

# The Discovery of an Opening in the Forward Outboard Boat Deck Bulwarks of the Olympic Class Ships

## Introduction

The purpose of this article is to describe the discovery of an opening in the port and starboard bulwarks on the boat deck of the Olympic class ships which were outboard of the davits serving the emergency cutters. Since this is primarily an observational discussion, it will rely primarily on photos and drawings. There will be references to the use of the Kelvin sounding machine but this article is not meant to be an exhaustive treatise on all of the procedures employed in taking soundings with the Kelvin machine. What will be described is a feature of the Olympic class ships that, to my knowledge, has never been described.

A special note of thanks goes to Ralph Currell. Without his collaboration, the results of this investigation would not have been possible.

## Initial Discovery

The results of this research started with what seemed like a fairly innocuous find. I was looking at a photo of wartime Olympic from late 1917 or 1918 shown in Fig. 1.

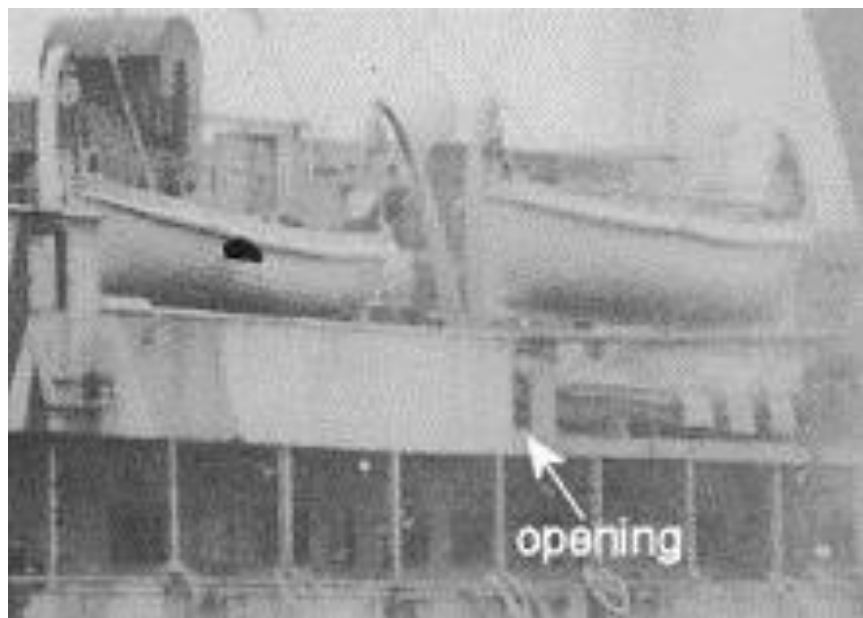


Figure 1

What I noticed was an opening in the bulwark indicated by an arrow in the photo. At first I thought maybe that the bulwark had just been shortened in length. It soon became clear that the bulwark continued aft of the opening. So what we are looking at is an opening in the bulwark where the original length of the bulwark remained unchanged.

### **Relation to Sounding**

The first question that is raised is what is the purpose of the opening? A major clue was provided by another wartime Olympic photo shown in Fig. 2.

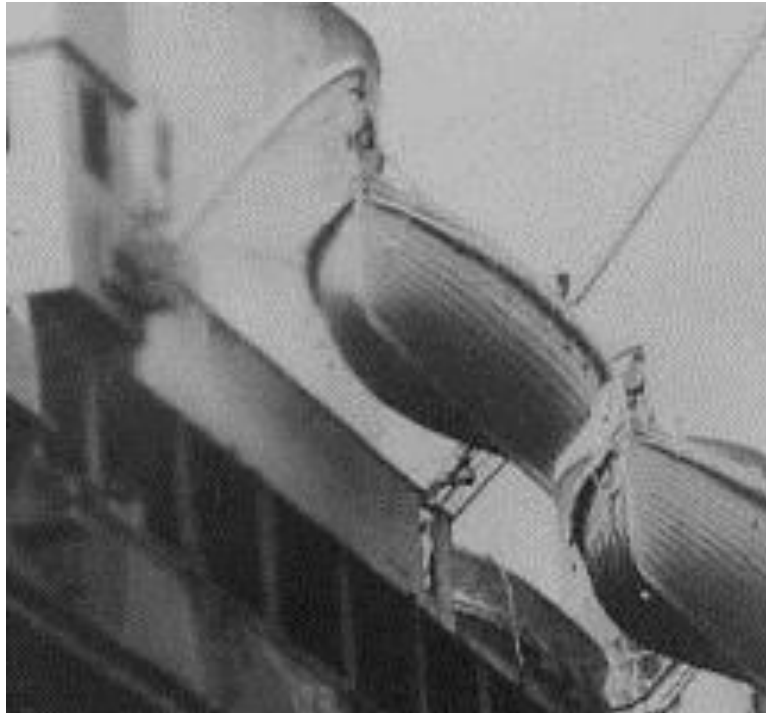


Figure 2

Here we see the sounding spar rigged directly above the opening. An initial theory was that the opening was somehow related to the sounding process. It was quickly discovered by looking at photos and plans that this opening seemed to be on an athwartship line to the Kelvin sounding machine.

