Titanic's Bridgefront Windows

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Introduction

This article will describe the structure and operation of the nine windows forward of *Titanic's* navigating bridge. The proposed internal structure and function of these windows will be discussed.

Construction

There are no plans which document the structural details of the bridgefront windows. Much of what will be proposed in this article is speculation based on the structural observations of the windows. Figure 1 shows the exterior of the bridgefront windows.

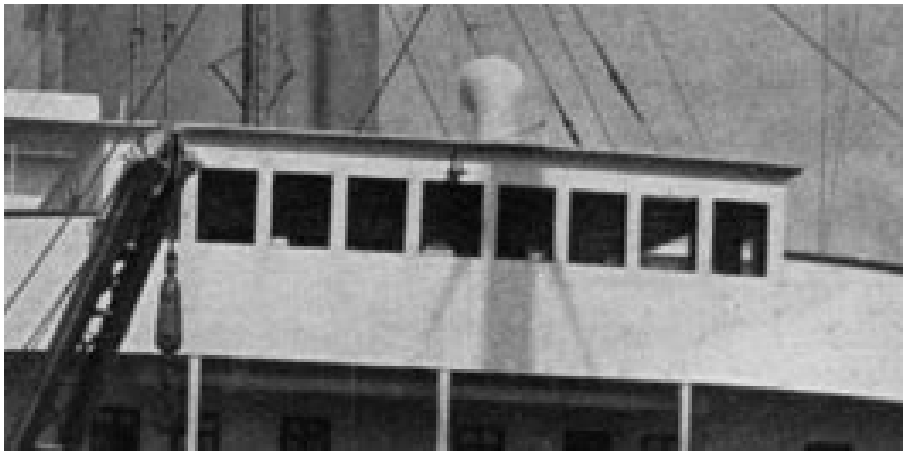

Figure 1

Exterior view of bridgefront windows

Figure 2 shows an interior view of the bridgefront windows on Olympic which are essentially the same as Titanic.

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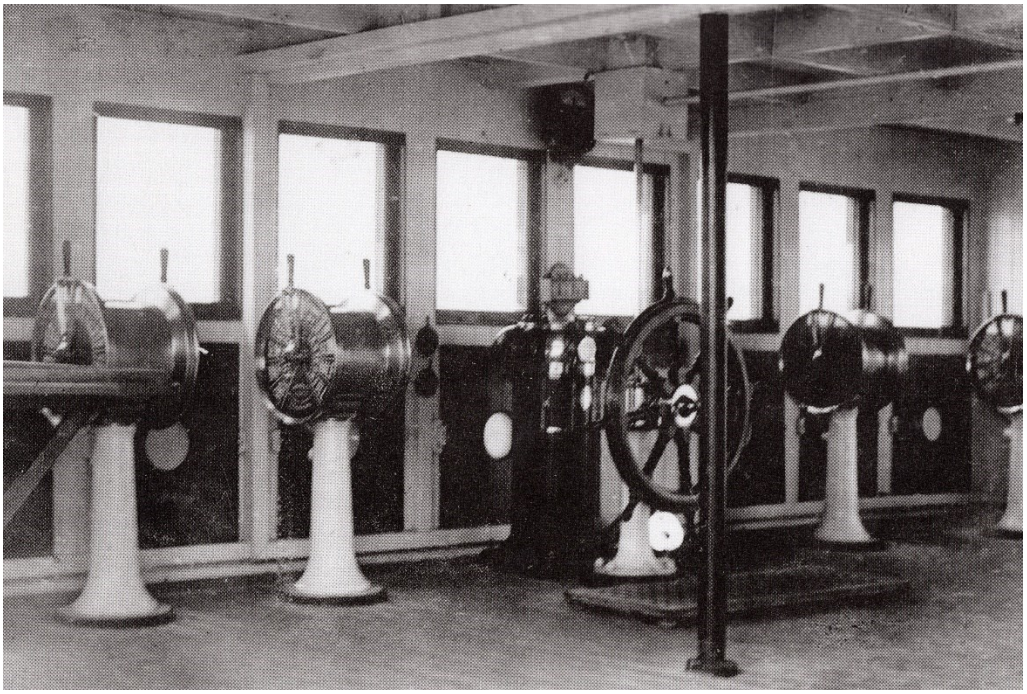

Figure 2

Interior view of bridgefront windows.

