

# The External Appearance of *Titanic's* Expansion Joints

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## Introduction

This article will describe the external appearance of *Titanic's* expansion joints. The external expansion joints had components on deckhouses, decks, bulwarks and external superstructure plating. This article is primarily written for the benefit of the modeler. Therefore, no attempt will be made to discuss the many internal aspects of the expansion joints.

## Documentary Source

The primary documentary source for this article is a Harland and Wolff plan which shows how different locations of the expansion joints were configured. Figure 1 shows this original plan.

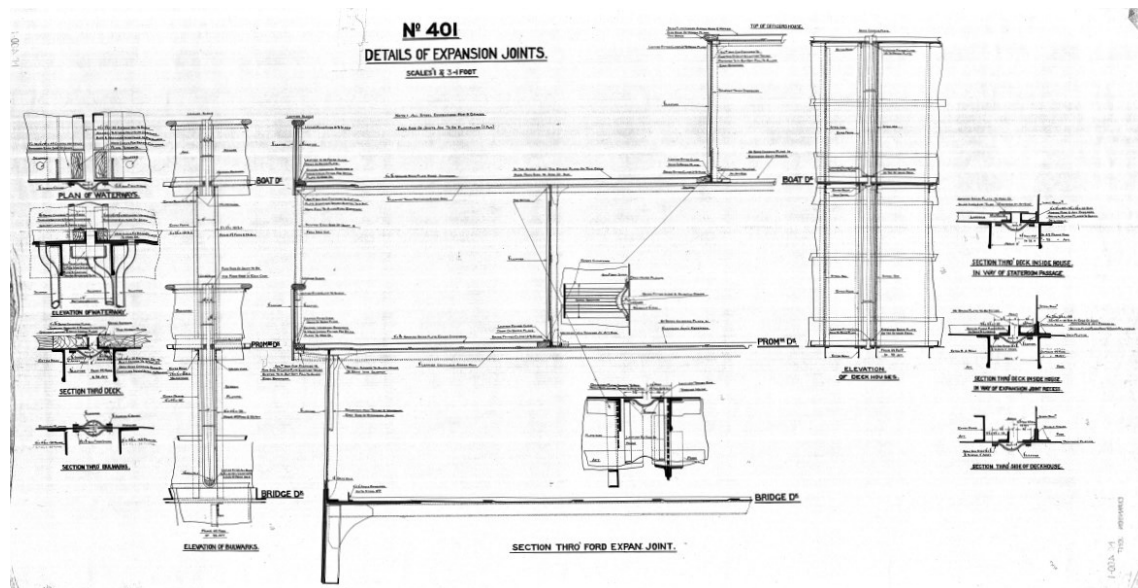


Figure 1

## H&W plan of *Titanic's* expansion joints

This plan is also shown in greater detail in the reference *Titanic the Ship Magnificent*, Vol. I, p. 201, Fig. 10-9. The H&W plan of the expansion joints was drawn early in the development of both *Olympic* and *Titanic*. During *Olympic's* fitting-out process, some details of how certain

expansion joints were treated were changed from what is shown on the expansion joint plan. These changes will be discussed in the areas where they occur.

## Deck House Roof

The only area where an expansion joint crosses a boat deck deckhouse is where the forward expansion joint crosses the officers' quarters deckhouse. The roof expansion joint was finished by teak margin planks on either side of the expansion joint leaving a two-inch space between the margin planks. Externally, these margin planks have an 8-inch wide, .30-inch-thick grooved brass cover over the joint. The brass cover is secured to the margin plank on the forward side of the joint only by brass screws. The edges of the brass cover are beveled. There is an aspect that is different than how the expansion joint is treated across the boat deck. The margin planks on either side of the expansion joint of the officers' quarters roof appears to be one inch thicker than the surrounding yellow pine planking which abuts the margin planks. So, the expansion joint area stands above the deck planking. This arrangement can be seen on the officers' quarters roof of *Olympic* in a 1912 photo of *Olympic* shown in Figure 2.