### **Anomaly or Permanent Feature?**

The next question was whether this was a feature of wartime Olympic only or did its origin go back further? Wartime Olympic had many modifications so it would not have been surprising if this opening was just confined to this period. If this opening was related to the sounding procedures then one would expect to find it on Olympic from her earliest days. This point proved to be one of the more difficult to prove. It appeared that except during times near the actual process of sounding that this opening might be covered by a removable panel. In almost

every photo of early Olympic this panel was in place so no opening was visible. Finally Ralph discovered a photo of Olympic from her earliest days with the panel removed. This is not a high resolution photo but it is possible to see the opening in Fig. 3.



Figure 3

### **Olympic Only?**

Since we now had evidence of the presence of the bulwark opening going back to Olympic's earliest days, the next question was did it apply other Olympic class ships? We turned next to Titanic to look for proof. We found it in the Titanic fitting out photo seen in Fig. 4

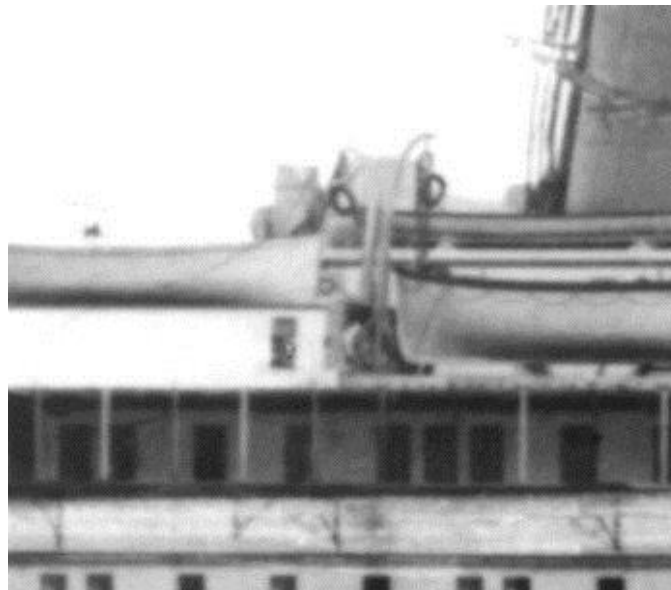


Figure 4

The panel is removed and the opening can clearly be seen. In Titanic's sea trials photo seen in Fig. 5 it appears that the panel may be in place but does not have a fresh coat of paint like the surrounding bulwark.

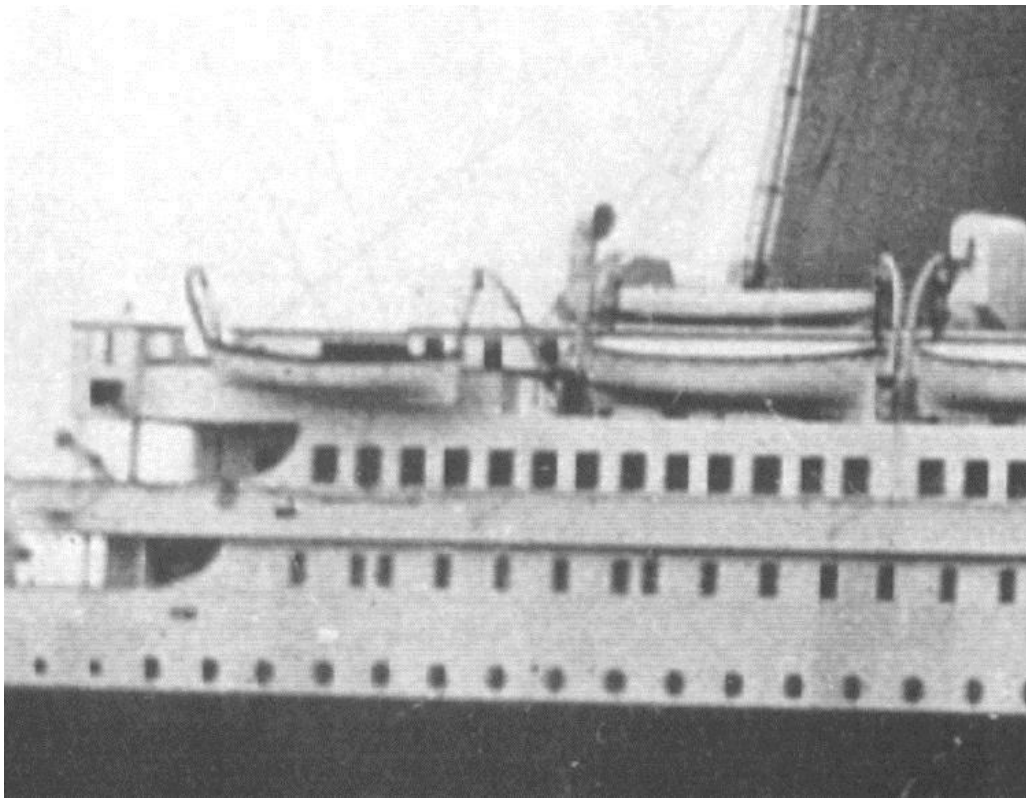


Figure 5

We then turned to Britannic. We were not able to find a photo of this opening. However it is my opinion that the relation of this opening to sounding procedures would mean that Britannic would have this opening. In Fig. 6 we see Britannic's sounding spar in the same location as both Olympic and Titanic's. Even though the boat deck structures were quite different, the sounding spar was positioned in the same place on all the ships of the Olympic Class.



