

The Instruments and Equipment of *Titanic's* Navigating Bridge

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Introduction

The purpose of this article is to catalog and explain the functions of the instruments and equipment of *Titanic's* navigating bridge. Photos will be primarily taken from *Olympic* because those from *Titanic* are very few and of poor quality. However, the navigating bridge of *Titanic* and early *Olympic* were for all intents and purposes the same. The navigating bridge was the nerve center of *Titanic* where the observations of the sailing conditions, navigational positions were taken, and where orders were given to control the course and speed of the vessel.

The Telegraphs

The telegraphs on the navigating bridge served to communicate with the engine room primarily and the docking bridge secondarily. Figure 1 shows an actual photo of the telegraphs on *Olympic's* navigating bridge.

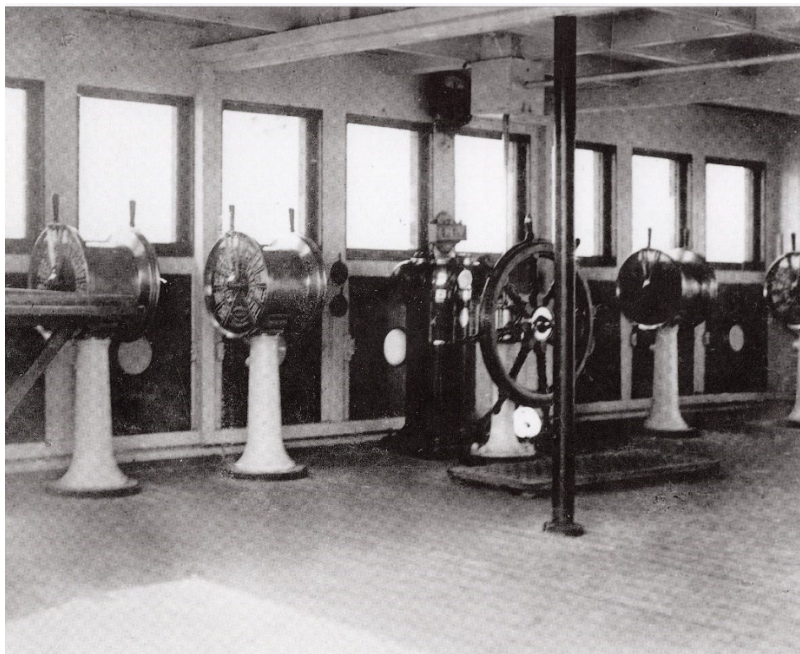


Figure 1

Telegraphs on *Olympic's* navigating bridge

Figure 2 shows plan and elevation views of the position of the telegraphs on *Titanic's* navigating bridge.

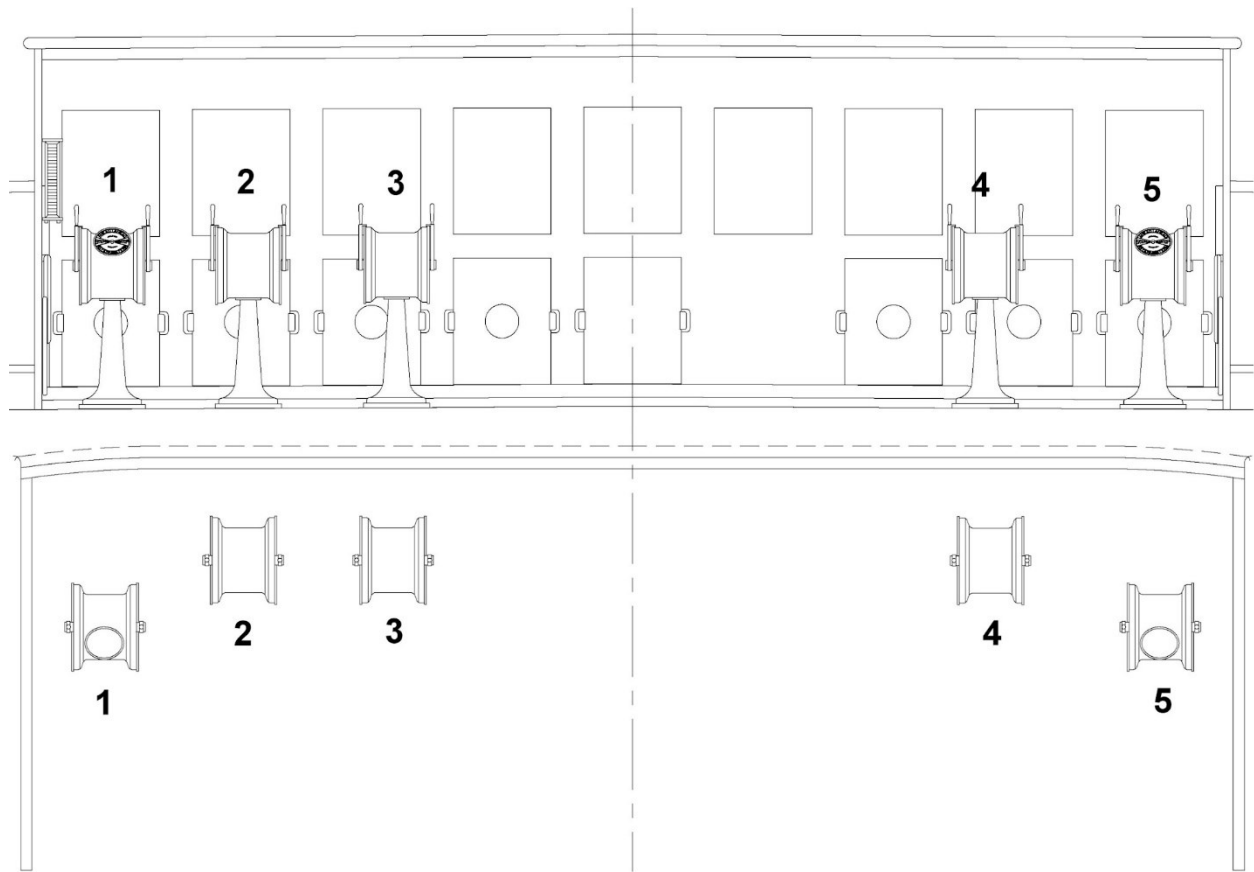


Figure 2

Elevation and plan views of locations of telegraphs on *Titanic's* navigating bridge

