

COLLISION WITH ICEBERGS HAS BROUGHT GRIEF TO MANY VESSELS

Sinking of Titanic Recalls Other Disasters, Though None Was So Appalling.

Accidents Happen Despite the Great Precautions Taken to Guard the Ships.

THE appalling catastrophe which recently befell the White Star liner Titanic, when she was sunk in collision with an iceberg off Cape Race, with the loss of more than 1,500 lives, is the greatest of all ocean disasters. The sensational details, the failure of water tight compartments to protect against speedy sinking, the inadequacy of wireless telegraphy against the failure of a ship to keep aloft, are already matters of history.

Of former collisions of steamships with icebergs the last before that of the Niagara, reported about the same time as the Titanic tragedy, was the encounter of an iceberg by the Anchor liner Columbia, from Glasgow, on Aug. 2, 1911. The collision occurred in a dense fog, when the Columbia was 180 miles north and 57 miles east of Cape Race. Huge tons of ice fell upon her fore-castle, and her stem was smashed in to the water line. The upper parts of her bow plates were

She crashed into a berg off the Newfoundland banks and immediately began to sink at the bow. But she was steaming only at the rate of fifteen knots, and her collision bulkhead—the only thing that stood between her 300 passengers and crew and destruction—withstanding the shock, and no lives were lost.

Next to fog, icebergs are regarded as the source of greatest peril to vessels navigating the north Atlantic. According to all accounts brought by incoming ocean steamers, this menace has been greater during the last few weeks than in any recent year. The presence of a great number of icebergs in the lane of transatlantic traffic just now does not, however, necessarily indicate any extraordinary conditions in the Arctic during the past winter. According to the most reliable estimate of scientists, it requires as a rule from three to four years for an iceberg to drift across the polar basin and reach that region of the At-

degrees north latitude. The Titanic's wireless operator gave the position of the steamship when the collision came as 41 degrees 46 minutes north, or 108 miles to the north of the southern boundary of the Atlantic region where the danger from icebergs is an ever present one.

The hydrographic office of the navy department from time to time has sent out much detailed and reliable information regarding the formation and travels of the icebergs and ice fields in the north Atlantic.

Until within a comparatively recent period it had been presumed that the icebergs that infested the Atlantic during the spring and early summer months had broken off from the border of the great Arctic ice fields. This, according to the light of later research, is an erroneous theory. The iceberg that drifted directly in the path of the Titanic, it is almost certain, was a small fragment of a huge glacier that years ago had disengaged itself from the interior ice cap of western Greenland, sliding with irresistible and devastating momentum toward the coast and finally plunging into the deep sea.

It is when the edge of such a huge glacier reaches a steep coast that from time to time fragments are broken off by their own weight, caught up by the ocean currents and carried off.

The size of these fragments varies greatly, but according to the reports of the hydrographic office an iceberg from 60 to 100 feet to the top of its walls, with pinnacles and spires reaching from 200 to 250 feet in height, are not unusual in the Arctic sea. These measurements apply only to the mass of ice above the surface of the water. This constitutes from one-eighth to

rugged promontories and numberless islands and cliffs surrounded by reefs and shallow water. Some of the icebergs are crushed against the rock-bound coast, others are caught in the deep flocks of Greenland before they reach the open sea at all. Others again are aground in the shallow waters along portions of the coast until only a small percentage of a year's output of icebergs ever reaches far enough south to bring misfortune to transatlantic shipping. According to the reports issued by the hydrographic office at Washington, the ice in such bergs is of extraordinary brittleness. There is authentic information showing that a blow with an ax, the concussion of a gun-shot or the heavy blast of a steamship whistle has had the effect of splitting the huge mountain of drifting ice. They are more readily broken in warm weather. On the coast of Labrador during the short summer that prevails there, when it is packed with icebergs, there is a constant and almost deafening crash as icebergs collapse in collision with the coast or with other bergs.

Modern Safety Devices.

In these days of progress in marine architecture, when the up to date liner is a floating hotel, with every device for the safety, comfort and amusement of the passengers, the loss of such a vessel as the Titanic comes as a shock to those who have been figuring on how to build "the largest vessel in the world." The Titanic, with her fifteen automatic self closing bulkhead doors, was considered unsinkable, not only by the officials of the White Star line, but by those who had made a study of modern shipbuilding.