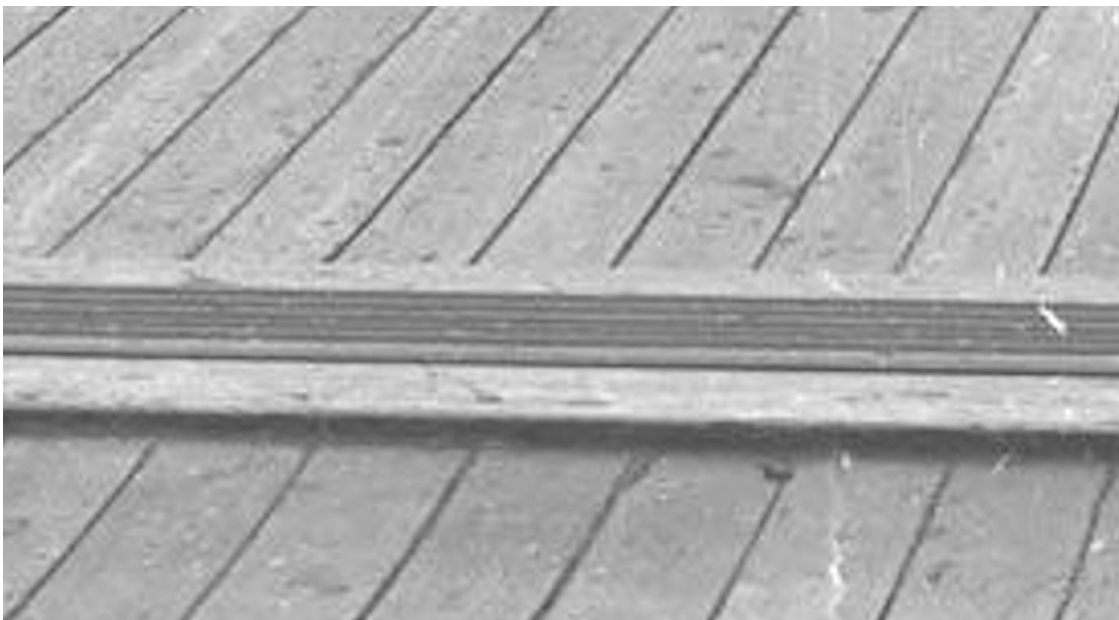


Figure 2

Expansion joint on officers' quarters roof of *Olympic* in 1912

Figure 2 is a plan view drawing of *Titanic's* expansion joint on the officers' quarters roof.

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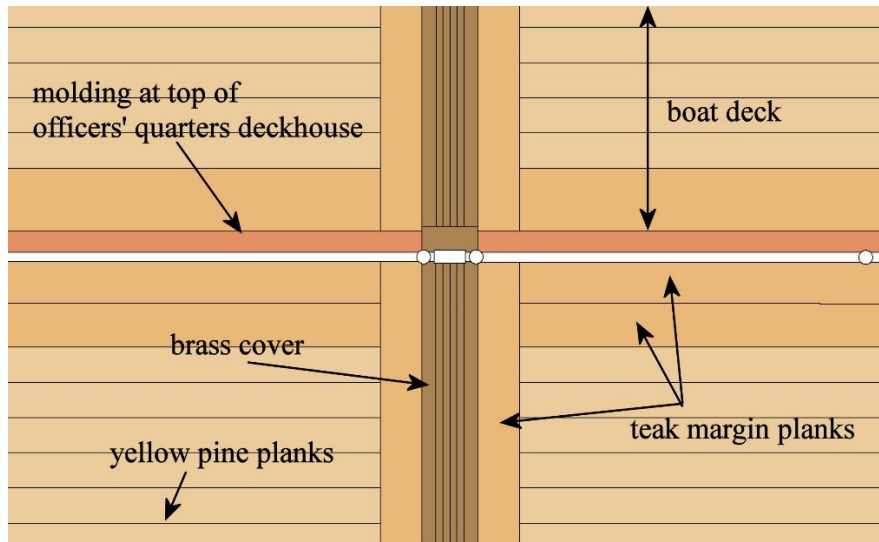


Figure 3

Drawing of expansion joint on top of *Titanic's* officers' quarters deckhouse

### Deckhouse Bulkheads

The vertical bulkhead surfaces of the officers' quarters deckhouse expansion joints were primarily covered by oiled leather which was 3/8 inch thick. The leather was fastened on both sides of the expansion joint by 1-1/4 x 3/8-inch galvanized iron strips secured by 5/16-inch screws spaced 4 inches apart. The molding at the top of the deckhouse was covered by a brass cover. The treatment of the vertical deckhouse bulkhead of the officers' quarters can be seen in Figure 4 showing maiden voyage Olympic.

