

The Titanic (Courtesy of Mr Kenneth Hayes)

In 1911 RMS Titanic was launched, an Olympic Class triple screw Steamship with a Gross Tonnage of 46,328 over 1,000 tons more than her sister ship, RMS Olympic launched in 1910. Both the Titanic and the Olympic were built at the Harland and Wolff shipyard in Belfast for the White Star Line. The Titanic cost £1,500,000 to build and fit out and was launched on 31st May 1911. Following her fitting out the Titanic underwent her sea trials in the Irish Sea commencing on 2nd April 1912. The Titanic had five decks, (two partial), two masts, and was Clencher built (a method of riveting steel plates), with fifteen bulkheads and seventeen water ballast tanks with a capacity of 5,726 tons and her displacement was 7,7780 tons, displacement per sq. inch at the same depth 150 tons.

Figure 1- The Titanic



She had four triple cylindrical reciprocating inverted vertical direct acting surface condensing engines, (two reciprocating and one turbine), 24 boilers and three shafts, all manufactured by Harland and Wolff in Belfast. The workforce comprised 1,500 men and during the construction of the Titanic 6 workmen were killed and there were 246 injured, 28 severely. The Titanic was 852 feet long and 92 feet broad, her top speed was registered at 21 knots, and she was registered in Liverpool She sailed on her maiden voyage bound for New York, at noon on Wednesday 10th April 1912 via Cherbourg in northern France and Cobh in southern Ireland, with 992 passengers and 885 crew. At Cherbourg 274 more passengers embarked and 24 disembarked. Titanic arrived at Cobh at 11.30am on Thursday 11th April 1912 and a further 113 passengers embarked and 7 disembarked. Among the departures was Father Francis Brown a Jesuit Priest who was a keen photographer and took many photographs aboard Titanic including the last known photograph of the ship and there was an unofficial departure of a crew member, a stoker named John Coffey, a native Cobh, (still known as Queenstown in 1912), by hiding among mail bags being transported ashore.

Figure 2 She sailed on her maiden voyage bound for New York, at noon on Wednesday 10th April 1912 via Cherbourg in northern France and Cobh in southern Ireland, with 992 passengers and 885 crew. At Cherbourg 274 more passengers embarked and 24 disembarked. Titanic arrived at

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Figure 2 - The Headquarters of the White Star line then and now



After leaving Queenstown Titanic followed the Irish coast as far as Fastnet Rock, a distance of some 55 nautical miles (63 miles; 102 km). From there she travelled 1,620 nautical miles (1,860 miles; 3,000 km) along a Great Circle route across the North Atlantic to reach a spot in the ocean known as "the corner" south-east of Newfoundland, where westbound steamers carried out a change of course. Titanic sailed only a few hours past the corner on a rhumb line leg of 1,023 nautical miles (1,177 miles; 1,895 km) to Nantucket Shoals Light when she made her fatal contact with an iceberg. The final leg of the journey would have been 193 nautical miles (222 miles; 357 km) to Ambrose Light and finally to New York Harbour. The Titanic had received a series of warnings from other ships about drifting ice in the area of the Grand Banks of Newfoundland, but these warnings were ignored by the Captain of the Titanic. It was generally believed that ice posed no threat to large vessels and Captain Edward Smith had himself declared that he could not imagine any condition that would cause a ship to founder as modern shipping had gone beyond that.

On Sunday 14th April 1912, at 11.40 pm (ship's time) the lookout, Fredrick Fleet, spotted an iceberg dead ahead of the Titanic and alerted the bridge. First officer William Murdoch ordered the ship to be steered around the obstacle and the engines put in reverse, but it was too late as the

starboard side of the Titanic struck the iceberg creating a series of holes below the waterline. Five of the ship's watertight compartments were breached and it soon became clear that the ship was doomed, as she could not survive more than four watertight compartments being flooded. The Titanic began to sink bow first with water spilling from compartment to compartment. Those aboard were ill prepared for such an emergency. The ship's lifeboats could only hold half of those on board and if the ship had carried her full complement of about 3,339 passengers and crew, only about a third could have been accommodated. The crew had not been trained adequately in evacuation procedures. The officers did not know how many they could safely put in a lifeboat and many were launched barely half full. Third class passengers were largely left to fend for themselves causing many of them to be trapped below decks as the ship filled with water. The 'women and children first' protocol was generally followed for the loading of the lifeboats and most of the male passengers and crew remained on board, though the lifeboats had room for almost 500 more people in them than when they were launched.