Up to date vessels are all equipped with these water tight compartments, which in time of danger are of primary importance. The captain on the bridge, standing at the central control of the bulkhead doors, can by the simple pressing of a single electric button close every door the length of the vessel and transform her in a few seconds into a craft which the modern shipbuilders have claimed would float with many of her water tight compartments flooded.

If the electric signal indicated a minor accident in a particular part of the ship by pressing buttons on the bridge her skipper could close the compartments in that section.

Submarine Bell Device.

Another device for marine safety is the submarine bell signal, with which every vessel is fitted. These bells are also mounted on reefs and points of land. Their action is by wireless or hand ringing, and they come into play whenever two vessels approach within range or when a ship nears the land station to which they belong. This notification usually comes to the skipper or man in command of the bridge in time for him to change his course or check his headway. The range of notification is several miles. This device enables vessels swallowed up in the dense fogs off the banks or in mid-ocean to learn of each other's proximity long before any fog siren or sounding bell would be audible. It is also, of course, much more efficient than the most powerful searchlight.

Since their installation on the modern ocean liners many collisions have been averted by their use, it is said, and experts have declared that many a disaster of ships running on rocks or into collision could have been averted if these submarine bells had been in use.

One Test of the Bell.

As an example of the efficiency of the submarine signal bell, the tug Eugene F. Moran was piloted from a point three miles out in the open sea to the Ambrose channel lightship by a man blindfolded. He followed the course by the guiding sound of the bell ringing some thirty feet below the surface of the sea. This took place on Feb. 31, 1909.

The Moran went down the lower bay to Ambrose lightship and ran alongside to request that the submarine bell on board be kept ringing. In a short time the man who had the telephone headpiece connected with the microphone receivers at the bow of the tug reported that the bell was ringing. Three miles beyond the Hook Assistant Engineer Fay was blindfolded, and the tug was put out of her course to confuse him. With the receivers at his ears, however, he corrected the course and brought the tug without much difficulty back to the Ambrose lightship.

Within a few months, with a new type of wireless equipment, which is Marconi's latest invention, steamships caught in a dense fog need have no more fear of it than they have now of the starlight or the morning's sunshine. This new device is known as the wireless compass. Marconi said in a recent interview that the dread of the fog is the last remaining anxiety of seafarers. By means of special wireless waves he proposes to inform the commanders of vessels the exact direction from which each message comes.

A Chaser.

The Inquisitive Old Woman—Guard,—why did the train stop before we came to the station.

The Guard—Ran over a pig, mum.

The Inquisitive Old Woman—What, was it on the line?

The Guard—No—oh, no; we chased it up the embankment!—London Sketch.

Closed Season.

"Your proposal comes too late."

"Then you have engaged yourself to another?"

"No."

"Then why not be engaged to me?"

"The silly season is over now."

TITANIC, WHICH COLLIDED WITH AN ICEBERG, THE GREATEST SHIP

White Star Liner Was on Her Maiden Trip From Southampton to New York.

A Marvel in Luxury—Of 66,000 Tons Displacement—Required Crew of 860.

THE new White Star liner Titanic, which was recently in collision with an iceberg on her maiden trip from Southampton to New York, is described by her owners as follows:

The Titanic and her sister ship, the Olympic, are the largest ships afloat, being 100 feet longer than their next rival. These sea monsters are at the same time floating mansions of luxury, each capable of holding a townful of people. They are 882½ feet long, 92 feet in the beam and 94 feet in depth, with 45,000 tons register and 66,000 tons displacement.

With officers and crew numbering 860, the Titanic is capable of carrying 3,000 to 3,500 passengers—cabin and steerage. She was built to be the last word in size, speed, power and sea luxury, and it would take a powerful imagination to conceive the magnificence and detail for comfort and luxury and pastime on the great ship. Its interior more closely resembles a huge hotel, with heavy balustraded wide stairways and elevators running up and down for nine stories; its great saloons and restaurants; its miniature

tain E. J. Smith was commander of the Olympic at that time, and he was in charge of the Titanic.

The Titanic, with about 1,300 passengers aboard, 350 of whom were in the first cabin, was leaving her pier when there was a sound as of a mountain battery being discharged. There was a rush of passengers to the port rail to see what the trouble was.