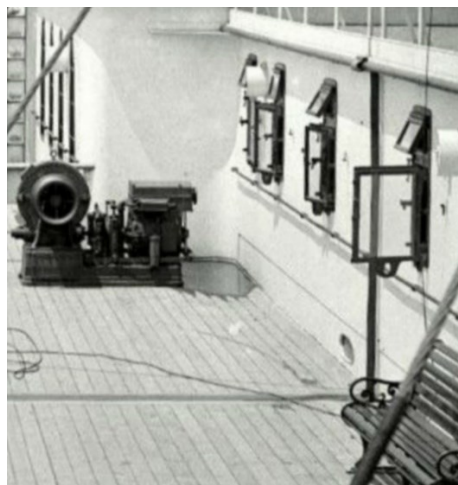


Figure 4

Vertical expansion joint on side of officers' quarters

Figure 5 is a drawing showing the expansion joint treatment on the vertical surface of the officers' quarters bulkhead.

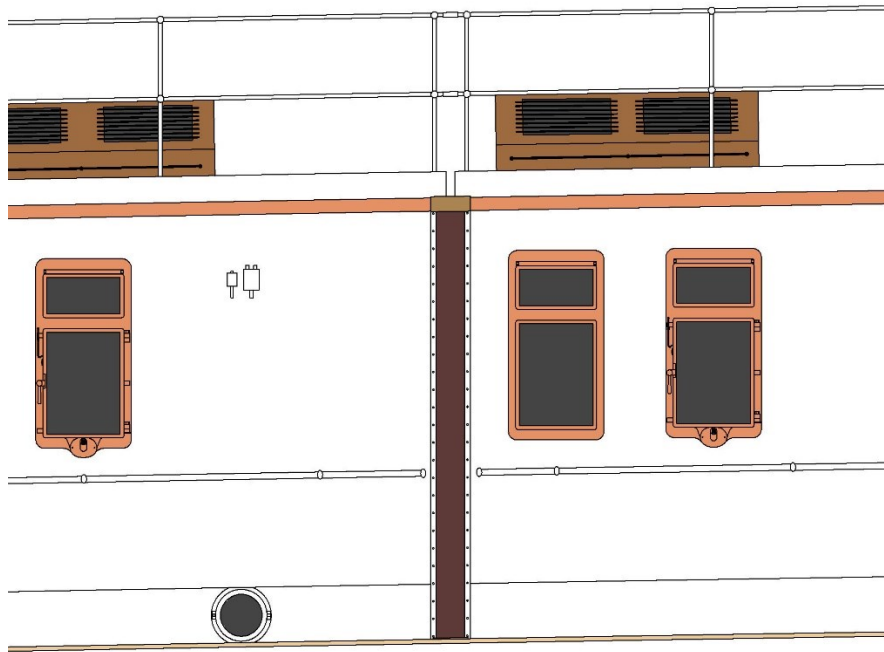


Figure 5

Expansion joint treatment on bulkhead of officers' quarters

### Boat Deck Expansion Joint (forward)

The forward expansion joint on the boat deck had similar treatment as that found on the officers' quarters roof. The difference was that the margin planks on either side of the expansion joint on the boat deck were the same thickness as the yellow pine planks which abutted it. There is a 2-inch gap between the margin planks on either side of the joint. This again is covered by an 8-inch-wide grooved brass cover. The waterway outboard is "boxed" leaving a 2-inch gap between the two ends of the waterway. Wood blocks were placed in the ends of the waterway to provide a surface to bear the brass cover. Outboard of the waterway in way of the forward expansion joint, the joint continues down the superstructure plating. Figure 6 is a drawing which show the outboard extent of the forward boat deck expansion joint.