The function of each of the telegraphs is:

1. Port and starboard reciprocating engine telegraph - This telegraph was identical to telegraph #5. Both telegraphs #1 and #5 were slaved so that any movement of the telegraph handles of one telegraph would produce the same movement of the same handle on the other. There was also an aft facing dial which was a tell-tale which indicated the direction of rotation of each reciprocating engine.
2. This telegraph had a dual use - Primarily it was for transmitting docking orders to the docking bridge. The starboard handle transmitted docking orders for the starboard side of the ship and the port handle transmitted docking orders for the port side. The secondary use of this telegraph was to transmit steering orders to the docking bridge in the event that the telemotor system was not functioning and the ship had to be steered from the docking bridge.

3. Emergency back-up engine order telegraph – This telegraph was for emergency use in the event that the primary engine order telegraphs (#1 & #5) were disabled. The starboard handle transmitted orders to the engine room for the starboard reciprocating engine and the port handle for the port reciprocating engine.
4. Advisory engine order telegraph – In the event that the telemotor steering system was not functioning and the ship was being steered from the docking bridge, engine orders would be transmitted to the engine room via the bridge telegraphs and the officer on the docking bridge would be advised of what the current engine orders were via this telegraph.
5. Port and starboard reciprocating engine telegraph. The description of this telegraph is identical to the one given for telegraph #1.

A more in-depth explanation of the bridge telegraphs is found here: [Titanic's navigating and docking bridge dial faces](#)

Navigating Bridge Helm (steering wheel)

On the midline of the navigating bridge stood the navigating bridge helm. This was used when under pilotage and in coastal waters where visibility was necessary for the helmsman. This helm was connected to the telemotor in the wheelhouse via driveshafts and gears. Control to the telemotor from either the wheelhouse helm or the navigating bridge helm could be changed by mechanical action at the wheelhouse telemotor. Only one helm would control the telemotor at any time. Figure 3 is a photo of Olympic's navigating bridge showing the bridge helm.

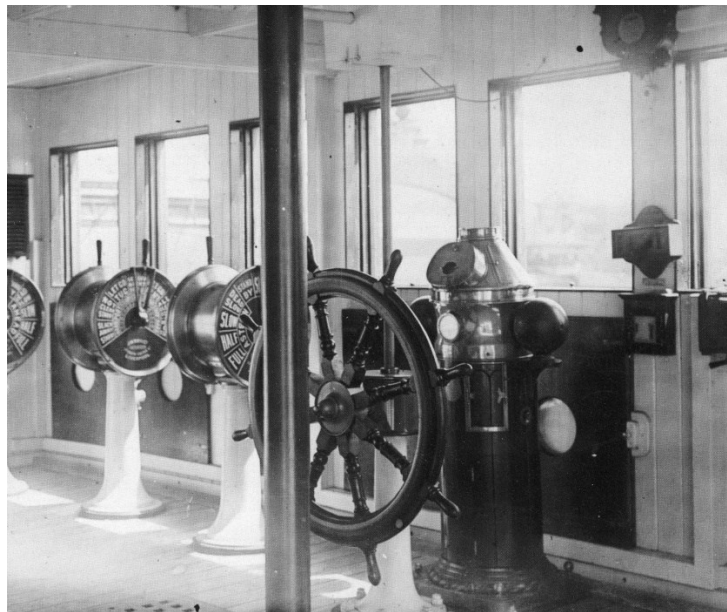


Figure 3

Olympic's navigating bridge helm

Figure 4 shows plan and elevation views of the location of the navigating bridge helm.

