

The Titanic Disaster

【April 15, 1912, Saint Jones offing 604k, Newfoundland, East 1,610km of Boston, Massachusetts, the U.S.A.】

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The luxury passenger liner Titanic, which was said to be unsinkable, on its way from England to New York collided with an iceberg and sank. Titanic, despite of the multiple iceberg warnings it had received, she did not slow down. When the crewmembers discovered an iceberg, they steered the ship to evade it, but the vessel could not avoid the collision. A large quantity of seawater flooded into the ship due to damage to a major section of the hull and the ship sank. Insufficient number of lifeboats and the late call for help led to 1,517 deaths.

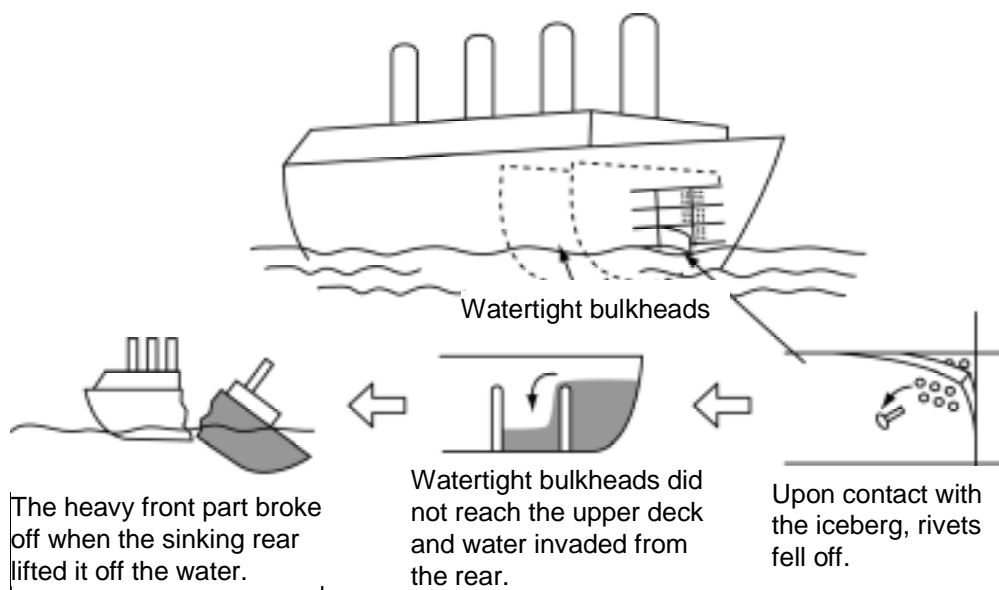


Figure 1. Submergence of Titanic [3]

1 . Event

The luxurious passenger liner Titanic collided with an iceberg and sank on the way from England to New York. When crews discovered an iceberg, they steered the ship to evade it, but the vessel collided, the hull eventually broke in half, and sank. Insufficient number of lifeboats and the late call for help were responsible for many of the 1,517 deaths.

2 . Course (cf. Figure 2)

Titanic, which the entire world was keeping its eye on, was thought to be an unsinkable ship. On April 10, 1912, it left the British port of Southampton toward New

York in the US on her maiden voyage with about 2,220 passengers and crew on board a month after its original scheduled departure. After starting on the voyage, Titanic received warnings that there was drift ice ahead from another ship twice, but she kept traveling at a high speed of 20.5 knots without slowing down, as the departure had been further delayed by an hour.

At 23:40 on April 14, the crew discovered an iceberg 450m ahead and steered the ship and slowed down, but could not prevent the ship from grazing the iceberg. After colliding with the iceberg, they did not immediately ask for rescue via the wireless, and some passengers did not even know about the collision.

Titanic sent help through the wireless for the first time at 0:14. The nearest ship, the California, was at 19 NM (nautical miles, about 35km) from Titanic, had already turned off the wireless at midnight. The Carpathia, which was 56 NM away, received it and headed its way to rescue.

Titanic launched a signal flare at 0:44, but the California that was traveling nearby did not take it as a rescue signal and left without stopping. Titanic sank at 2:20am. The Carpathia finally arrived at 4:10, two hours after the ship had submerged.