Figure 6

## Placement and Dimensions of Opening

Measurement of actual photos was used to determine the dimensions of the bulwark opening. As nearly as could be determined, the opening was approximately 36 in. high x 20 in. wide. The aft edge of the opening was approximately 22 in. forward of the aft end of the bulwark. The top of the opening was approximately 7-1/2 in. down from the top of the teak rail atop the 4 ft. high bulwark.

In order to take into account the procedures and set-up of the Kelvin sounding machine, [The 1907 Seaman's Manual-Sounding Technique](#) was consulted. From this reference we learn the sounding machine was to be bolted to the deck in a fixed location. We also find that the sounding line was to be unrestricted from the sounding machine to the block at the outboard end of the sounding spar. From most photos where the sounding spar is rigged, it appears to be lifted to an approximately 45 degree angle. From the manual we find that this was only a temporary position. For taking soundings the spar was to be parallel to the surface of the water. It was also to be at a right angle to the fore and aft centerline of the ship. The only known photo of the sounding spar in its operational position is on Olympic shown in Fig. 7.

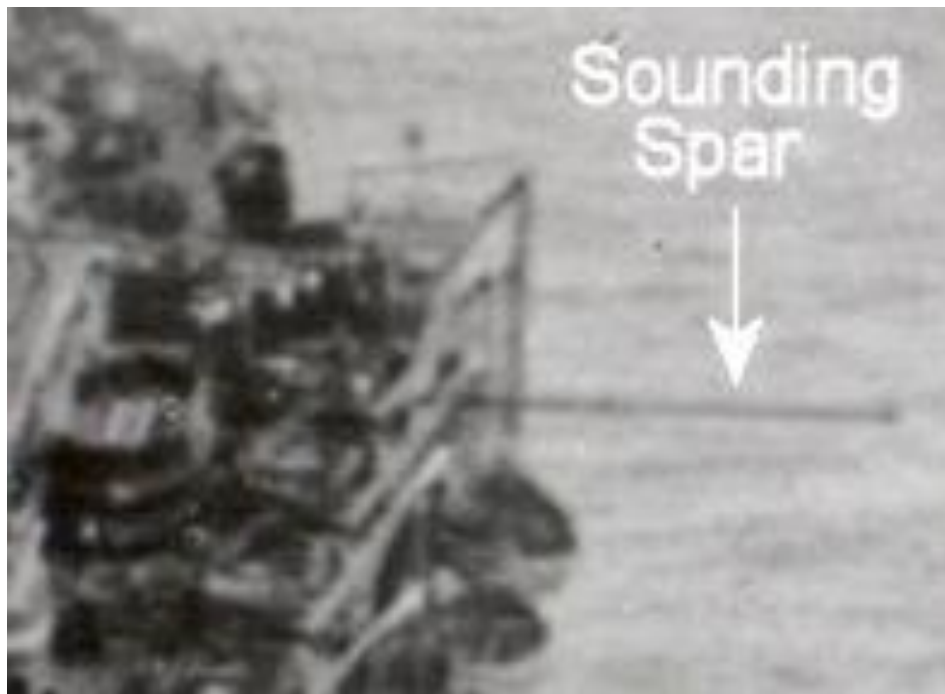


Figure 7

Since the sounding line was to be unrestricted from the sounding machine to the block at the end of the sounding spar, we can now see why the bulwark opening was necessary. The sounding line came off the reel of the sounding machine at a height of roughly 36 in. The bulwark outboard of it was 48 in. high. Since blocks could not be used to redirect the sounding line over the bulwark, an opening had to be made to allow unrestricted travel of the sounding

line to the block at the end of the sounding spar. From the location of the opening and the sounding machine in photos, it was possible to locate the permanent position of the sounding machine fairly closely.

The inboard end of the sounding spar had a gooseneck fitting which fit into a socket on the bulwark above the opening and toward the forward edge. The sounding spar was held in position by three lines: the fore guy, the after guy, and the topping lift. No photos of these lines in their operational positions were available so we speculated that the fore and after guys were belayed to boat bitts with about a 45 degree angle to the sounding spar. Per the manual, the topping lift was to have as great an angle possible to the sounding spar. This was accomplished by having the topping lift utilize one of the painter's line blocks at the top of the first funnel.

After analysis of plans and photos of Olympic and Titanic, it was possible to make drawings of the set-up of the sounding machine, associated equipment, and the bulwark opening. Fig. 8 shows a plan view of the area. Fig. 9 is a cropped close-up of Fig. 8.