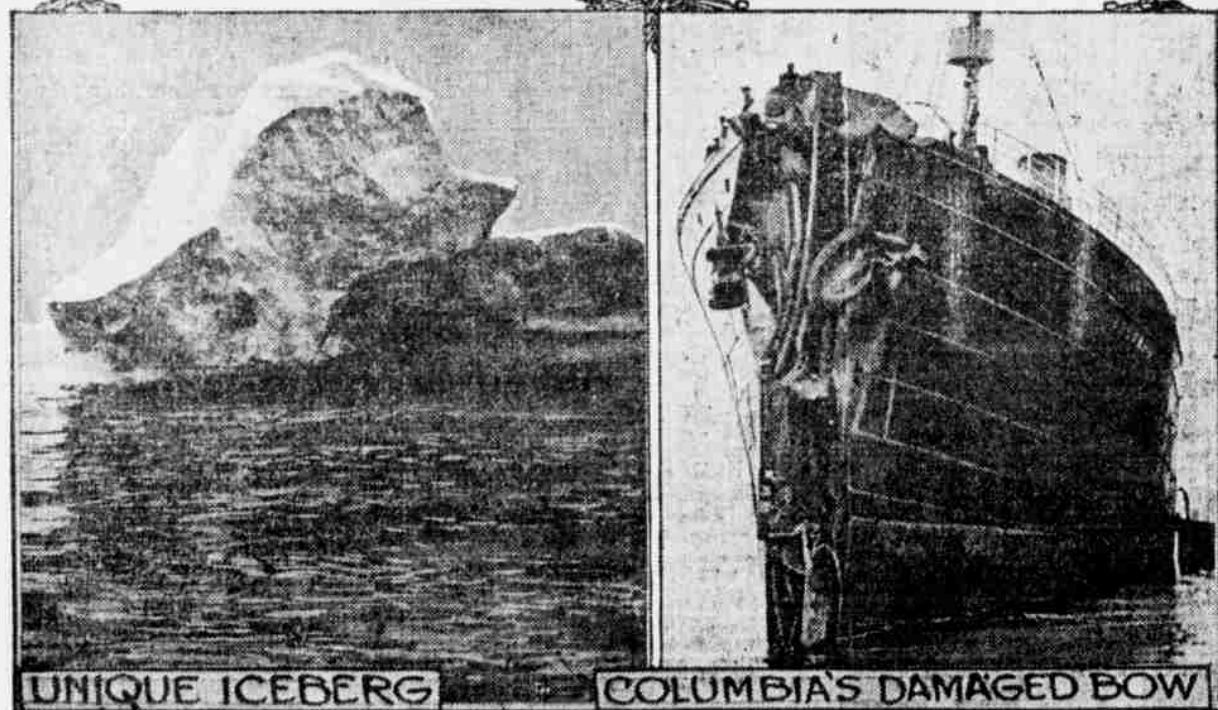
It then developed that as she passed out into the stream the 45,000 ton steamship had sucked the water between herself and the quay to so great an extent that the seven huge hawsers with which the American liner New York was moored to the pier had been snapped like threads.

The Olympic's Mishap.

The New York began drifting helplessly, stern first, toward the Titanic, which seemed to act like a magnet. Slowly the New York bore down on the Titanic, which reversed her engines. In a few minutes her headway was stopped and she began to move slowly astern. The tugs Neptune and Vulcan sped to the helpless American liner, caught her with hawsers, bow and stern, and towed her back to her



TITANIC IN COLLISION



UNIQUE ICEBERG

COLUMBIA'S DAMAGED BOW

The upper picture is a combination of photograph of the Titanic and drawing of an iceberg. Photo of the Columbia by American Press Association.

forced back ten feet. Several members of the crew and one passenger were injured. The Columbia was able to complete her voyage to New York.

On July 8, 1907, the North German Lloyd liner Kronprinz Wilhelm struck an iceberg off the banks in the uncertain light of early morning. Her bow was dented, and her starboard side was scraped badly by the ice, but which she had plowed her way at a speed of sixteen knots an hour. The steamship Volturno, on her way to New York from Rotterdam, also had a narrow escape from an iceberg in May, 1909, when, off the coast of Newfoundland, she plowed her way into an ice field, which ground deep scars into her sides. Some bergs passed so near her that great chunks of ice fell on her decks, but she escaped without serious damage.

Iceberg Peril Next to Fog.

The giant freighter Naronic of the White Star line, which disappeared from the eastward winter track across the Atlantic some time after Feb. 11, 1903, with seventy-four persons aboard, is also believed to have encountered an iceberg and to have gone down in collision with it. The facts of this disaster were never ascertained. Her overturned lifeboats were found floating derelicts long afterward 300 miles southeast of Newfoundland.

