

# New Evidence Which Explains the Functions of Titanic's Docking Signal Systems

by Bob Read

## Introduction

One of the enduring mysteries of Titanic and her sister ship Olympic has been the purpose and procedures for use of the docking flags on the docking bridge and the docking lamps on the mainmast. We have been able to identify the structure and locations of these pieces of equipment but when it came to identifying their precise purpose and operational function, all we have had is educated speculation. All of that changed recently when researcher Ralph Currell discovered a reference which finally explained this equipment. In this article I will present the salient portion of this reference. Beyond that, I will show photographic evidence of the signaling equipment. Ralph Currell and I have bounced many ideas off each other regarding the structure and function of this equipment. In large measure Ralph and I are in agreement on the details. This article is entirely my creation. I have done this not to exclude Ralph. Rather I intend to speculate in some areas about which Ralph may not necessarily agree. Therefore I will let Ralph speak for himself with regard to these matters.

## The Signaling Equipment

During docking procedures, a ship the size of Titanic required close communication between the navigating bridge in the forward part of the ship and the docking bridge near the aft part of the ship. By the time Titanic was built, the primary means of this communication was by marine telegraph and telephone. A further redundancy of this communication was by means of signal flags on the docking bridge and docking lamps on the mainmast. Even though these two signaling methods were not primary, they were still used along with the telegraph and telephone.

Figure 1 shows the location of the telephone and docking telegraph on Titanic's docking bridge. Figure 2 shows the starboard dial face of the docking telegraph. There were additional signals which could be transmitted by the docking telegraph which could not be signaled by the simple docking flag system or the docking lamp system. Figure 3 shows docking flags deployed aboard Titanic. Also visible in this photo are the docking lamps on the mainmast. We know that the lamps on the mainmast were for docking purposes because they are indicated on the Titanic Rigging Plan shown in Figure 4. Figure 5 shows a docking bridge flagstaff on Titanic which is stowed on the docking bridge. Figure 6 shows a higher resolution photo of the docking lamps of Olympic which were identical to those of Titanic.