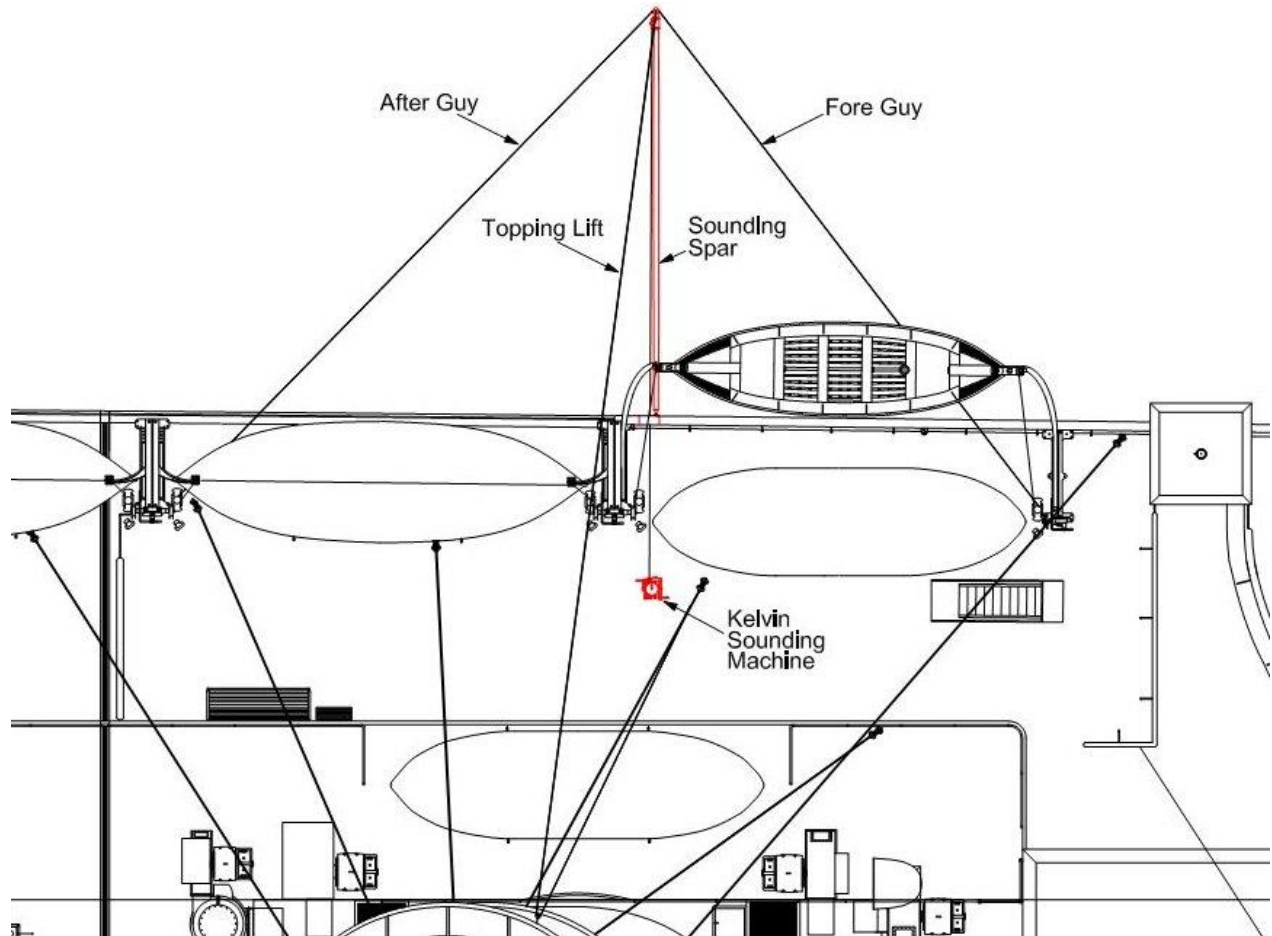


Figure 8

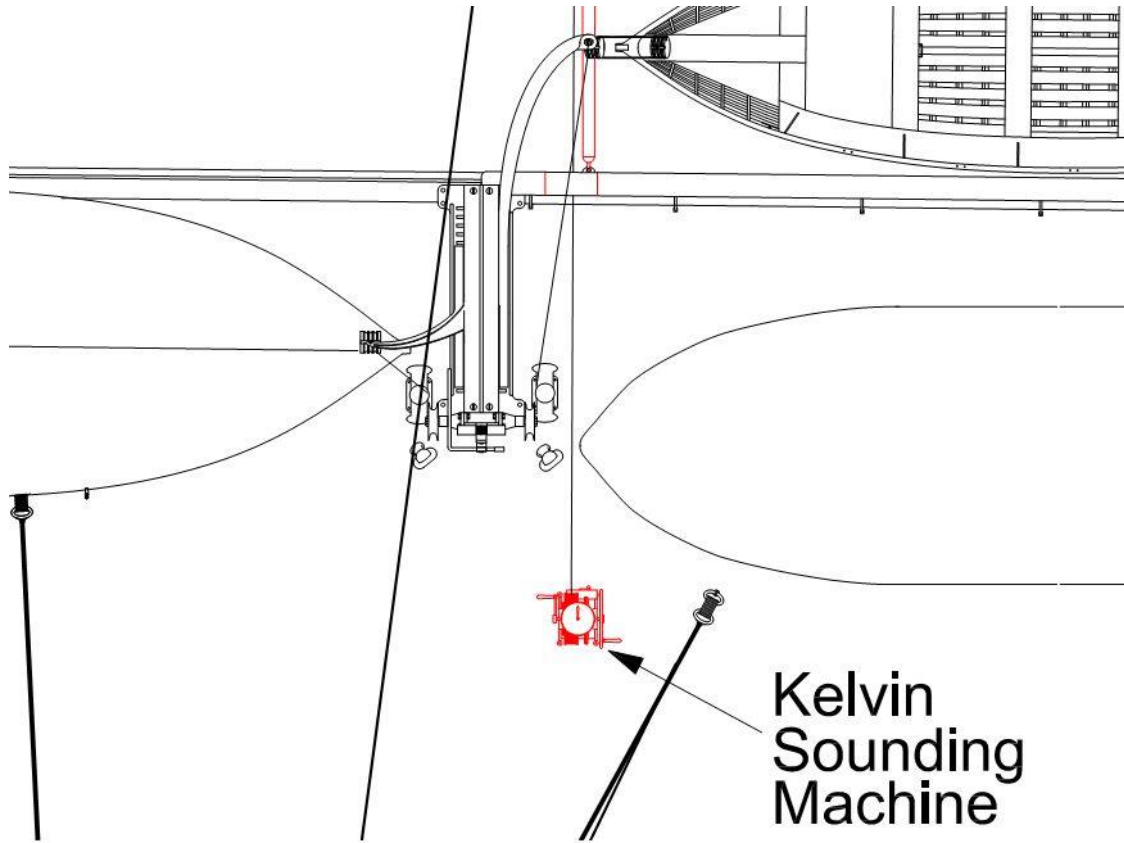


Figure 9

Fig. 10 is an elevation taken from aft looking forward. Fig. 11 is a cropped close-up of Fig. 10.