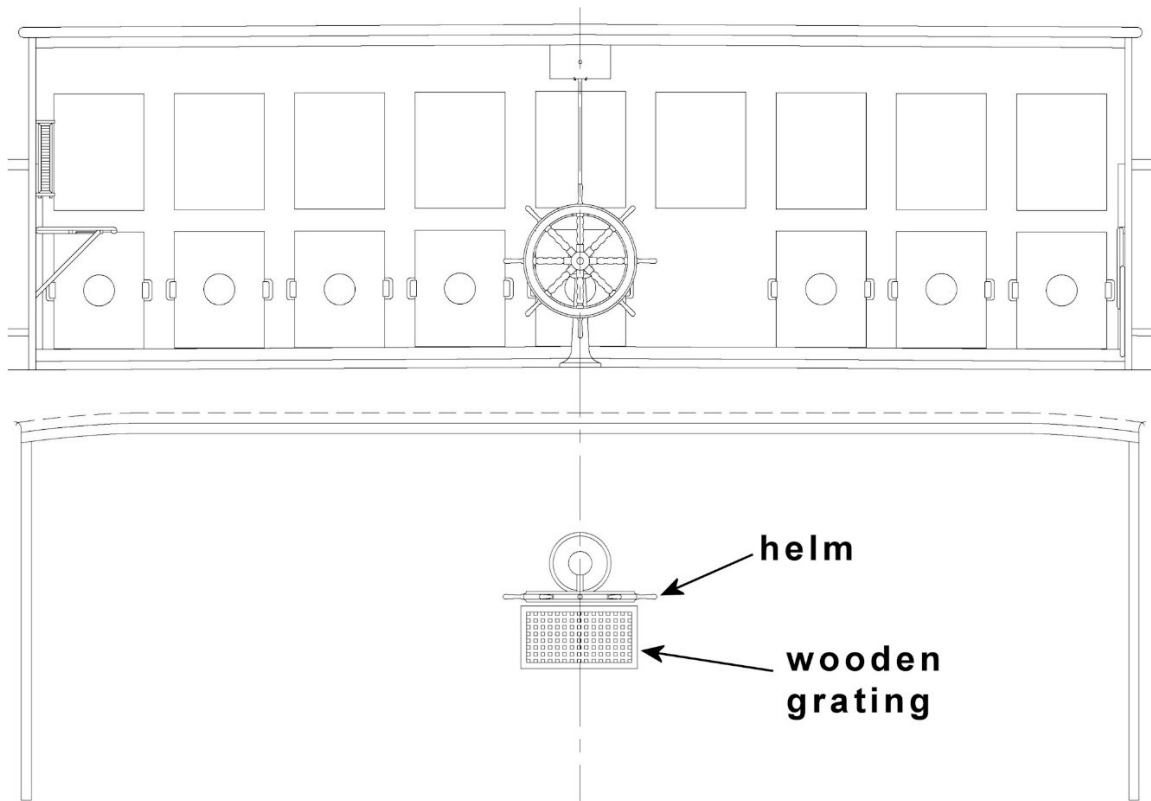


Figure 4

Elevation and plan views of the navigating bridge helm

Steering Compass

Directly forward of the navigating bridge helm was the steering compass and its binnacle. This compass was adjusted to give the same reading as the standard compass on the compass platform amidships. Figure 5 shows a photo of *Olympic's* steering compass on her navigating bridge. The compass and binnacle were Lord Kelvin's patent model.

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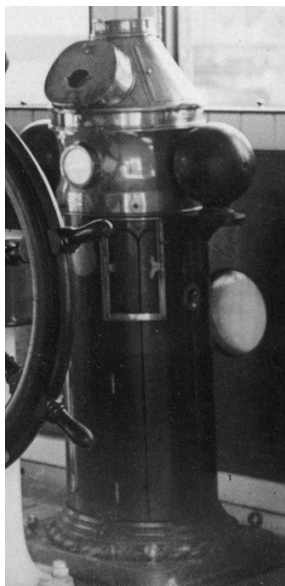


Figure 5

Steering compass with binnacle *Olympic's* navigating bridge

Figure 6 shows plan and elevation views of the location of the steering compass on *Titanic's* navigating bridge.

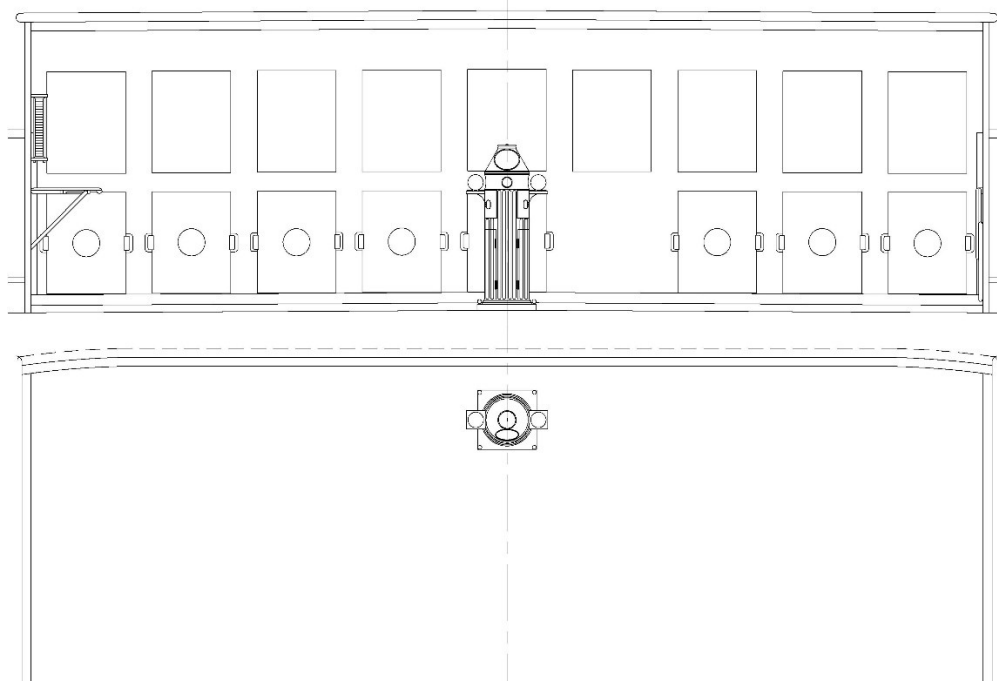


Figure 6

Plan and elevation views of the location of the steering compass and binnacle on *Titanic's* navigating bridge

Instruments and Equipment on the Bridge Enclosure Bulkheads

There were a number of items of equipment and instruments on the inboard aspect of the navigating bridge enclosure. Figure 7 shows the instruments on the forward bulkhead of the bridge enclosure to starboard of the midline.