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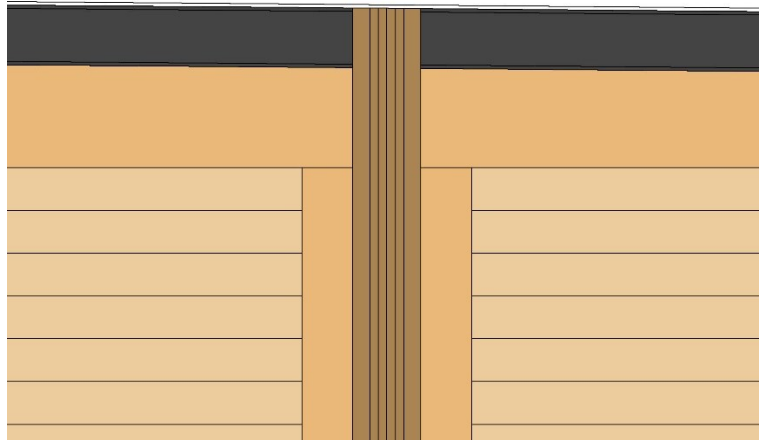


Figure 6

Outboard aspect of forward boat deck expansion joint

### Boat Deck Expansion Joint (aft)

The aft boat deck expansion joint passes through no deckhouses. A difference is that at its outboard ends on the boat deck the aft expansion joint passes through the outboard bulwarks. The vertical aspect of the bulwarks is treated like the vertical bulkheads of the officers' quarters. The bulwark plating on both sides of the expansion joint leaves a 2-inch gap between the plates. This gap is covered is covered with leather and the ends are secured to the bulwark with the same galvanized strips. The gap in the teak caprail of the bulwark is covered by a leather sleeve with brass cuffs on the ends of the sleeve. Figure 7 shows the aft boat deck expansion joint and the bulwark expansion joint on *Olympic*.

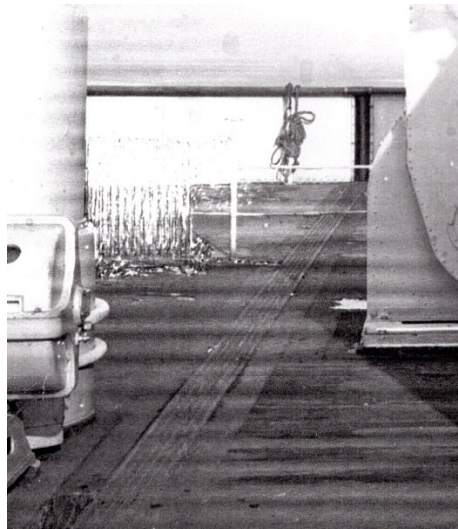


Figure 7

Aft boat deck expansion joint and bulwark expansion joint

Figure 8 shows is a plan view drawing which shows the treatment of the aft boat deck expansion joint as it passes through the outboard bulwarks.

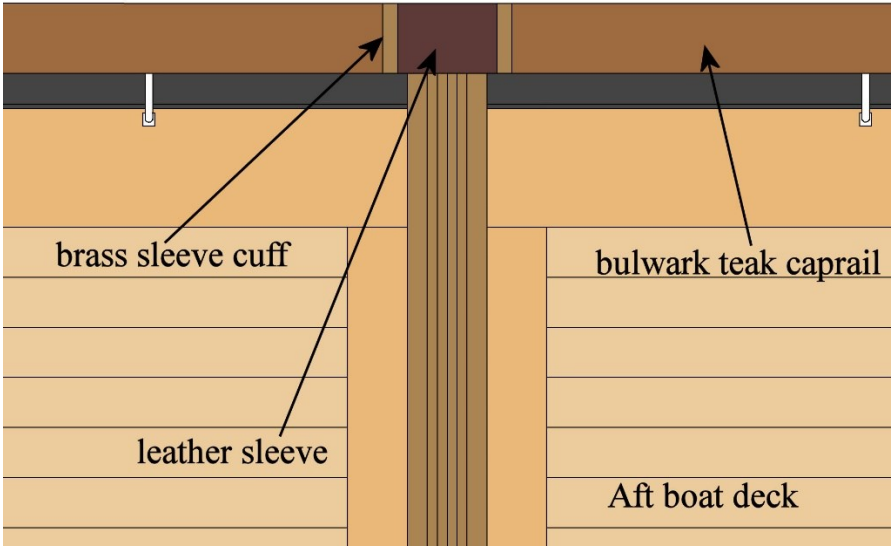


Figure 8

Plan view of aft boat deck expansion joint and outboard bulwark

Figure 9 is an elevation view drawing of the aft expansion joint treatment where it passes through the outboard bulwarks.