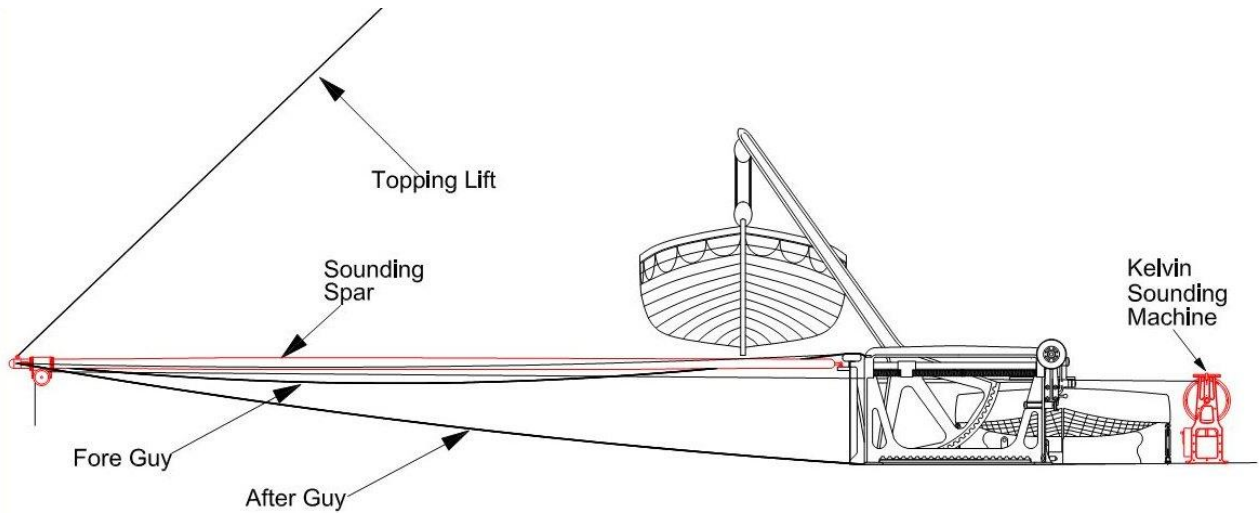


Figure 10

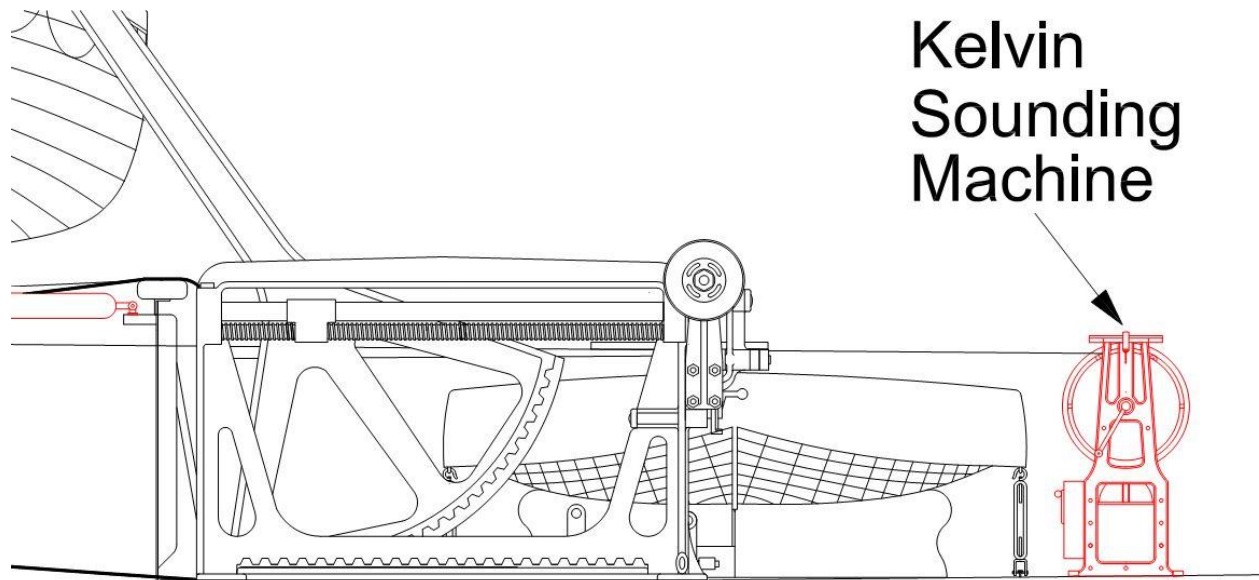


Figure 11

Fig. 12 is an inboard elevation of the area looking outboard. Fig. 13 is a cropped close-up of Fig. 12.