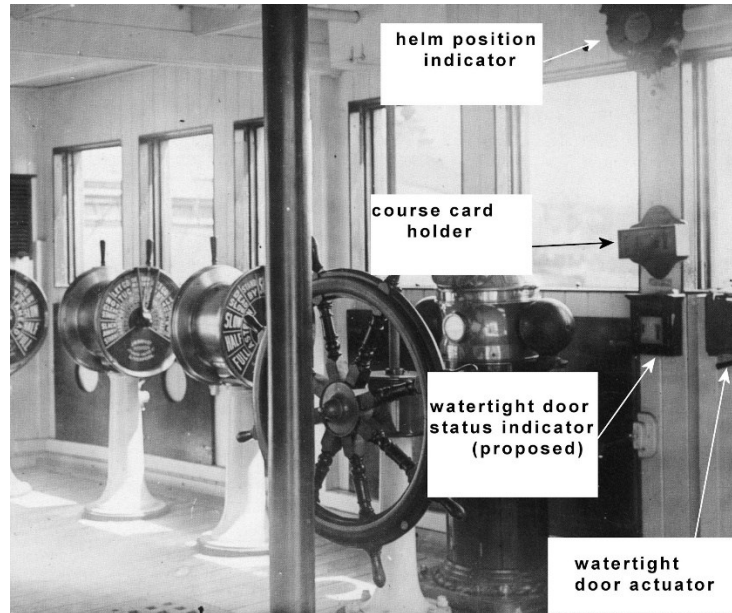


Figure 7

Instruments on the forward bulkhead of the bridge enclosure to starboard of the midline

Figure 8 shows the instruments on the forward bulkhead of the bridge enclosure.

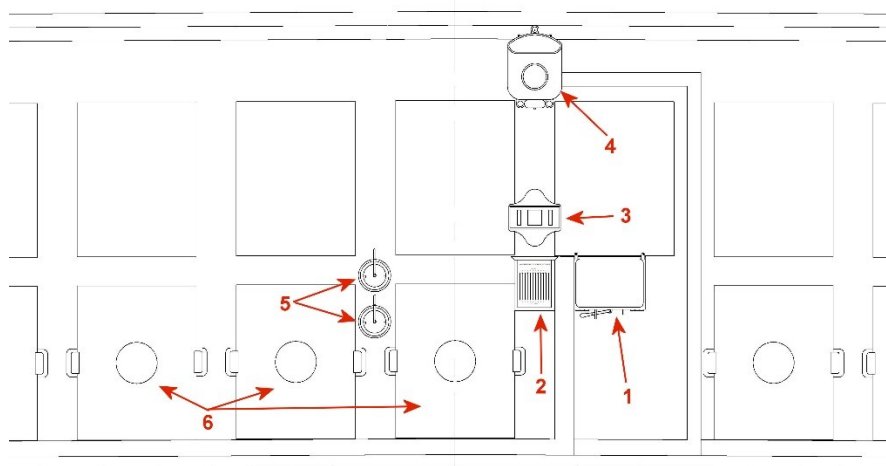


Figure 8

Instruments on the forward bulkhead of the bridge enclosure

#1. - Watertight door actuator – In Figure 8, instrument #1 is believed to be the watertight door actuator because of the presence of a throw-switch handle on its lower aspect. By throwing this handle the switch was closed and the watertight doors were automatically closed.

#2. - Watertight door tell-tale indicator – In Figure 8, instrument #2 has been theorized to be the watertight door tell-tale indicator. A more comprehensive article making the case for this identification is found here: [Titanic's Watertight Door Tell-Tale Indicator](#)

Figure 9 shows the proposed appearance of the proposed watertight door tell-tale indicator on *Titanic*.

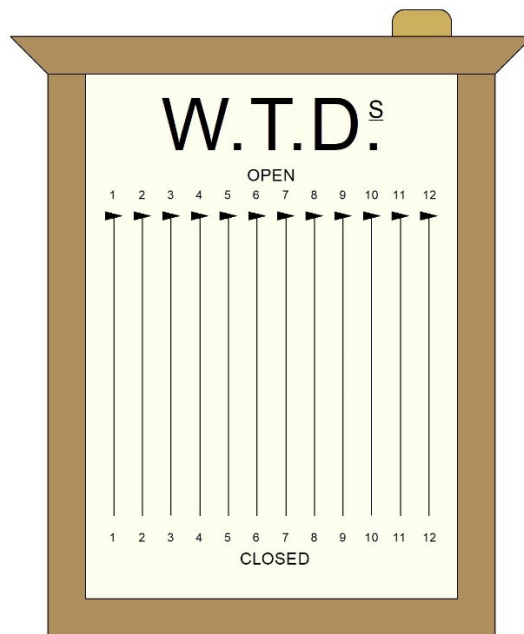


Figure 9

Proposed appearance of the proposed watertight door tell-tale indicator on *Titanic*

#3. - Course card holder – this holder held cards to indicate the current course. Figure 10 shows one of these holders in *Olympic's* chart room.

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Figure10

Course card holder on *Olympic*

#4. – Electric helm indicator – This instrument displayed the precise position of the rudder at any moment. This instrument was supplied by Messrs. Evershed and Vignoles, Ltd., of London. Figure 11 shows the electric helm indicator used on *Titanic*.

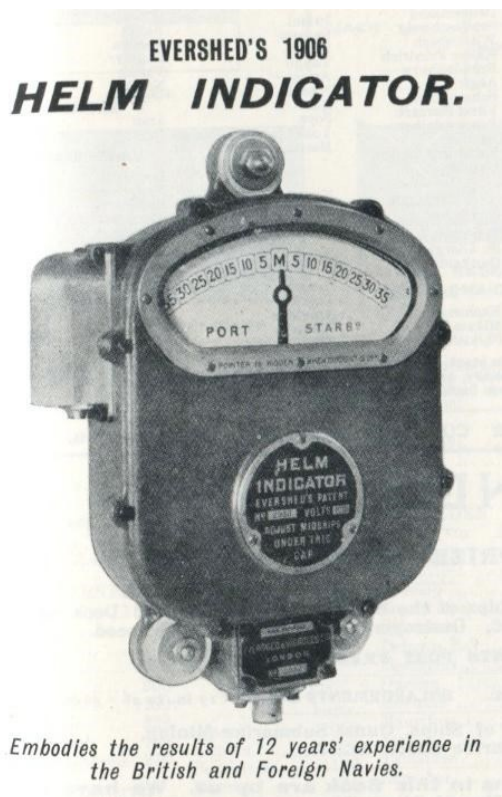


Figure 11

Evershed patent electric helm indicator

#5. Whistle controllers – There were two Willett Bruce whistle control switches on the forward bulkhead of the navigating bridge enclosure. Figure 12 shows these in place on *Olympic*.