The windows are in their raised and closed positions. When the windows were opened, they were lowered into the bulkhead below them like a pocket window. Figure 3 is a photo of Olympic's bridge showing the windows in the open position.

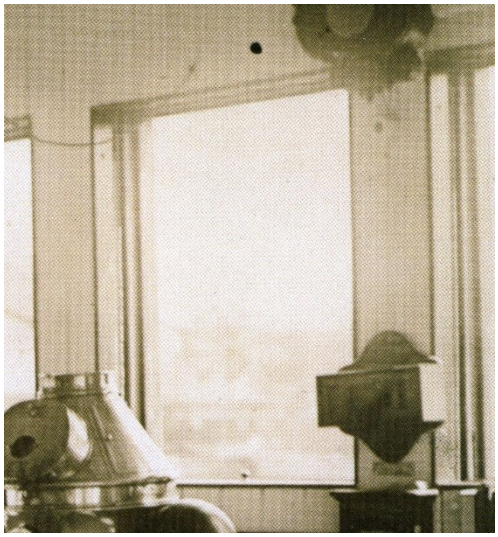

Figure 3

Interior view of bridgefront windows in open position

Figure 4 is an interior view of a bridgefront window in the closed position.

Figure 4

Interior view of bridgefront window in closed position

The windows appear to be common framed sash windows in construction. Because of the need to isolate the bridge compasses from any kind of ferrous metals, any metals used in their construction are non-ferrous. There were only a few construction items which needed to be non-ferrous metal. In Figure 5 we see lead sash weights.

Figure 5

Lead sash weights

In Figure 6, a brass chain and sheave is shown.

Figure 5

Brass chain and sheave

Finally, in Figure 6 we see representative brass finger pulls.

Figure 6

Brass finger pulls

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Operation

The bridgefront windows were locked in their upper closed position. Figure 7 shows the interior mechanisms of one of the bridgefront windows. The sash weights are gray and the sheaves are blue. The sash is red. Figure 7 shows the positions of the sash and mechanisms in the closed position.