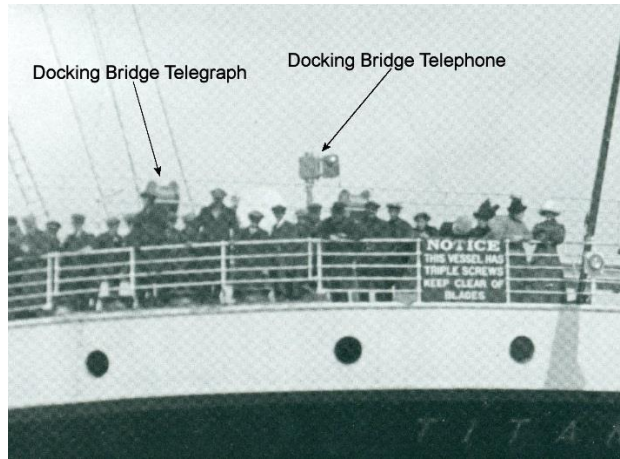


Figure 1

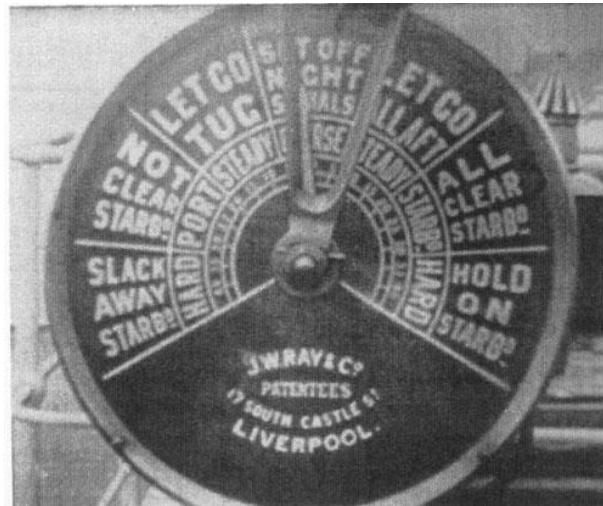


Figure 2

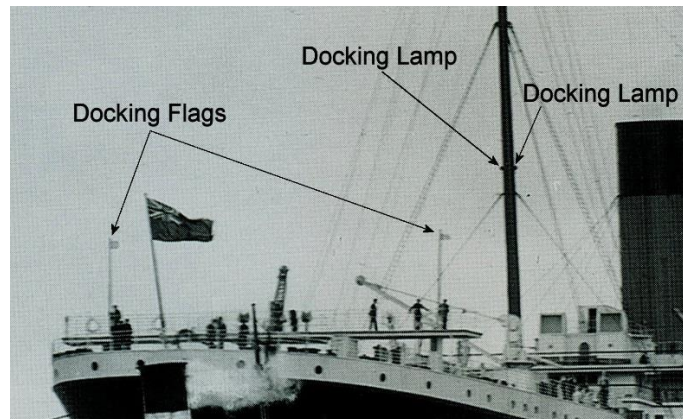


Figure 3

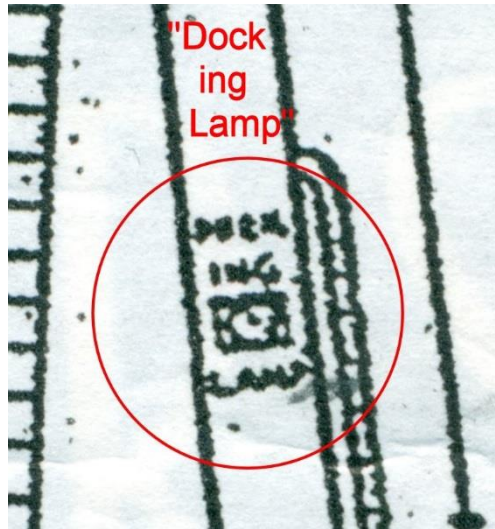


Figure 4

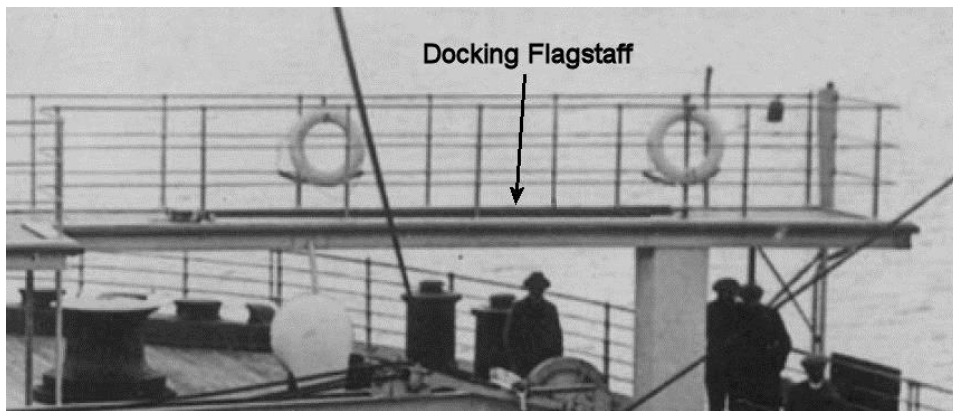


Figure 5

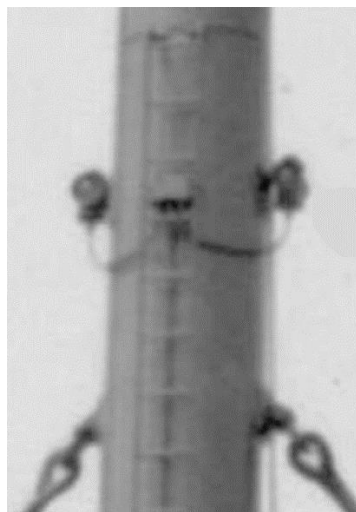


Figure 6

## The Reference Explaining Function

Until recently all we had was a general notion of the function of the docking flags and docking lamps. What follows is the reference which was discovered by Ralph Currell.