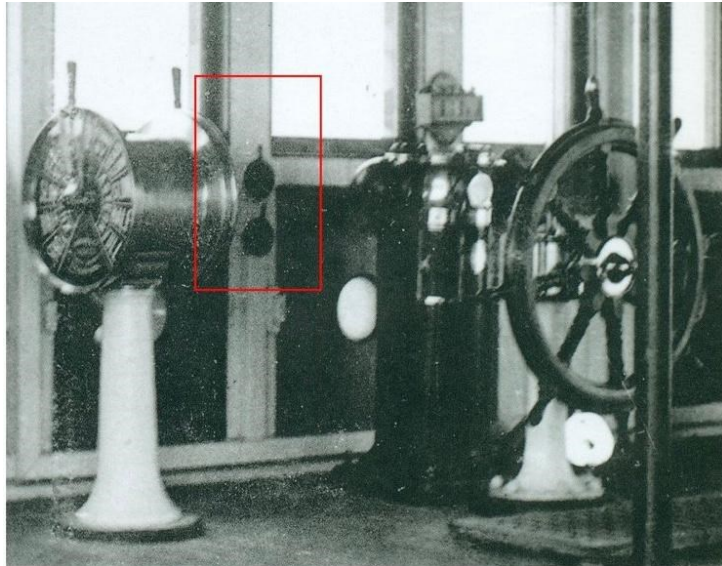


Figure 12

Willett Bruce whistle control switches on bridge of *Olympic*

Figure 13 shows one of the whistle control switches.



Figure 13

Willett Bruce whistle control switch

#6 – Below the forward bridge enclosure windows, deadlights were stowed in brackets. These panels were installed over the forward bridge enclosure windows in case of very heavy weather. These panels are labeled #6 in Figure 8.

On the outboard bulkheads of the bridge enclosure there were two pieces of equipment.

Hygrometer – This instrument consisted of two thermometers mounted inside a vented “screen”. This instrument was used to determine the relative humidity. One of the thermometers had a muslin covering over the bulb which led to a container of distilled water. The readings of the two thermometers were compared and the relative humidity could be determined from a table. Figure 14 shows a hygrometer screen on *Olympic’s* port outboard bulkhead of her navigating bridge enclosure. The hygrometer screen has not been visualized in any *Titanic* photo because there are so few. Several photos taken from a considerable distance have been used to make the case that *Titanic* didn’t have a hygrometer screen in the same location as *Olympic*. These screens were often painted white and would not likely be visible in the photos used to make the case that *Titanic* didn’t have a hygrometer screen in the same position as *Olympic*. The location of the hygrometer screen aboard *Titanic* is still speculative.

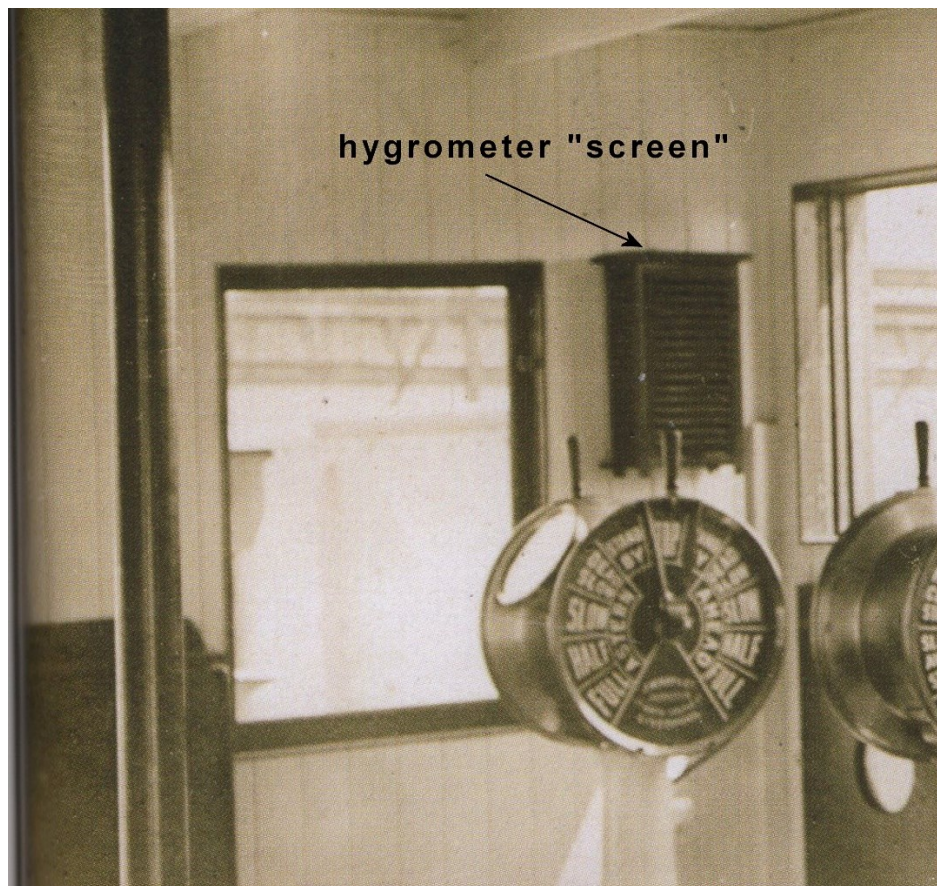


Figure 14

Hygrometer “screen” on *Olympic’s* navigating bridge

Figure 15 shows a drawing of a representative type of hygrometer screen with the thermometers visible inside.