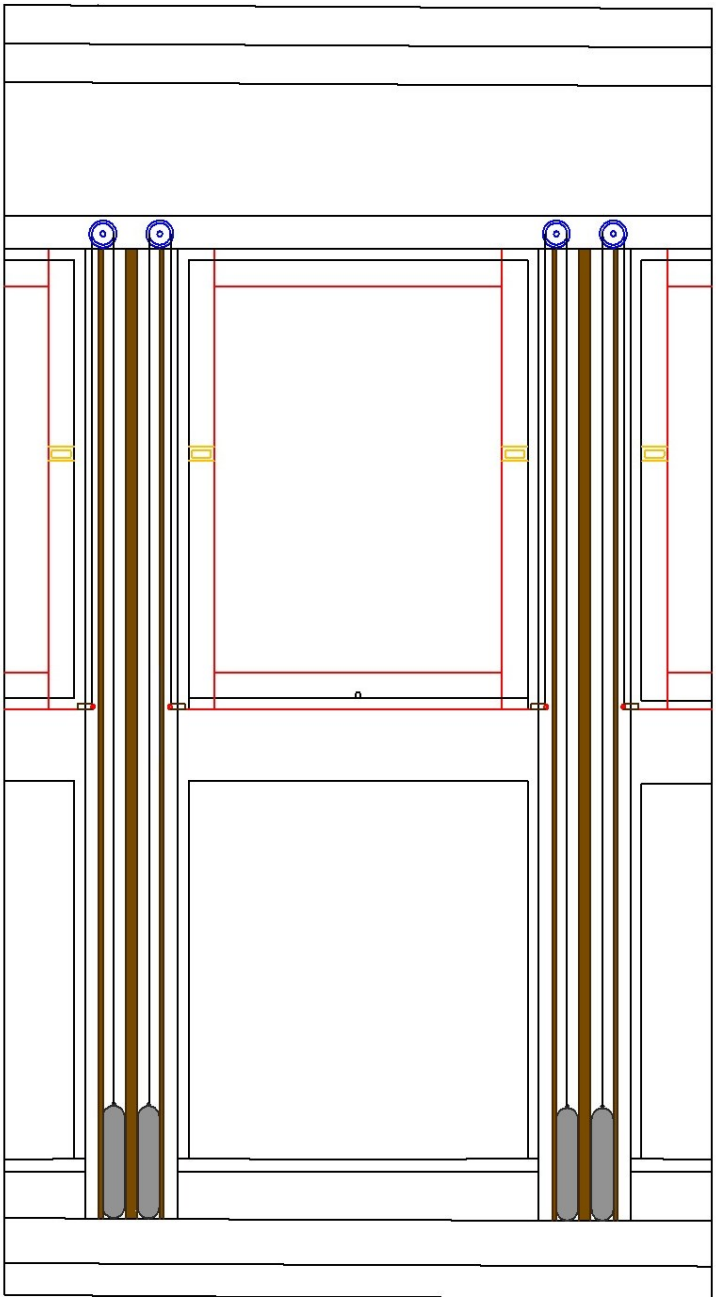

Figure 7

Interior mechanisms of bridgefront window in closed position

Figure 8 shows the same window with the window partially lowered.