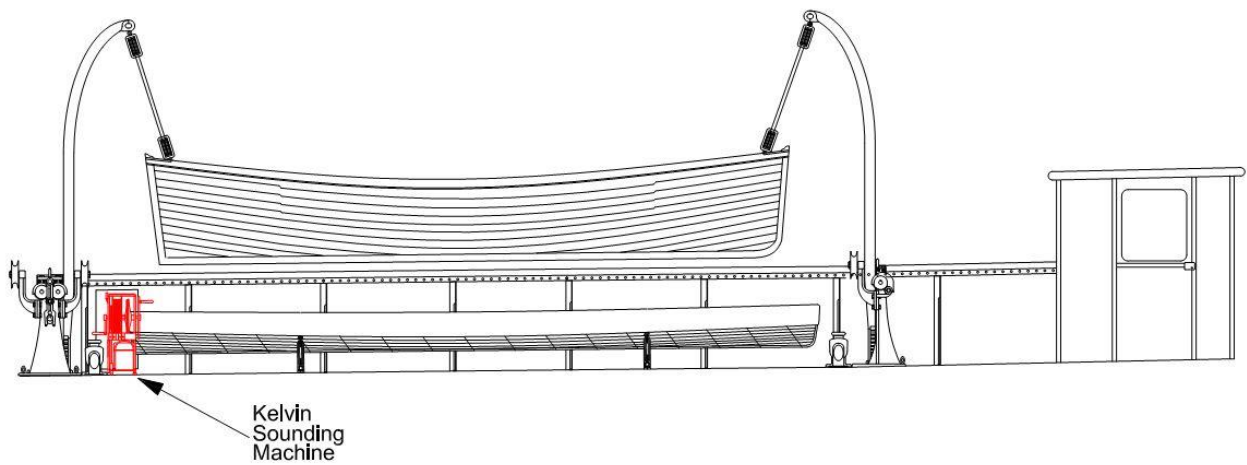


Figure 12



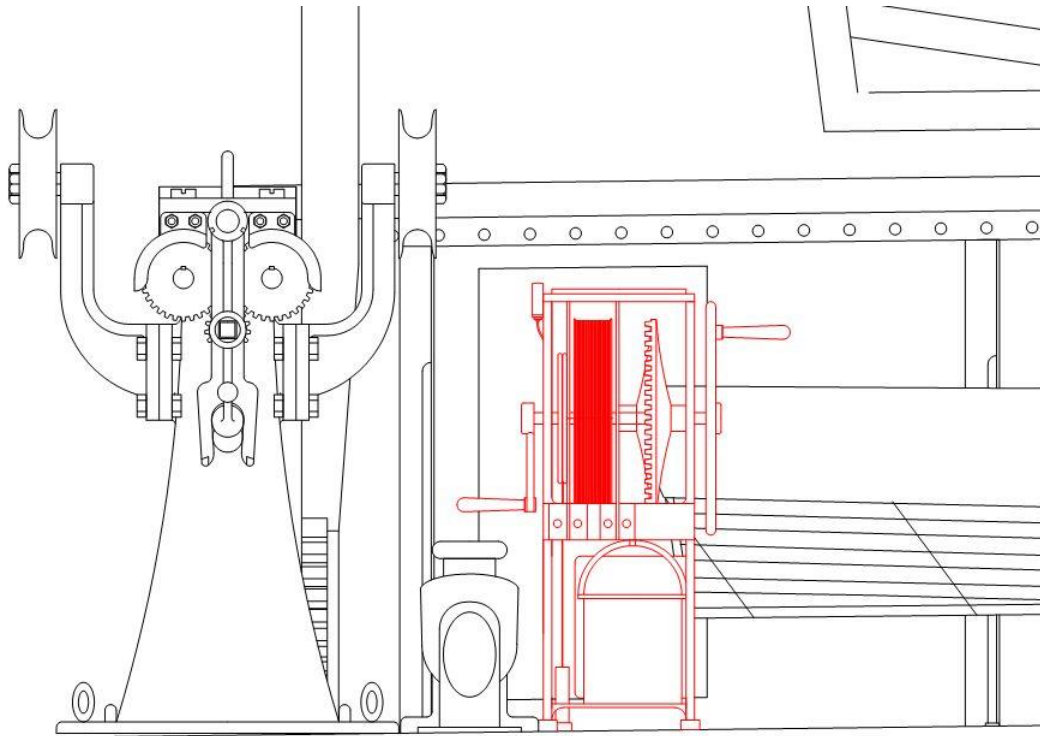


Figure 13

Fig. 14 is an outboard elevation of the area. Fig. 15 is a cropped close-up of Fig. 14.