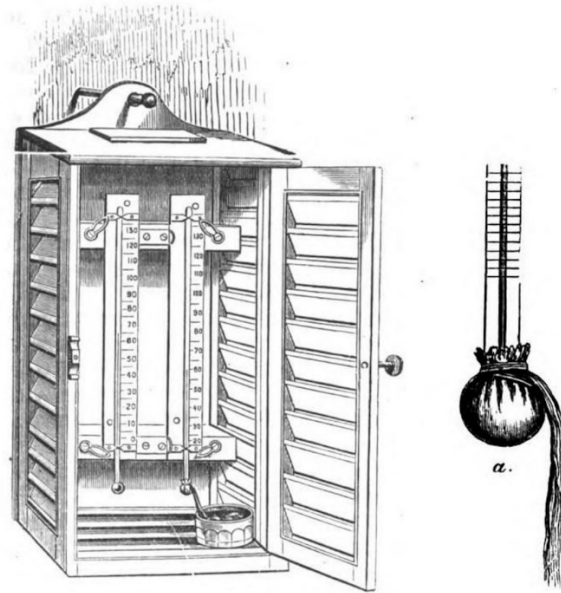


Figure 15

Typical hygrometer screen with thermometers inside

Fold-down tables – On the aft aspect of the inboard sides of the outboard bulkheads of the navigating bridge enclosure were mounted one fold-down table on each side. Figure 16 shows the starboard fold-down table on Olympic's bridge.

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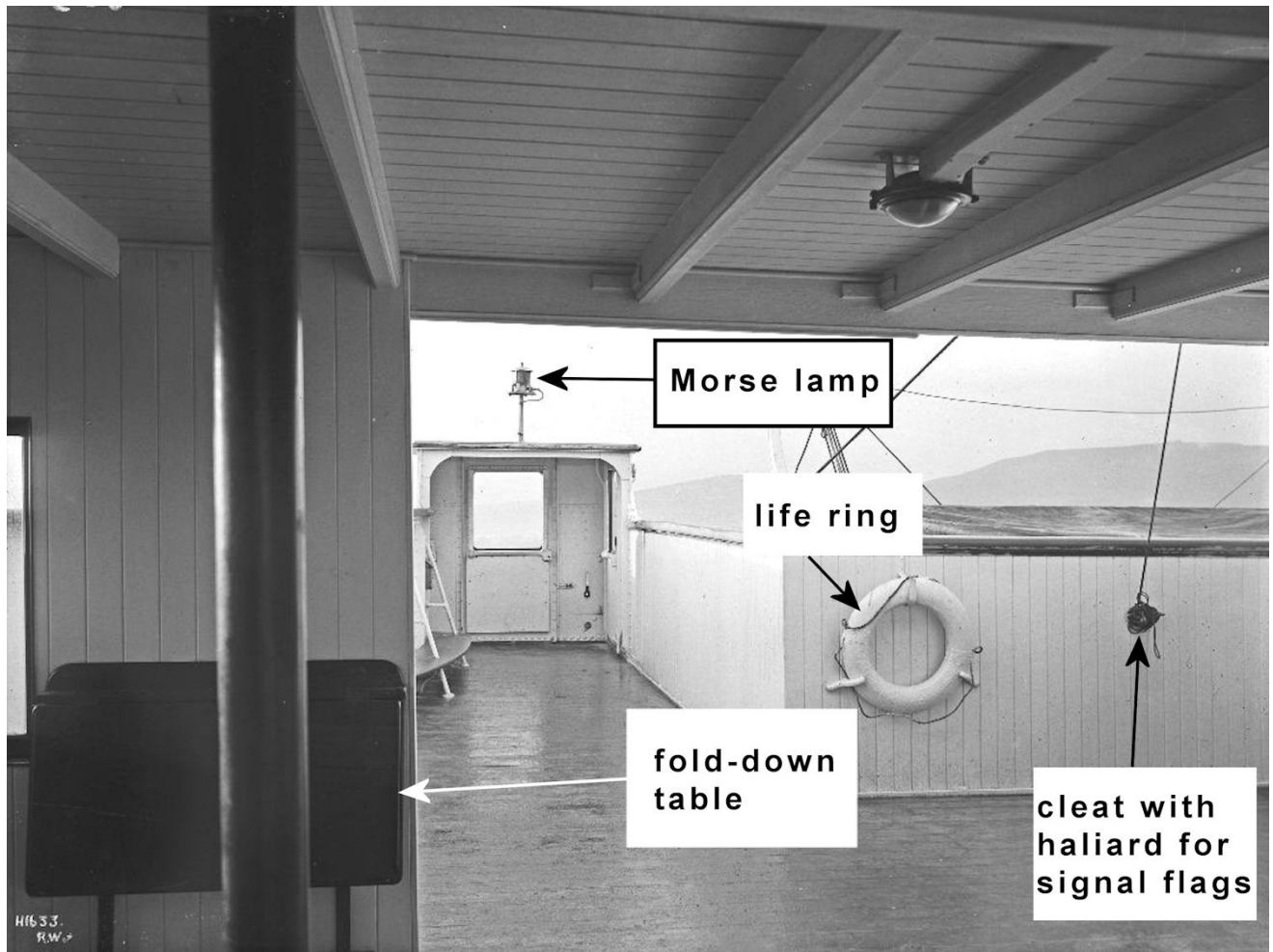


Figure 16

Fold-down table plus additional equipment outside the enclosed navigating bridge of *Olympic*

Here is link to a more thorough article on the fold-down tables: [Fold-Down Tables on Titanic's Navigating Bridge](#)

Equipment on the Navigating Bridge Outside the Enclosed Area

Life rings – two life rings were mounted (p&S) on the perimeter fore and aft bulwark of the navigating bridge. See Figure 16. The officer of the watch could throw one of these life rings for a man overboard.

