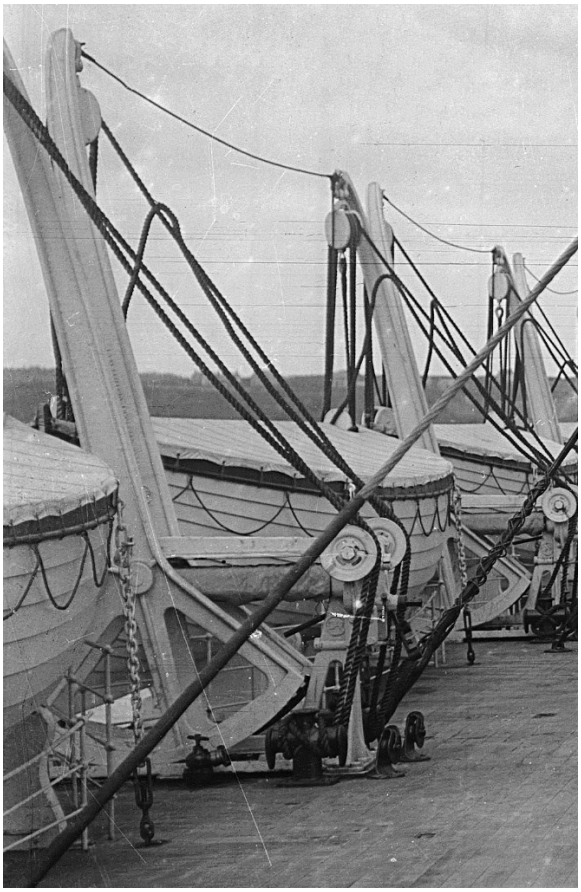

Figure 7

30 ft. boats stowed on Titanic's Boat Deck

The falls were attached to the boat by the boat's Murray's patent disengaging gear. A more complete description of this gear can be found here:

Link to Murray's Disengaging Gear article

Conclusion

This article has described the structure and function of *Titanic's* 30 ft. main lifeboats. In addition to the descriptions and photos in the text, links to several drawings and supporting articles have been provided for a more complete explanation.