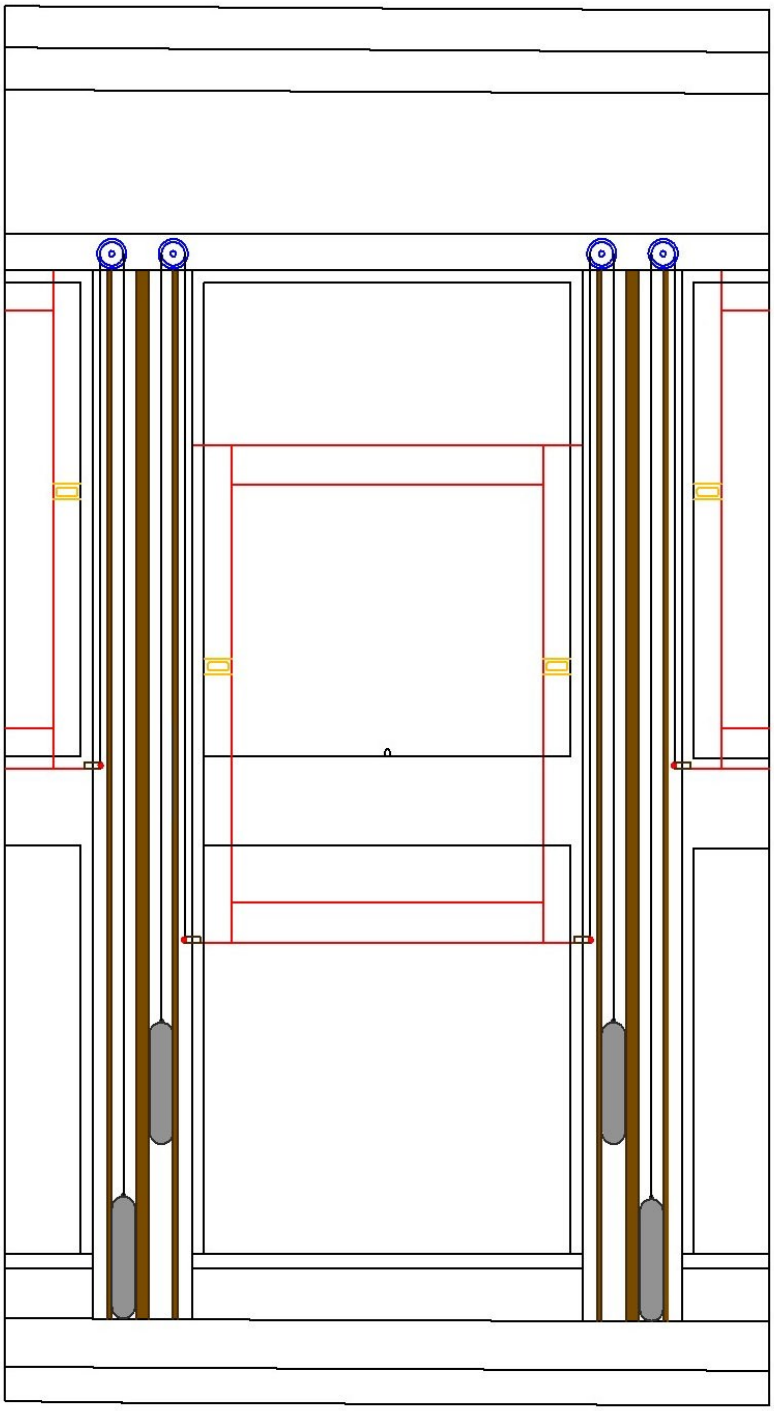

Figure 8

Interior mechanisms of bridgefront window in partially lowered position

Figure 9 shows a bridgefront window in the fully lowered (open) position.

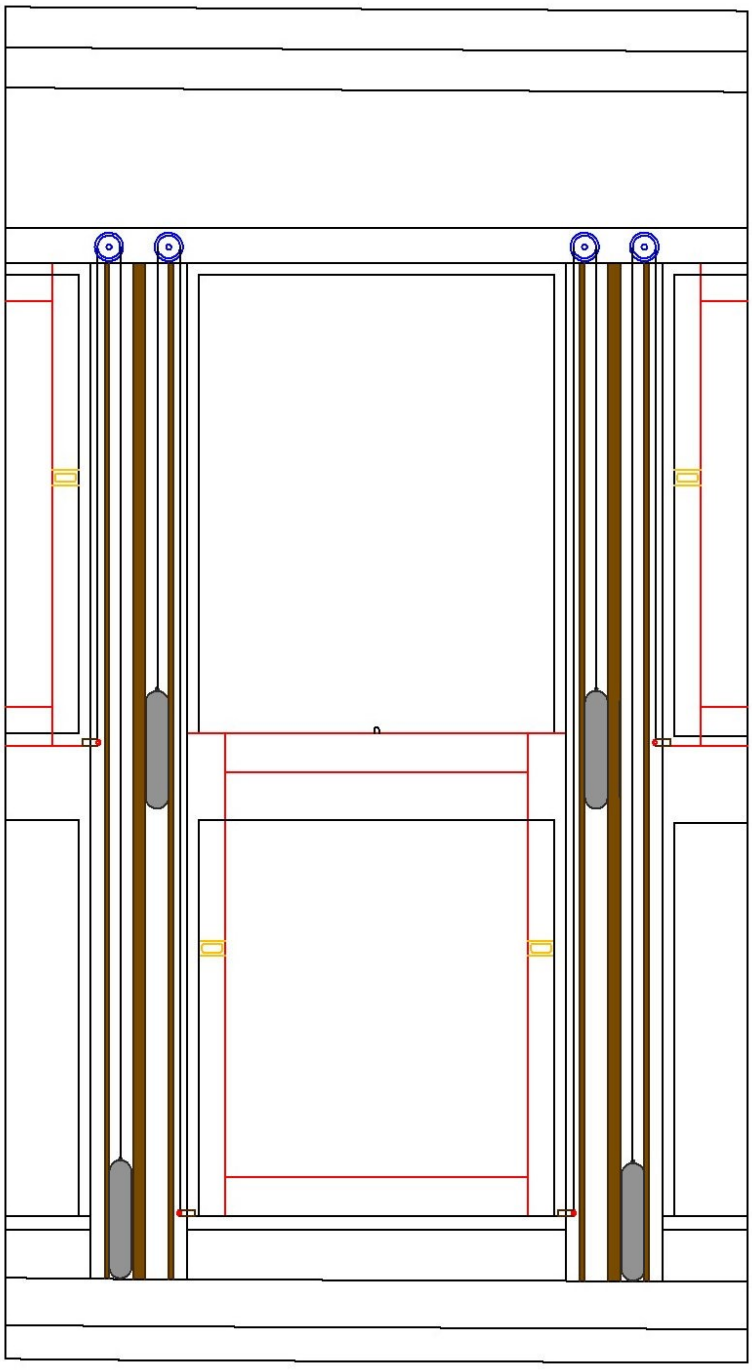

Figure 9

Internal mechanisms of bridgefront window in fully lowered (open) position

The windows were secured in both the fully opened and closed positions by means of a brass slide bolt lock located on the lower sill of the window. Figure 10 shows a plan view of the lower sill of one of the bridgefront windows.