Cleat for flag haliards – on the perimeter fore and aft bulwark of the navigating bridge there was a cleat (p&S) where signal flag haliards were belayed.

Wightman's patent electric signal lamp – atop each wing cab there was mounted a Wightman patent signal lamp for signaling other vessels.

Pelorus stand – Just outside the covered navigating bridge enclosure were the pelorus stands (p&S). Atop these stands was mounted the pelorus instrument for taking the bearing of objects identified from the bridge. Figure 17 shows a pelorus stand outside the covered navigating bridge of *Titanic*.



Figure 17

Pelorus stand on *Titanic's* uncovered navigating bridge

Figure 18 shows a Kelvin and White patent pelorus instrument which would be mounted atop the pelorus stand.



Figure 18

Kelvin and White patent pelorus in storage box

Instruments and Equipment in or near the Wing Cabs

There were three main pieces of equipment and instruments in or near the wing cabs of the navigating bridge.

Whistle controls – Figure 19 shows the two whistle controls to the port side of the forward-facing window of the wing cab.

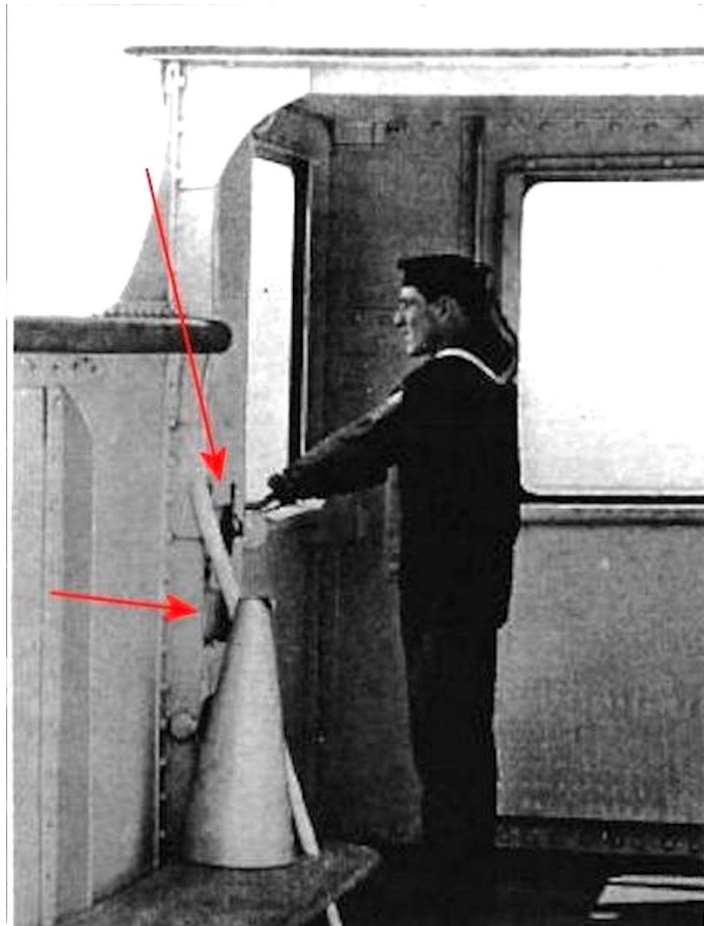


Figure 19

Whistle controls inside the wing cab

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Binocular box – Figure 20 shows the box in which binoculars for use on the bridge were stored.