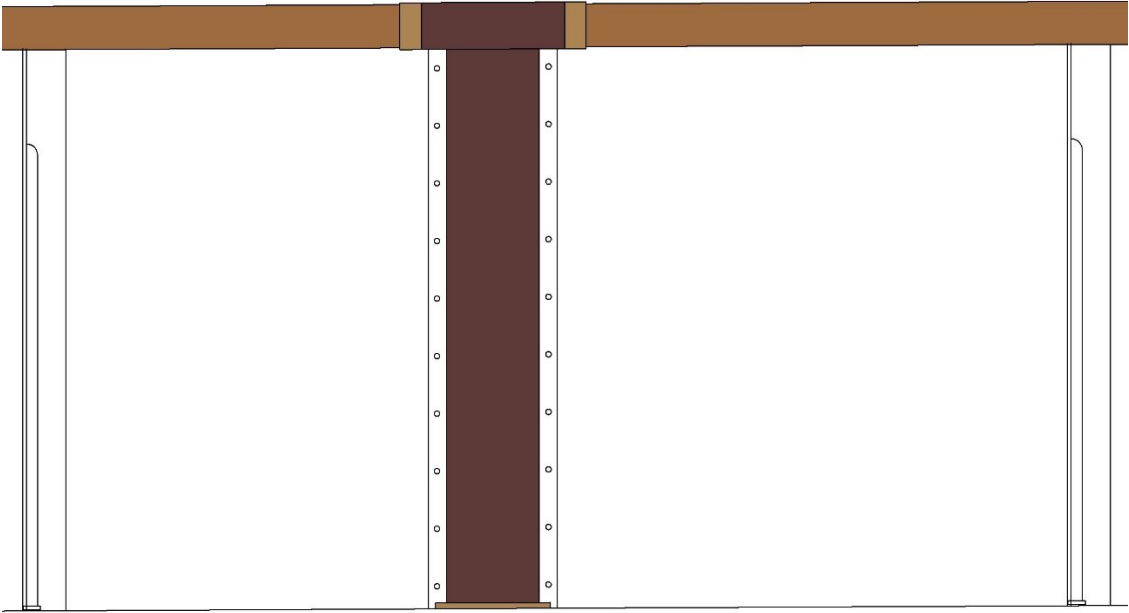


Figure 9

Elevation of outboard boat deck bulwark and aft expansion joint

## Exterior Superstructure Expansion Joint (forward)

The forward expansion joint on the exterior surface of the superstructure extends from the boat deck down to, but not through, B deck. The treatment of the expansion joint is similar to the other vertical surfaces that the expansion joint passes through. A 2-inch gap is left in the superstructure plating in way of the expansion joint. The gap is covered by leather which is secured by galvanized iron strips which are secured by screws. The main difference with the external appearance of the external superstructure expansion joint is that the leather covering along with the galvanized iron strips are painted white. Figure 10 shows the forward external superstructure expansion joint on *Titanic*.

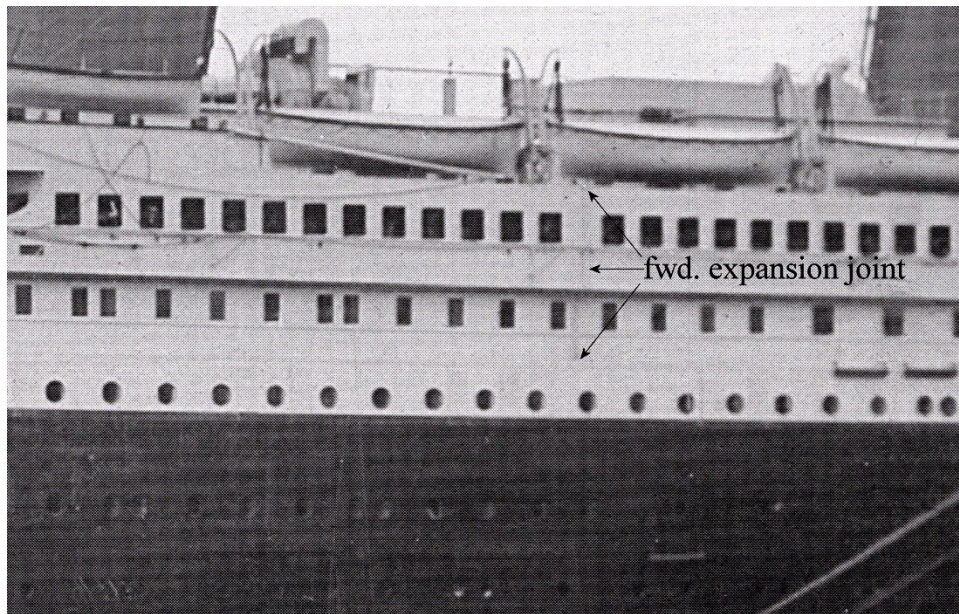


Figure 10

Forward external superstructure expansion joint on *Titanic*

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Figure 11 shows an elevation drawing of the forward external superstructure expansion joint on *Titanic*.