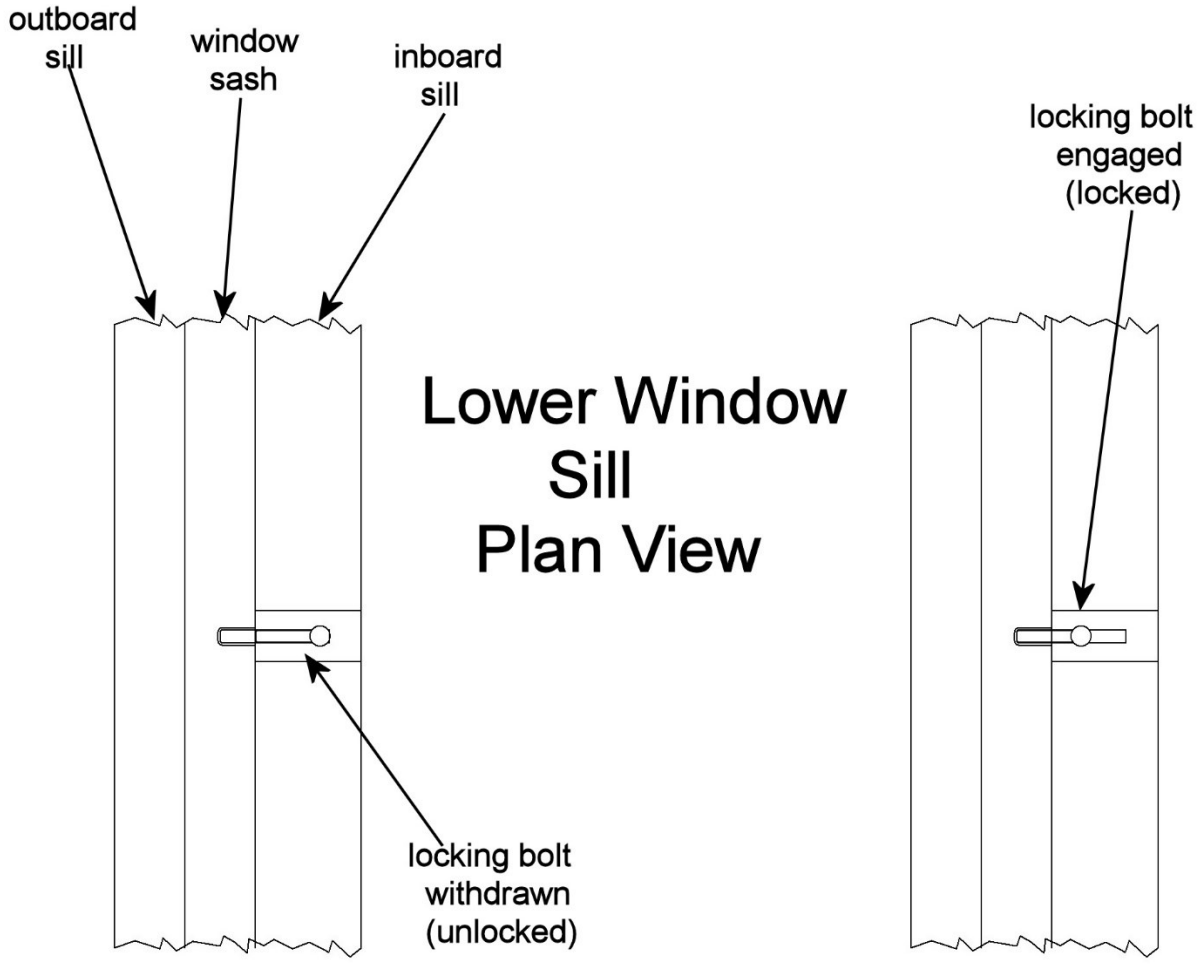

Figure 10

Plan view of lower sill and locking bolt

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Figure 11 shows an elevation view of the lower sill of one of the bridgefront windows.