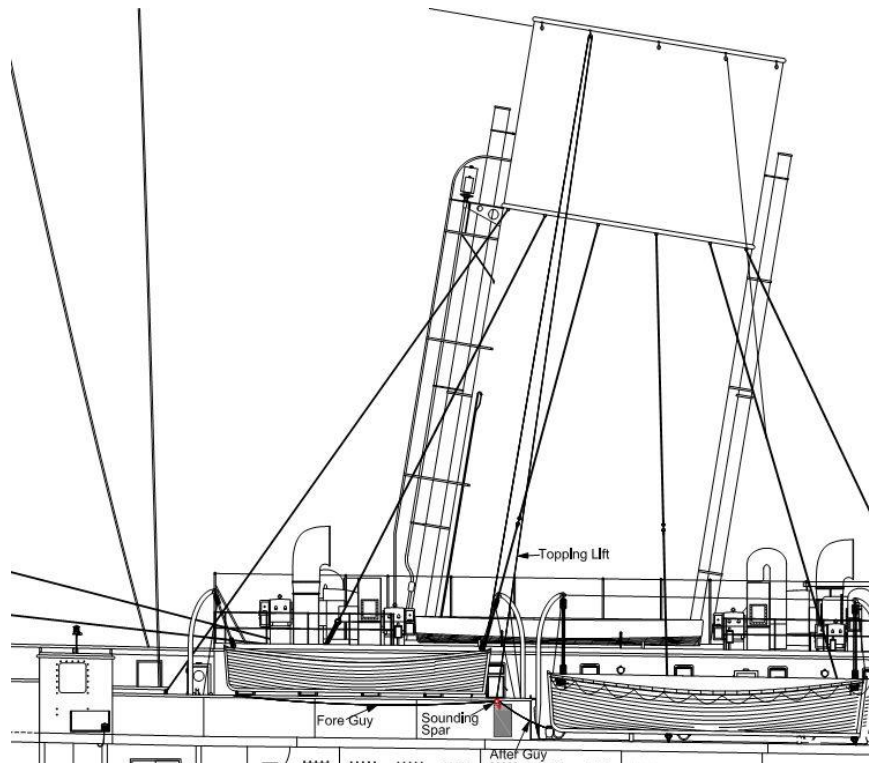


Figure 14

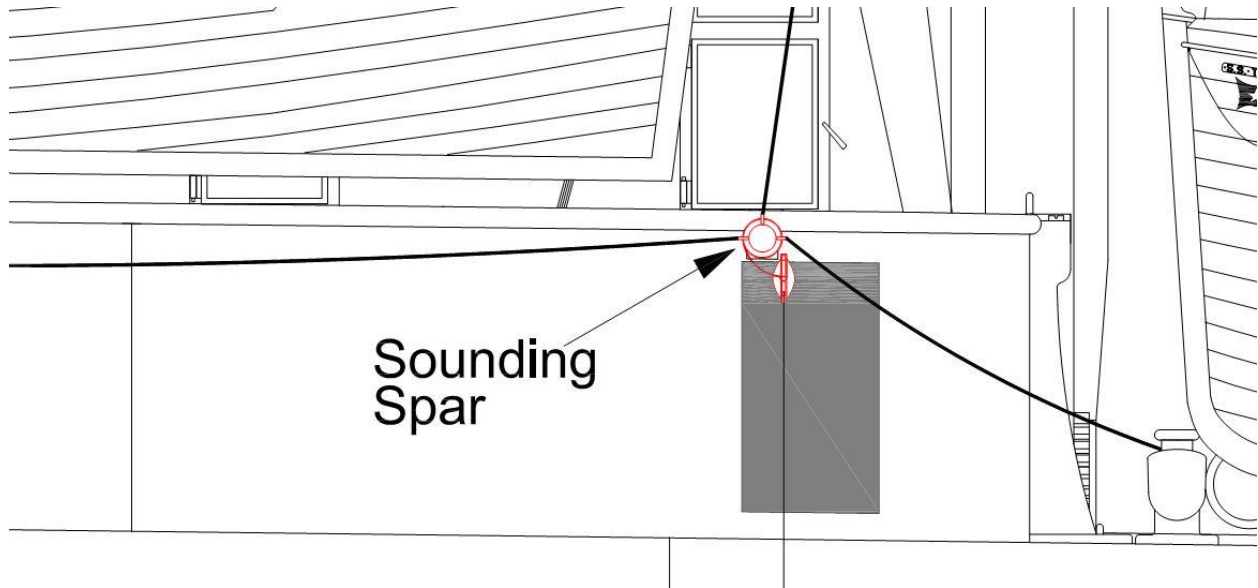


Figure 15

## Supplemental

In the process of refining the location of the opening and the associated equipment of the sounding machine and sounding spar, several additional discoveries were made. The most important was that the fore and aft positions of the Welin davits were not what was originally thought. This is discussed thoroughly in the [Davit Positions Article](#).

Second, since the Seaman's Manual specified that the sounding machine was to be bolted to the deck, the notion that the protective cabinet for the sounding machine was like a conventional cabinet had to be discarded. This cabinet was made to move into position around the fixed sounding machine. When the sounding machine was to be used, the cabinet was moved away from the fixed sounding machine and set somewhere where it would not interfere with the sounding operations.