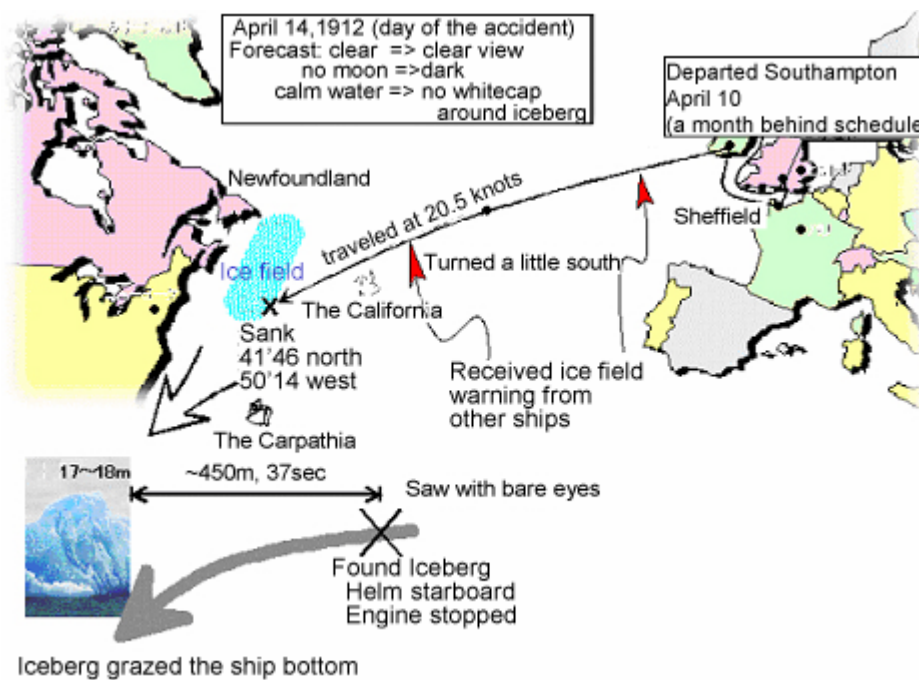


Figure 2 Process to Titanic iceberg collision [1]

3 . Cause

The direct cause of this accident was a collision with an iceberg. The hull consisted of a large number of compartments, an unusually of building a ship at the time but the collision damaged the ship by a tear in the side and many compartments were destroyed upon contact. The ship then could not depend on the momentum by other

compartments that would have allowed her to correct its posture. In addition, there were causes that Titanic ignored warnings of an iceberg twice, that the amount of drift ice was increased because the departure was delayed by one month, and crew did not use binoculars for monitoring even in the poor visibility at night. Reasons for the large number of victims were insufficient the number of life-boats, the crew not sending a rescue signal immediately after the collision from the overconfidence in the hull with many compartments, and a nearby ship the California turning off their wireless and not knowing the meaning of the lamp signal.

4 . Countermeasure

Titanic issued a rescue signal, but it was already late, way too late, due to overconfidence that the hull consisting of many compartments was safe. In addition, there were not enough lifeboats and even some of them took off without reaching loading victims to their capacities.

5 . Immediate action

Many safety measures enacted after the incident. For example, USCG (US Coastal Guard) came to offer data and information on icebergs for safe navigation. The crew of the ship, of course, learned to catch warnings of icebergs seriously.

6 . Summary

Titanic was a rare ship in those days, which had 15 compartment walls with a double bottom and automatic watertight doors that could be closed from the bridge by an electric switch. *The Shipbuilder* magazine in the summer of 1911 described Titanic as "the ship is practically unsinkable". Each newspaper in response to these words began to talk sensationally, and the legend of the unsinkable ship Titanic was complete. It caused delays in many actions after she collided with the iceberg, and that was said to be the greatest factor that led to the large number of victims of this accident.

7 . Knowledge

A myth of safety easily gives people a faulty image of safety. The people put too much confidence in the ability of people, machines, and systems. As for the particularly technical change, only improvements are emphasized, and a preparation for the worse case is overlooked.

In addition, it will lead to a large failure unless people listen to warnings without putting too much confidence and overlooking actual ability. It is important to prepare sufficient safety measures and minimize effects in case of an accident. It may invite the worst situation when enough preparations are not taken.

8 . Background

Because Titanic aimed for the record of the shortest Atlantic crossing on her maiden voyage, and she was reluctant to slow down even upon receiving warnings of icebergs. The reputation of “unsinkable ship,” with its hull structure consisting of many watertight compartments, also led to no one even think that There was no weather forecasting or radar in those days and Titanic traveling at high speed at night, and foreseeing the accident was difficult. It seems, however, that the number of victims could have been largely reduced if there were sufficient safety measures such as loading enough lifeboats.

<References>

- [1] Study Introduction of National Maritime Research Institute, Marine Safe Study: Summary of Titanic Disaster, <http://www.nmri.go.jp/sed/psa/titanic/02.htm>
- [2] Real Titanic: <http://homepage1.nifty.com/Titanic/real/>
- [3] “100 Scenarios of Failure” by Masayuki Nakao, Morikita Publishing (2005)