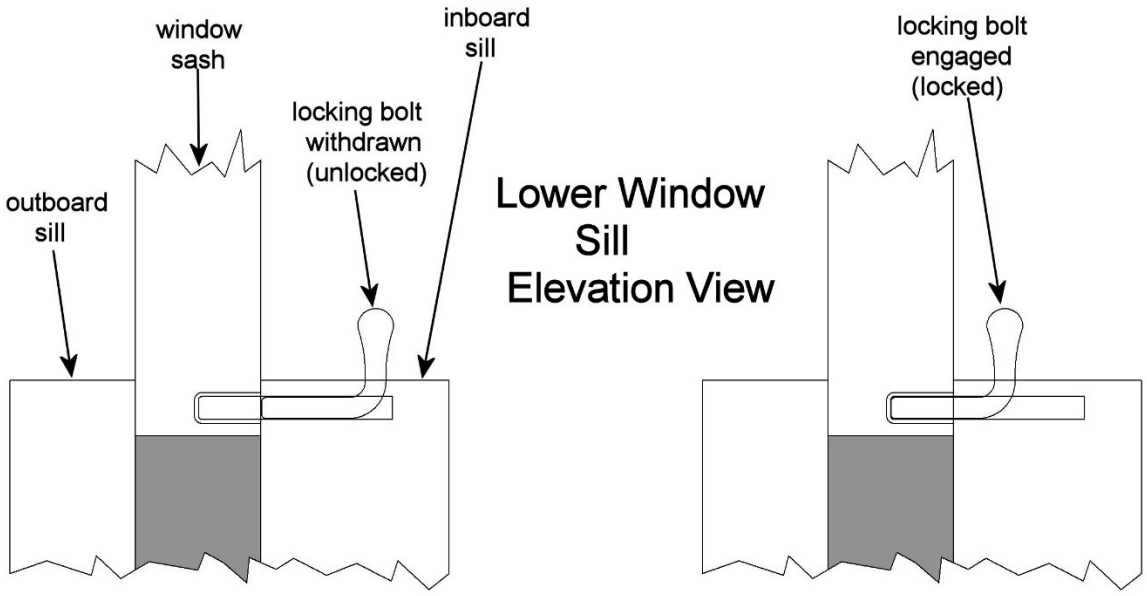

Figure 11

Elevation view of lower sill and locking bolt

Deadlights

While not a part of the bridgefront windows mechanisms, below the windows there were deadlights which were stowed on the forward bridge bulkhead. Figure 12 shows the bridge with the dark deadlights stowed with a center circular glass light centered in the deadlight.