The third "discovery" was actually made by Ken Marschall since it appeared in his book from the early 1990's: **Titanic: An Illustrated History**. This is the discovery that that unlike bulwarks in other parts of the ship, the bulwark near the emergency cutters had stays on every stiffener. No early photo of Olympic or Titanic could be found to confirm this. The photo in Fig. 16 shows two adjacent stiffeners of this bulwark which were still standing during early expeditions to the Titanic wreck. Both of these adjacent stiffeners have stays. On the boat deck we would have expected to see a stay on only one of the adjacent stiffeners.

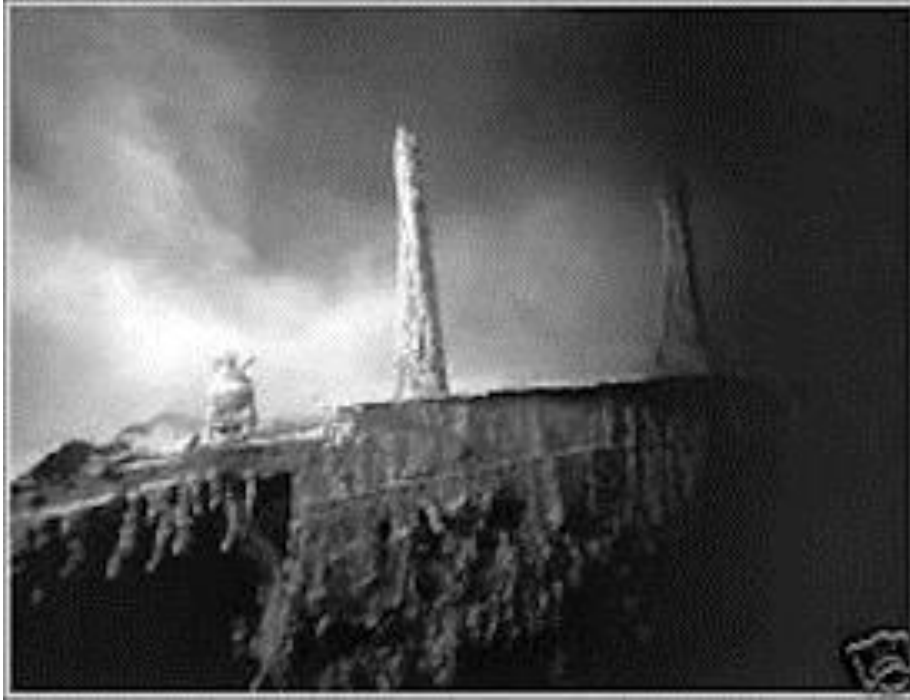


Figure 16

### **Summary**

This article was written to demonstrate to demonstrate the new discovery of a feature of the Olympic class ships. The discovery was that there was an opening in the outboard boat deck bulwark near the emergency cutters. This opening was to allow the operation of the Kelvin sounding machine by providing the unrestricted travel of the sounding line from the sounding machine to the block on the outboard end of the sounding spar. When there were no sounding operations being performed, the opening was covered by a matching panel and secured on the inboard side.