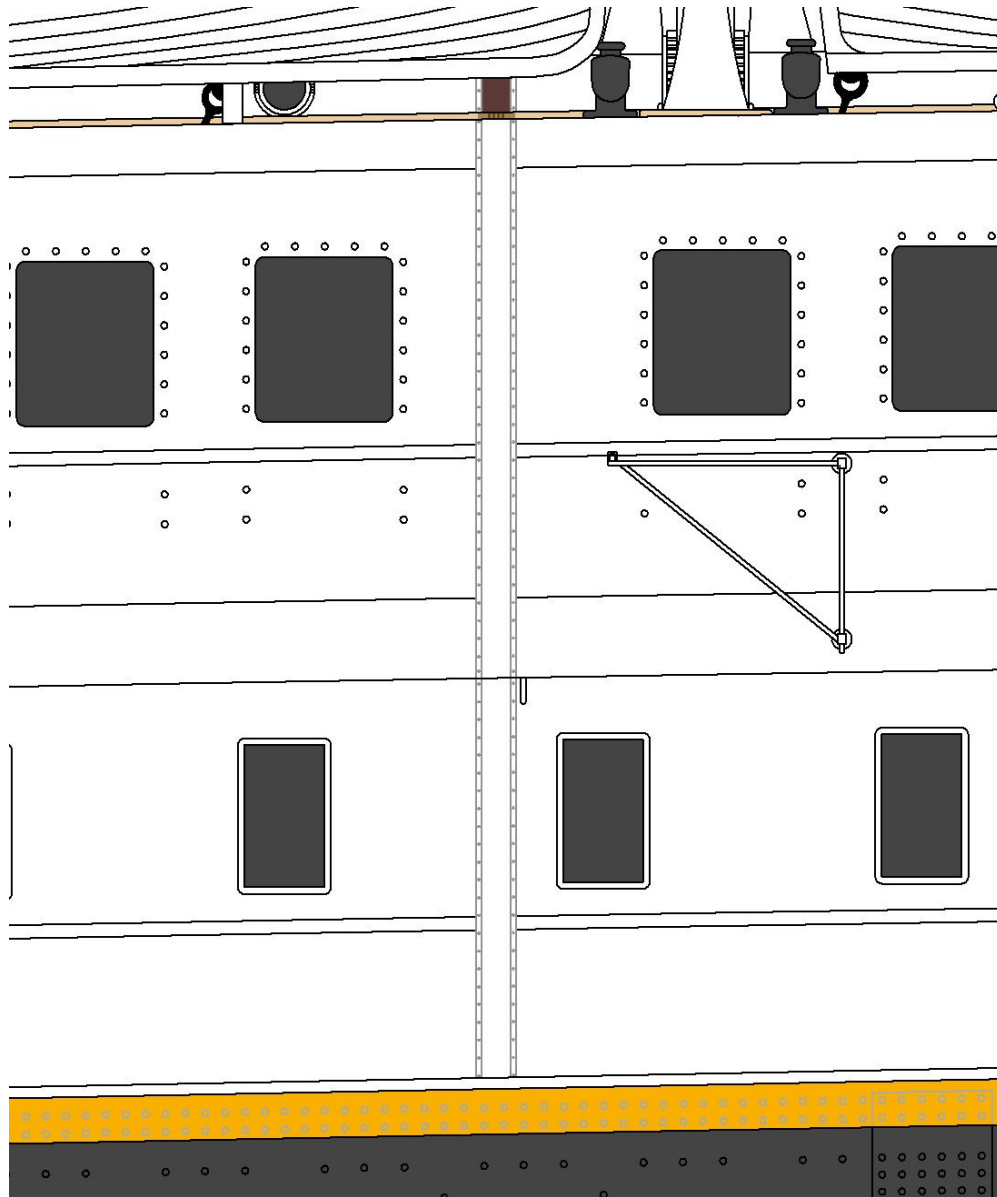


Figure 11

Forward external superstructure expansion joint on *Titanic*

### Exterior Superstructure Expansion Joint (aft)

The treatment of the aft exterior superstructure expansion joint is the same as the forward exterior superstructure expansion joint with the exception of a couple of details. The aft exterior superstructure expansion joint extends from the boat deck bulwark down to, but not through B deck.