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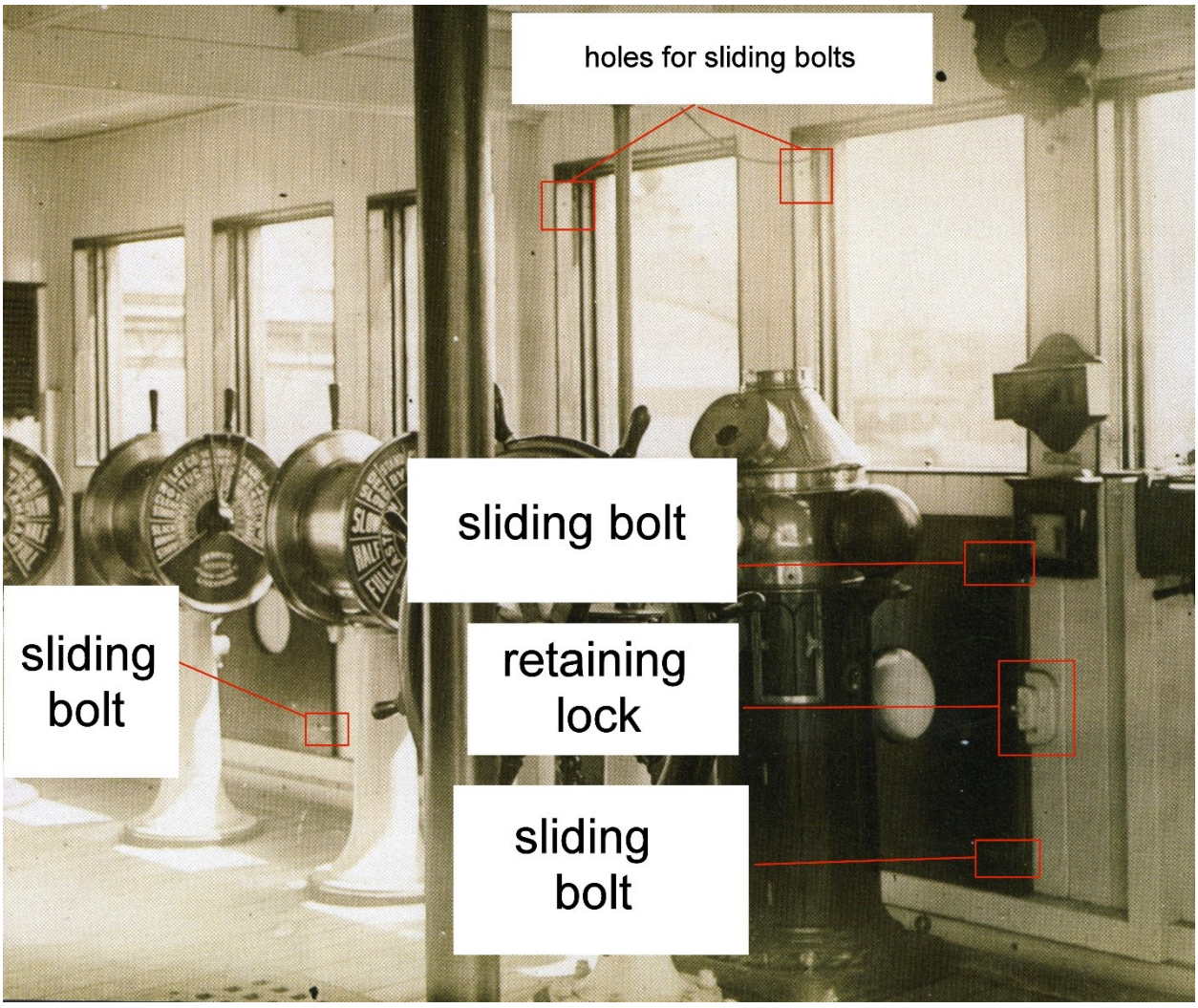

Figure 12

Bridgefront deadlights and associated hardware

When stowed, the deadlights were secured by retaining locks on either side. These locked the deadlights in place by a sliding bolt on the retaining lock. On the window casing we can see holes for the sliding bolts on the deadlights to engage to lock it in place.

Figure 13 is a drawing showing a deadlight rigged.