In August, 1899, the Donaldson liner Concordia, a cattle steamer, outward bound from Montreal, collided with a berg in the Belle Isle strait off the Newfoundland coast and had her bow crushed. To go farther back, there was the disaster to the old Gulon line steamship Arizona on Nov. 7, 1879,

lantic in which disaster overtook the White Star giantess on her maiden voyage.

How Ice Fields Are Formed.

The greatest precautions are taken on board the big ocean liners to guard against collision with icebergs. Not only are the officers on the bridge and the lookout in the crow's nest impressed with the fact that they must exercise the greatest vigilance when vessels approach the Newfoundland banks, where the danger from icebergs is the greatest at this time of the year, but the temperature of the water is taken frequently, and any striking drop indicated by the thermometer is certain to be accepted as a warning against the presence of icebergs in the vicinity.

This and the lowering of the temperature of the air—if one should happen to pass to the leeward of an iceberg—are about the most reliable of all the danger signals set against this peril. To the eye, indeed, an iceberg is not easily perceptible at night, even though the weather should happen to be clear and the moon, perchance, shining. Most of the icebergs have an intense white and bluish hue, which blends with moonlight in a fashion that may confound the most seasoned and vigilant of mariners.

Had the course of the Titanic carried her about a hundred miles to the southward of where the disastrous crash occurred she would in all probability have steered clear of all dangers from ice. According to the most expert mariners, an iceberg is rarely seen at this time of the year—or at any season, indeed—farther south than 40

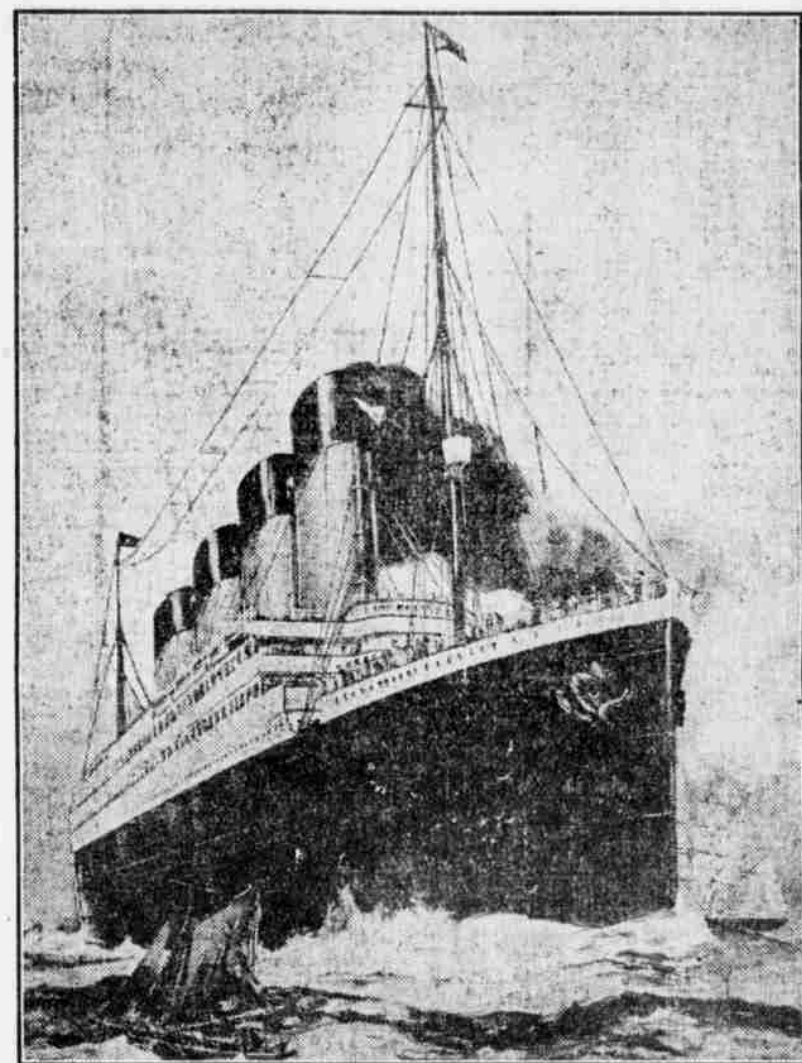
one-ninth of the whole mass. It would be futile to seek to render an estimate of the depth of an iceberg below the surface of the sea because this depth varies with the weight of that part which is above the water. A few years ago an iceberg which had a pinnacle of about 100 feet in height did not ground until it reached sixteen fathoms of water in the Belle Isle strait, near St. John's, N. F.