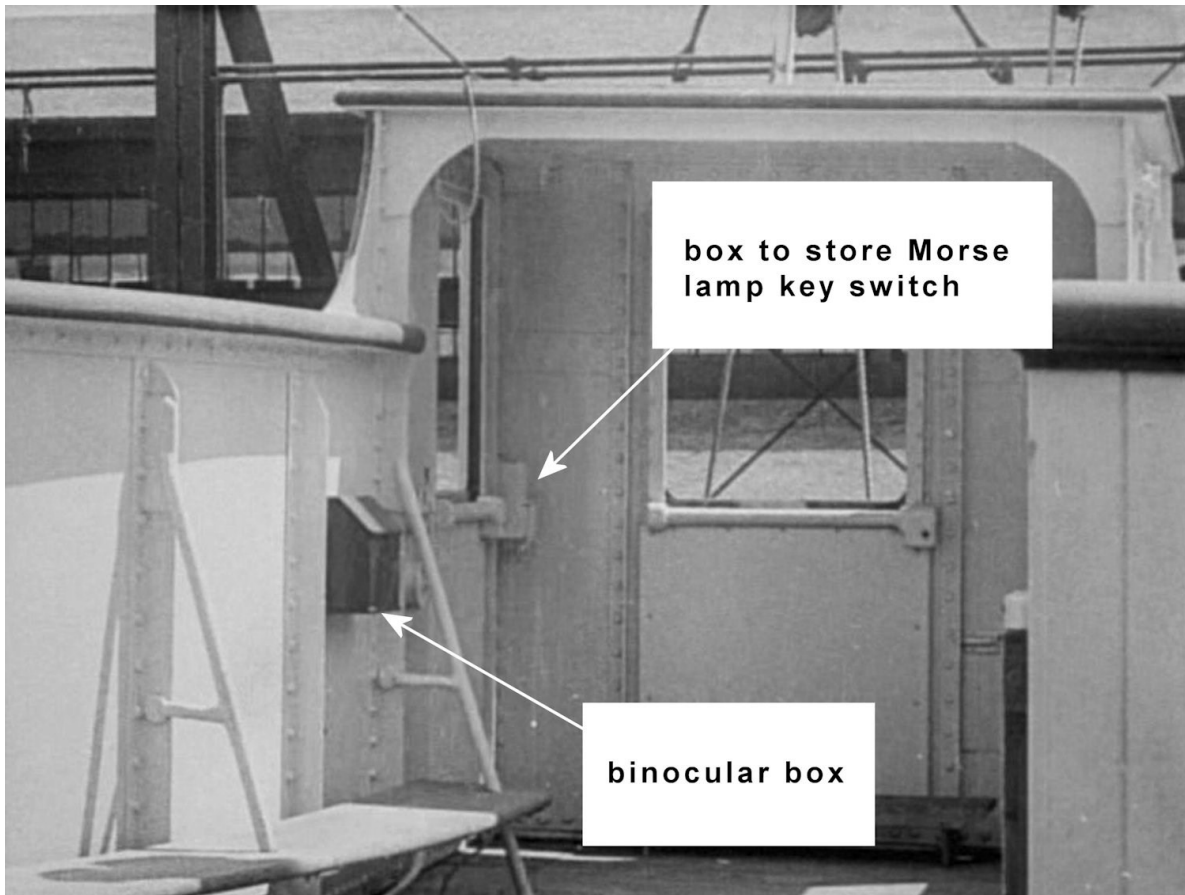


Figure 20

Binocular storage box just outside the wing cab

Figure 21 shows a pair of binoculars recovered from the *Titanic* wreck.



Figure 21

Binoculars recovered from the *Titanic* wreck

Wightman's patent Morse lamp key switch – Figure 20 shows the storage box in which was kept the Morse lamp key switch. When it was necessary to use the signal lamp atop the wing cab, the storage box was opened and the signal key switch was retrieved. This key switch was a box with a signaling key on its upper face. Also on this upper face was a lighted Morse code alphabet. When the key was depressed the Morse signal lamp illuminated and the illuminated alphabet display went dark. As soon as the key was released the Morse alphabet display again was lighted. Figure 22 shows this Morse lamp key switch.

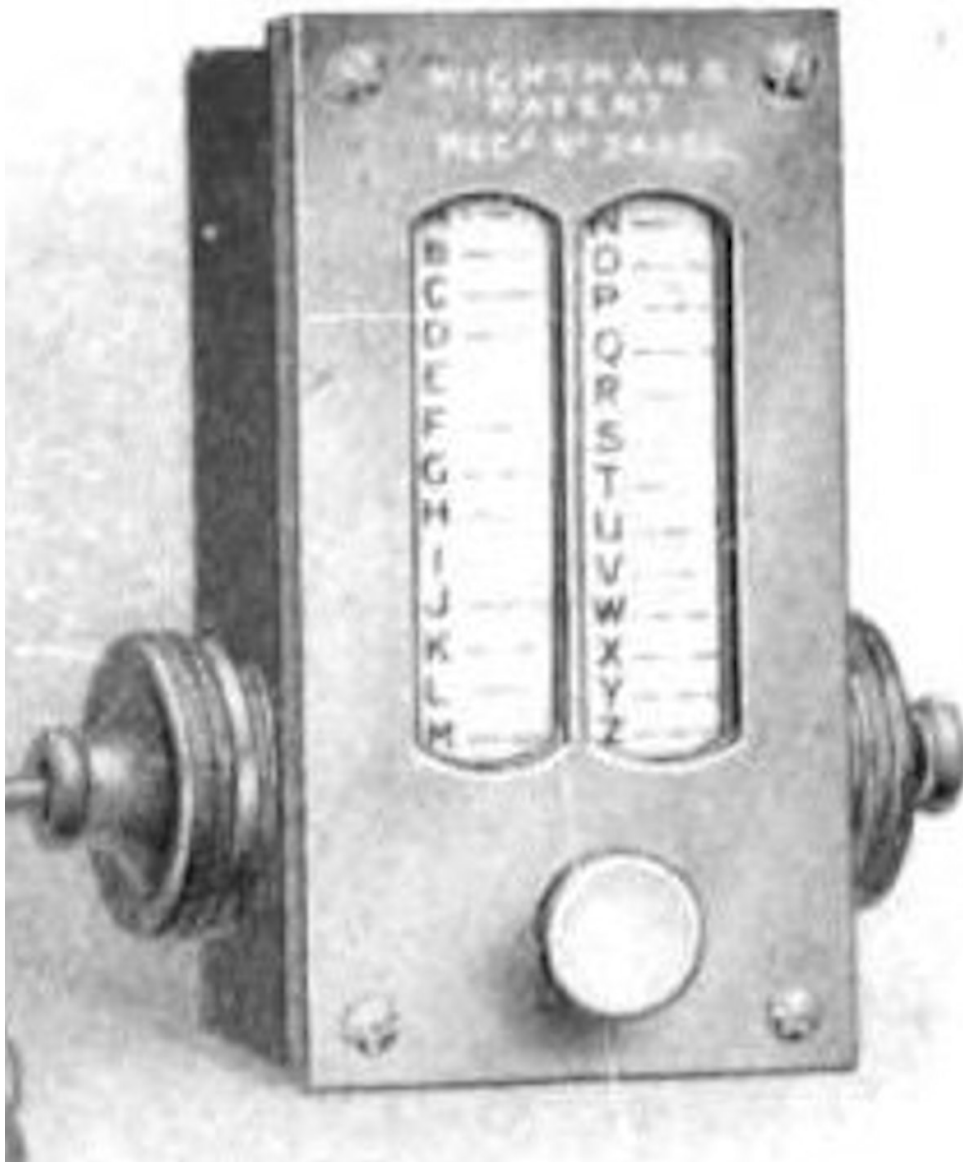


Figure 22

Wightman's patent Morse lamp key switch

Conclusion

The instruments and equipment required for ship operations on the navigating bridge of *Titanic* were many and varied. This article has cataloged these items and has briefly explained their use. Aspects of certain instruments may not be entirely clear as of the writing of this article but the basic use of them is not really in question.