On the H&W drawing, the expansion joint passes between two narrow (2-1/2-inch wide) stanchions at the open A deck promenade area. These narrow stanchions on either side of the expansion joint were spaced 12 inches apart. When Olympic and Titanic were launched, the space between these two stanchions was left open as seen in Figure 12 which is a photo taken shortly after Olympic's launch.

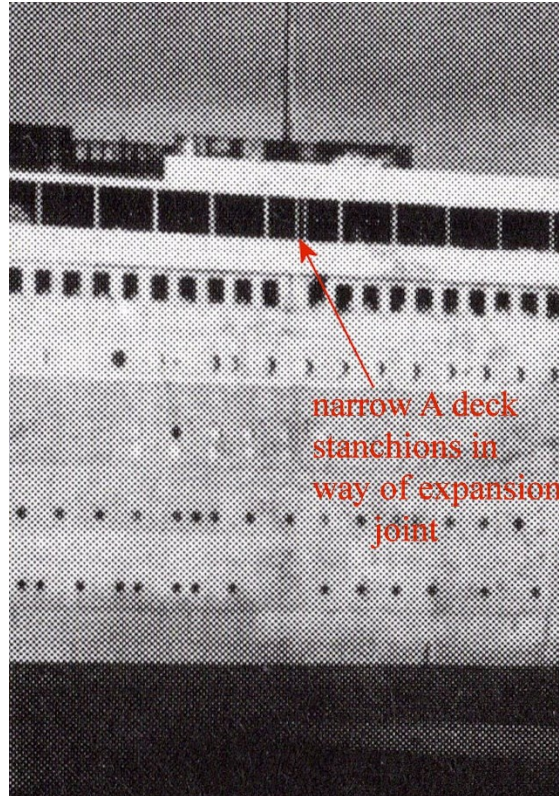


Figure 12

Narrow A deck stanchions in way of aft expansion joint

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Figure 13 shows the narrow aft A deck stanchions of A deck on *Titanic* closed in by plating and expansion joint treatment.

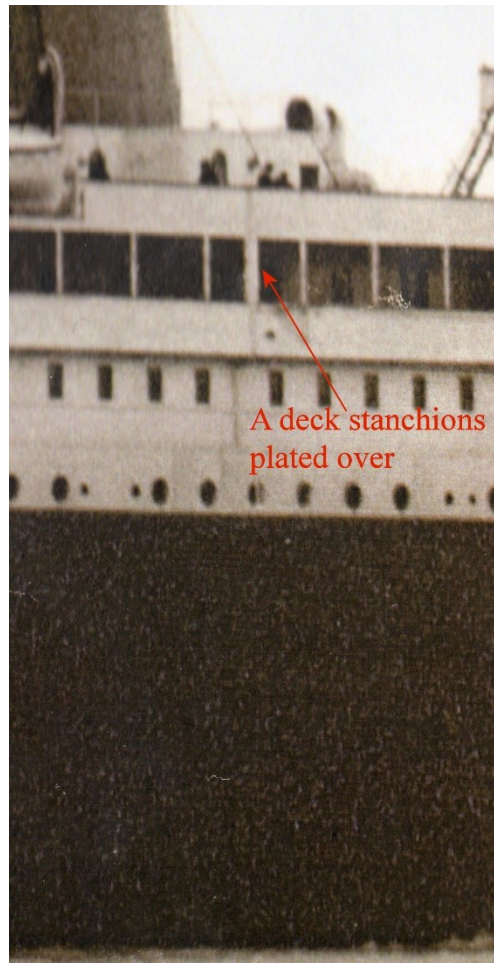


Figure 13

Aft A deck narrow stanchions with plating and leather covering applied on *Titanic*

During fitting-out it was apparently decided for unknown reasons to rivet a plate to each of the narrow stanchions and leave a 2-inch gap between them. The gap was treated like the other vertical surfaces with a leather covering secured on the edges by galvanized iron strips secured by screws. Figure 14 shows an elevation drawing of the aft external superstructure expansion joint on *Titanic*.