Carried South by Labrador Current.

Thousands of such fragments drop off every year. As they reach the water they are caught up by the polar currents. Nansen, during his expedition with the Fram; Amundsen, during the Arctic trip, he undertook in 1901, and the Duke of Orleans in 1905, made a study of polar sea physics. The course of the currents is pretty well known from the published result of their observations.

Along the northern part of the West Greenland coast, where most of the icebergs are created, there is a current setting off shore and toward the pole. This current carries the icebergs some distance northward until a junction is made with what is known as the Labrador current. This sets in in a due southerly direction along the coast of Baffin bay and Labrador. While at times it ceases entirely, and while its speed varies greatly, being greatest near the coast, after winds from the northward, it has been estimated by scientists that usually an iceberg is carried south by this current at a rate of from ten to thirty miles in twenty-four hours.

It is not by any means smooth sailing. All along the Labrador coast are



THE WHITE STAR LINER TITANIC.

theater, squash and tennis courts, swimming pools and Turkish bath-rooms; its great smoking room, card rooms and beautiful music rooms, and even on the top of its twelve decks a miniature golf links.

Private Promenades.

Two private suits with their own private promenades, wherein passengers can live as luxuriously at sea as in their own homes, illustrate some of the novelties. These suits are only designed for one or two persons, with accommodations for their servants, and the price asked for them for a single trip voyage is \$4,350. Without the porch single suits like these are sold for \$2,300.

The Titanic was launched at Belfast last May—that is to say, her huge hull was launched, but that only half completed the work of construction, to say nothing of the mammoth task of decoration.

The Titanic has nine decks of solidly constructed steel. The hull is divided into thirty water tight compartments, the doors of which can be simultaneously closed by the operation of a lever from the bridge. She is of the triple screw type. The two wing screws are driven by reciprocating engines, the central one by turbines. Her speed is twenty-one knots an hour.

Some idea of the immensity of the work involved in the construction of such a leviathan as the Titanic may be gained by a few statistics. The weight of the 500,000 rivets in the ship's double bottom alone is 270 tons. The heaviest plate weighs 4½ tons and is 36 feet long. The rudder weighs 100 tons. The largest beam used weighs 4 tons and measures 92 feet.

Near a Mishap at Southampton.

Captain Smith, her commander, the admiral of the White Star fleet, was in command of her sister ship, the Olympic, when she made her maiden voyage to New York and also when she collided with the British cruiser Hawke in the Solent last September. A disaster was narrowly averted the day the Titanic sailed from Southampton. It was similar to that which befell her sister ship, the Olympic. Cap-

berth. The tugs' timely arrival and quick work probably prevented a bad smash between the two liners.

Captain Smith was on the bridge of the Olympic on Sept. 20 last as she was outgoing in Cowes roads. The British cruiser Hawke, which was passing the liner to starboard, was suddenly drawn in, as if by an undercurrent caused by the giant's propellers, and crashed into the steamship's quarter about twenty feet from the stern. It required almost three months to repair the Olympic.

Captain Smith has been in the White Star's service for more than thirty years. His first important command was the Majestic in 1892. Every large ship of the line has been commanded by him since then, being put in charge of each one as soon as she was put in commission.

Noted Persons Aboard.

Among the first cabin passengers aboard the Titanic were Major Archibald W. Butt, Norman C. Craig, M. P.; Mr. and Mrs. Washington Dodge, Benjamin Guggenheim, Henry B. Harris, New York theater manager, and Mrs. Harris; Colonel Washington Roebling, the Countess of Rothes, Adolph Sealfield, Mr. and Mrs. Isidor Straus, Mr. and Mrs. Emil Taussig, Mr. and Mrs. George D. Widener, Mrs. J. Stewart White, F. D. Millet, the artist and president of the Consolidated American academy at Rome; C. M. Hayes, president of the Grand Trunk railway; J. Bruce Ismay, chairman and managing director of the White Star line; W. T. Stead and Colonel and Mrs. John Jacob Astor.

POETRY AND PUNS IN BIBLE.

Professor Torrey of Yale Cites Examples Before Oriental Society.

The world's most beautiful and perfect poetry is to be found in the Old Testament, according to Professor C. C. Torrey of Yale.

Professor Torrey said that the Bible is full of puns, and he proved his point with a series of examples of plays upon words, taking his illustrations from the book of Isaiah.