At 2.20 am, two hours and forty minutes after the Titanic struck the iceberg, Titanic's rate of sinking suddenly increased as her forward deck dipped underwater and the sea poured through the open hatches and grates, and as her unsupported stern rose out of the water exposing the ship's propellers, the ship split apart due to the immense strain on her keel. The stern remained afloat for a few minutes longer, rising to a near vertical angle with hundreds of people clinging to it and at 2.20am the stern section also sank. The remaining crew and passengers and crew were plunged into lethally cold water with a temperature of only 28F, (-2C); almost all of those died of hypothermia, cardiac arrest or drowning and only 13 of them were pulled into lifeboats. Distress signals were sent by wireless telegraph, distress rockets and lamp, but none of the ships that responded were near enough to reach her before she sank. A nearby ship, the Californian, which was the last to have been in contact with Titanic before the collision with the iceberg failed to assist. Around 4 am on Monday 15th April 2012 RMS Carpathia arrived at the scene in response to the Titanic's distress calls. A total of 710 people survived the disaster and were conveyed by the Carpathia to New York, Titanic's destination; 1,514 people lost their lives.

Figure 3 - Carpathia



It took three days, after leaving the scene of the disaster, for the Carpathia to reach New York, having had to negotiate pack ice, fog, thunderstorms and rough seas. The Carpathia docked in New York at Pier 54 at 9.30 am on 18th April where she was greeted by 40,000 people waiting at

the quayside in heavy rain. Immediate relief was provided for the survivors with clothing, transport and shelter, by the Women's Relief Committee, the Travellers' Aid Society, and The Council of Jewish Women, among other organisations. Many of the Titanic's surviving passengers did not linger in New York but headed onward immediately to relatives' homes. Some of the wealthier survivors chartered private trains to take them to their destinations and the Pennsylvania Railroad laid on a train free of charge to take survivors to Philadelphia. Titanic's 214 surviving crew members were taken to the Red Star Line's steamer SS Lapland and accommodated in passenger cabins. The Carpathia was quickly restocked with food and provisions before resuming her journey to Fiume in Yugoslavia. Her crew were given a bonus of a month's wages by Cunard as reward for their actions and some of the Titanic joined together to give them an additional bonus of nearly £900, (£66,000 today) divided among the crew members.

Two inquiries were held into what happened to the Titanic and what could be done to prevent a recurrence of the disaster, one in New York and the other in the London. The United States Senate initiated an inquiry into the disaster on 19th April, a day after the Carpathia had arrived in New York. The Chairman of the Inquiry, Senator William A. Smith, wanted the chance to gather eye witness accounts from the surviving passengers and crew while events were still fresh in their minds; he also wanted to subpoena the surviving British passengers to prevent them from returning to the UK before the American inquiry was completed, which took until 25th May.

Lord Mersey was appointed to head the British inquiry which was held between the 2nd May and 3rd July. Each inquiry took testimony from passengers and crew of the Titanic, crew members of the Californian, Captain Rostron of the Carpathia and other expert witnesses.

Both inquiries reached broadly the same conclusions, that the regulations on the number of lifeboats a ship had to carry were out of date and inadequate, that Captain Smith had failed to take proper heed of ice warnings and that lifeboats had not been properly filled or crewed and that the collision was caused by steaming into a dangerous area at too high a speed.

The recommendations included major changes in maritime regulations to implement new safety measures, such as ensuring more lifeboats were provided and that lifeboat drills were properly carried out and that wireless equipment was manned around the clock.