***“At the stern stands the second officer, his hand on a telegraph instrument, if the vessel happens to be up to date, in close touch with the bridge. If the ship is not ultra-modern he carries a red flag and a white one. His job is to see that the propellers are clear, that no lines from tugboats or anything else are in position to foul his “wheels,” so that the ship can use her own power to go ahead or astern as the occasion demands. If everything is all right he displays his white flag to the watchers on the bridge, if the reverse the red flag. If the ship is docking at night lanterns take the place of flags.***

***On the big modern passenger flyers this work is all done by telegraph and telephone.”***

“Docking of an Ocean Liner at Boston”, Boston Daily Globe, May 1, 1910

## Interpretation of Reference

From the preceding reference, the function of the docking flags and the docking lamps seems clear. The purpose of both the docking flags and the docking lamps was to signal the bridge when there might be any danger in applying power to the propellers. The primary danger was from tugboat lines which could foul the propellers. When a danger which could foul a propeller was evident, personnel on the docking bridge would raise red flags which could be seen from the navigating bridge and which would warn them to stop engines. When there was no evident danger, the personnel on the docking bridge would raise white flags which would signal to the navigating bridge that all was clear and that there was no impediment to applying power to the propellers.

The docking lamps served the same purpose as the docking flags but they were used at night while the docking flags were used during the day. There are a few aspects of the procedures and functions of the docking lamps which are speculative at this point. After analyzing the sight lines on a plan view of Titanic, I believe that only the docking lamp on the same side as either bridge wing could be seen there. For the system to function as the flags, each lamp would have to be able to display either red light or white light. It is my belief that either there were red and white bulbs in the docking lamp or there were two white bulbs with one unfiltered and one behind a red filter. I also believe that the means of controlling these lamps was by means of a pair of switches mounted on a board on the docking bridge. Figure 7 shows this board on Olympic and these two switches mounted to the aft face. I believe that the port switch controlled the port docking lamp and the starboard switch controlled the starboard docking lamp. I believe that each switch had three positions, namely: 1. Red on and white off, 2. White on and red off, 3. All bulbs off. The docking lamp shone fore and aft so that not only would it signal the navigating bridge but the signal could be confirmed on the docking bridge.



Figure 7

## Sight Lines

The lines of sight from the docking flags to the navigating bridge and from the docking lamps to the navigating bridge are slightly different. This difference can be seen in Figure 8.

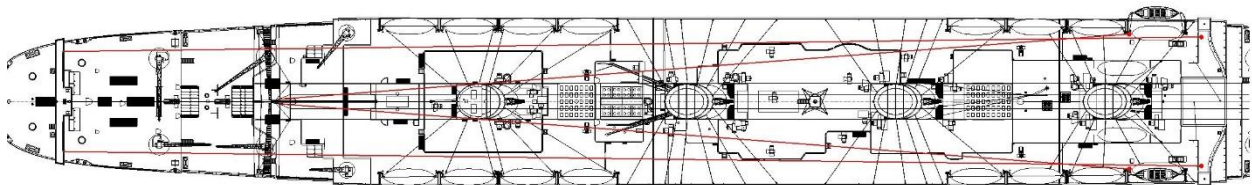


Figure 8

The red lines on show the lines of sight. The line of sight from the docking bridge flag to the navigating bridge is slightly inboard of the wing cab. The lowest and most unobstructed line of sight was down the Boat Deck between the deckhouses and the lifeboats. The distance of this line of sight was roughly 638 ft.

The line of sight from the docking lamp to the navigating bridge area was somewhat different. The docking lamps were only used at night. A factor affecting the line of sight was the fact that when docking, the emergency cutters were swung inboard which would obstruct a line of sight to the wing cab. To overcome this, the nearest line of sight would be near the davit frame between the first and second lifeboats aft of the bridge wing. A lookout posted there could easily relay signals to the officer on the bridge. This sight line was roughly 500 ft. Since only one docking lamp could be seen by someone posted on either side of the navigating bridge, two lookouts would have to be posted to monitor these signals during night docking.