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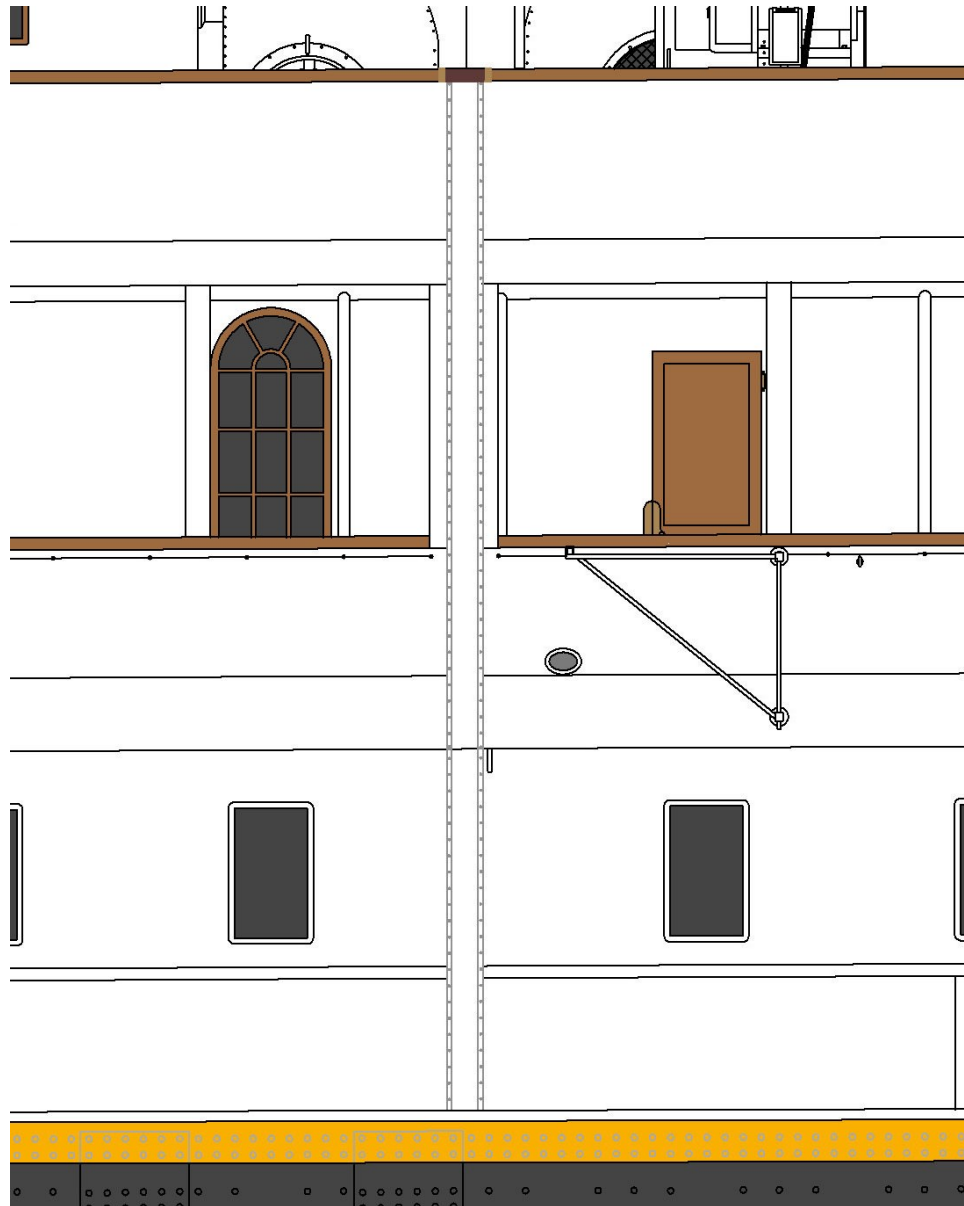


Figure 14

### Aft external superstructure expansion joint on *Titanic*

#### Summary

This article has shown external details and appearances of *Titanic's* expansion joints. The information has been available in numerous sources but for the benefit of modelers this information has been consolidated in this article.