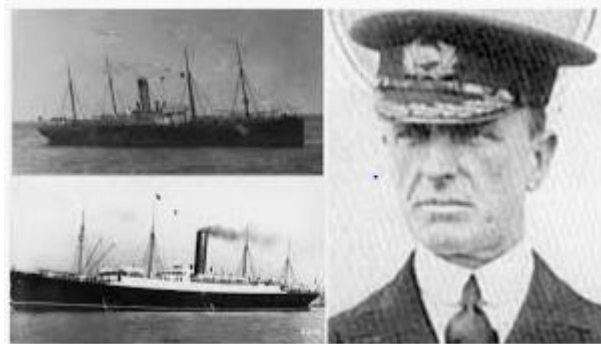
An International Ice Patrol was set up to monitor the presence of icebergs in the North Atlantic and maritime safety regulations were harmonised through the International Convention for the Safety of Life at Sea. Both these measures are still in place today.

One of the most controversial issues examined by both inquiries was the role of the SS Californian which had only been a few miles away from the Titanic, but had not picked up her distress calls or responded to her signal rockets. The Californian had warned the Titanic by radio of the pack ice which was why the Californian had stopped for the night, but had been rebuked by Titanic's senior radio operator Jack Phillips.

Testimony given to the British inquiry revealed that at 10.10 pm the Californian observed the lights of a ship to the south and it was later agreed between Captain Stanley Lord and third Officer C.V.

Groves, (who had relieved Lord of duty at 11.10 pm), that this was a passenger liner. At 11.50 pm the Officer had seen the ship's lights flash out as if it had shut down or turned sharply and the port lights were now visible. Morse light signals to the ship were made upon Lord's orders but were not acknowledged. Captain Lord had gone to the chartroom to spend the night. However Second Officer Herbert Stone, now on duty, notified Lord at 1.10 am that the ship had fired 5 rockets. Lord wanted to know if they were Company signals, that is, coloured flares used for identification. Stone said he did not know and that all the rockets were white. Captain Lord instructed the crew to continue to signal the other vessel with Morse lamps and went back to bed. Three more rockets were observed at 1.50 am and Stone noted that the ship looked strange in the water as if she was listing. At 2.15 am Lord was notified that the ship could no longer be seen and Lord again asked if the lights had had any colour in them.

Figure 4 - Captain Lord & the Californian



The Californian eventually responded. At 5.30am Chief Officer George Stewart awakened radio officer Cyril F. Evans, informed him that rockets had been seen during the night and asked him to try to communicate with the ship. He got news of the Titanic's loss and Captain Lord was notified and the ship set out to render assistance. She arrived well after the Carpathia had already picked up all the survivors. The inquiries found that the ship seen by the California was the Titanic and it would have been possible for the California to come to her rescue and therefore that Captain Lord had acted improperly in failing to do so. Lord protested his innocence to the end of his life. Many researchers have asserted that the known positions of the California and the Titanic made it impossible that the Titanic was a mystery ship, a topic that has generated millions of words and many hours of heated debate and still continues to be contentious.

There is no doubt that the 'unsinkable ship' that sank with a huge loss of life changed maritime safety and led to the setting up of nautical training schools for young men and nowadays young women, to be able to take up a career at sea in both the Royal Navy and Merchant Navy in the UK. The London Nautical School is the only one of these Nautical Training Schools, with a Nautical training ethos, still in existence today, 100 years later.

Harland and Wolff who built the Olympic and her sister ship the Titanic, was one of the largest shipbuilding companies in the British Isles. The Olympic led a largely blameless life from 1911 until 1935 when she was scrapped, and she saw extensive service in the First World War which earned

her the nickname, 'Old Reliable'. Harland and Wolff also had a ship repairing yard in Surrey Docks on the Thames and they repaired the London Nautical School boats up to the 1960s. The Surrey Docks could not take ships the size of the Olympic but they did take ships of the Cunard Line up to 14,000 tons. (Hayes, 2004)