## Associated Issues

During the years before the discovery of the function of the docking lamps, a very prevalent line of thought was that the docking lamps were used to illuminate the aft cargo hatches during night cargo loading. The problem is that the docking lamps were relatively low power lights. Figure 9 show a photo taken aboard Olympic showing the "Excello" arc lamp which was used for night cargo operations or to illuminate other tasks.

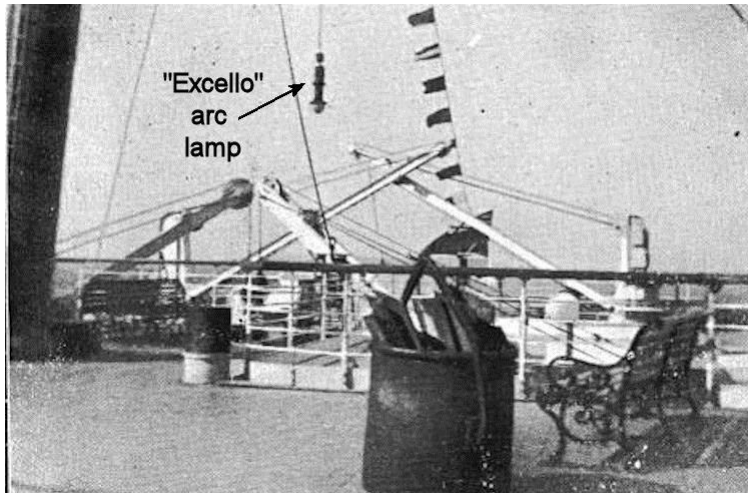


Figure 9

A second issue was raised by Ralph Currell. He speculated that Olympic's original crew stairway covers shown in Figure 10 were possibly cut down by removing the upper portion as shown in Figure 11 in order to improve visibility from the bridge wing to the docking flags.



Figure 10

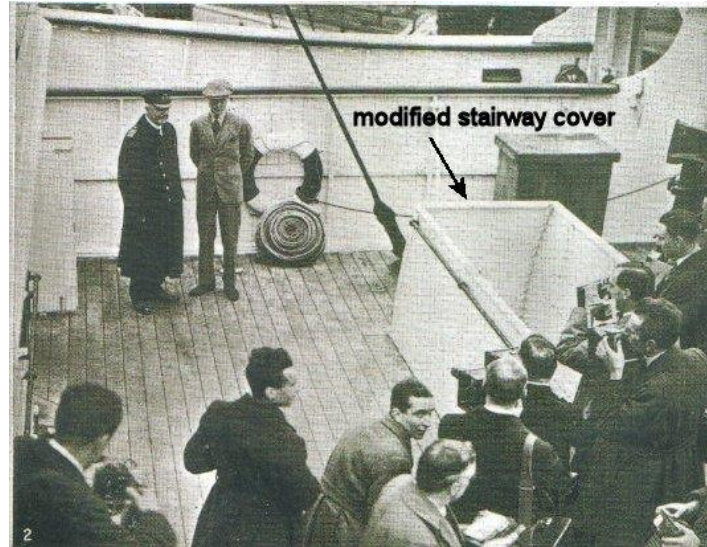


Figure 11

I checked the line of sight on an elevation plan of Titanic and the height of the original stairway cover indeed could have been an issue in achieving an unobstructed view of the docking flags from the navigating bridge. The stairway cover didn't completely block the view of the flags but with the top of the cover removed the view would have been unobstructed. Titanic had its stairway covers modified during construction. The reason for the modification of the stairway cover may be speculative but it is the only explanation I have ever seen that has solid reasoning behind it.

## Conclusion

There have always been puzzles about the function of various structures aboard Titanic. It is always gratifying when a researcher of the caliber of Ralph Currell finds the key piece in solving one of these puzzles. As I stated earlier, Ralph may not believe that there is sufficient evidence to support every aspect of my analysis in this article. That is why I am putting my name alone on this article. However, without Ralph's discovery of the crucial reference, almost none of this analysis would have been possible. Rather than wait for every loose end to be tied up, I wanted to record my observations on this discovery while they were still fresh.