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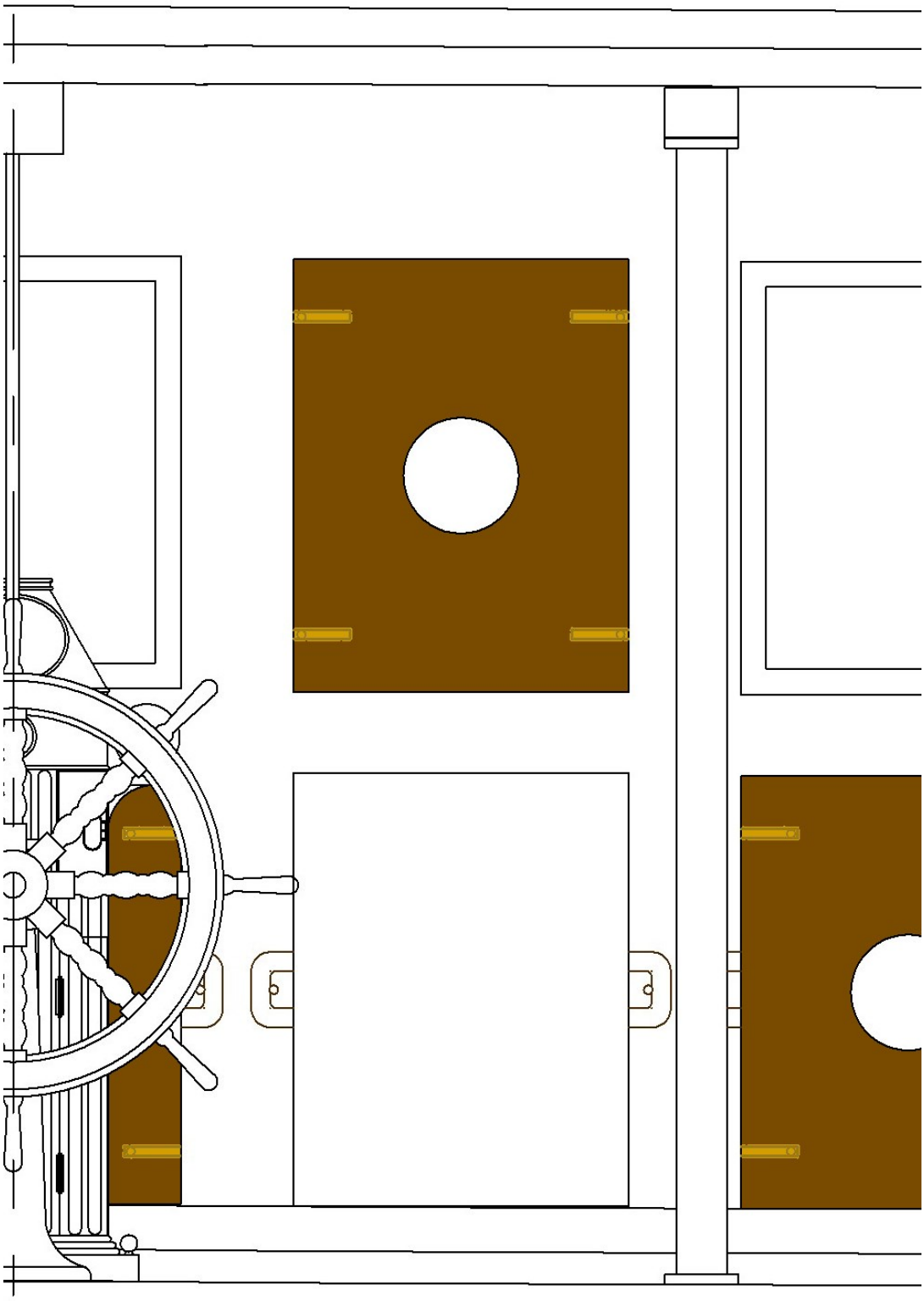

Figure 12

Bridgefront window rigged

The purpose of a deadlight is to protect a window from storm damage. For the forward B deck windows, steel deadlights were stowed on the inboard side of the forward bulwark. These were rigged on the outside of the B deck forward windows. Part of one of these can be seen in Figure 13,

Figure 13

Forward B deck window skylight stowed on bulwark

The bridgefront deadlights present an interesting question: How did deadlights installed on the inboard side of the bridgefront windows protect them from damage? I can't state this with 100% certainty but I believe it is very possible that before the bridgefront deadlights were rigged, the bridgefront windows were lowered into the bridgefront bulkhead to protect them.

At this point someone might ask whether water would enter the interior of the bulwark through the top of the bridgefront window casing. The answer is yes. If the bridgefront were constructed of pine or some other wood, this would present the problem of rot within the bulkhead. For that reason, I suspect that the bridgefront bulkhead and window frames were constructed using teak to prevent rot. The bridgefront windows were not sealed units within their frames so ingress of water would always be a concern. That is why I believe the bulkhead and windows were constructed of teak.

Conclusion

This article was written to try to show a plausible configuration of the bridgefront windows and their operation. Many of the details are enclosed in the forward bridge bulkhead but using photos that we have of the windows, the mechanisms and their operations were demonstrated. Additionally, the protective deadlights were discussed.