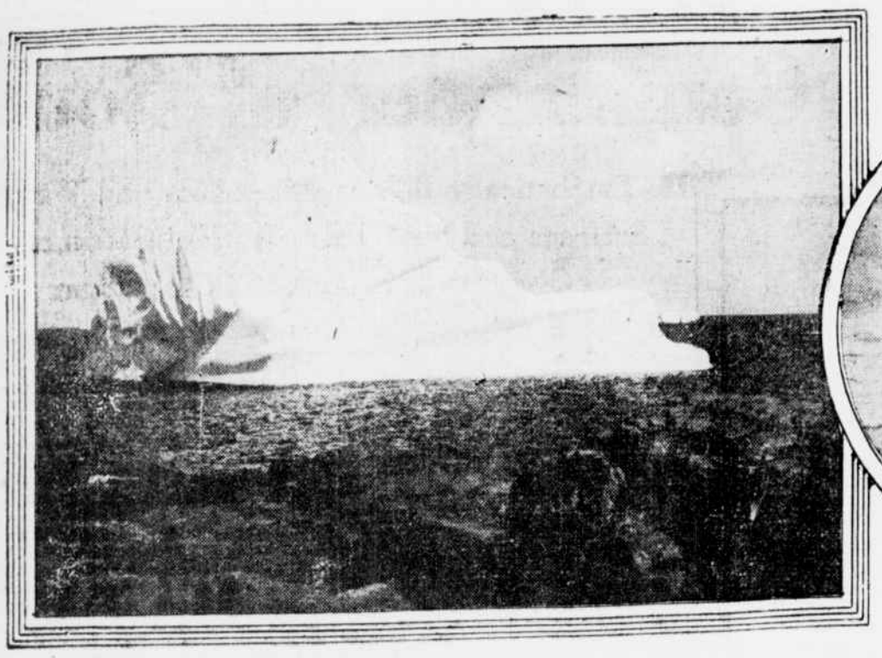
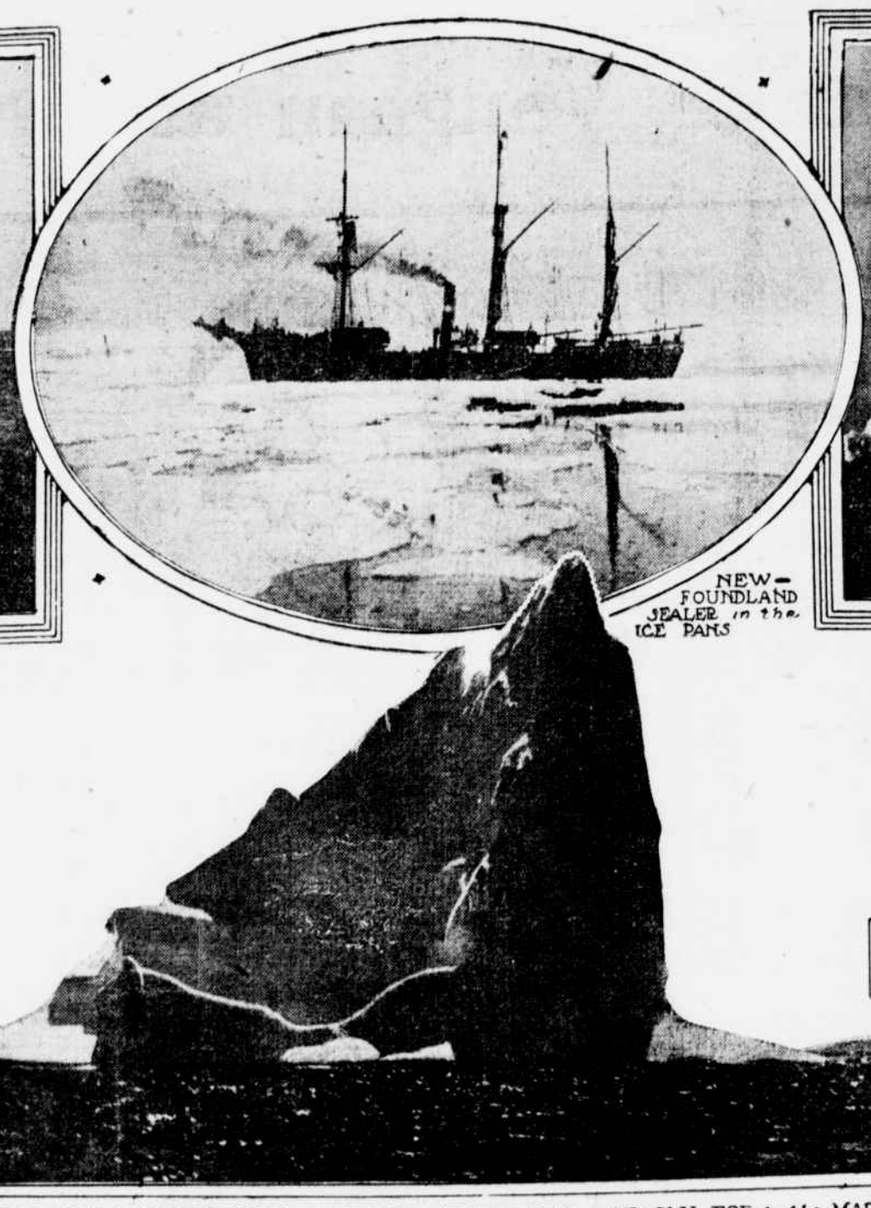
From Greenland's Fiords to "Graveyard of the Atlantic" Comes the Iceberg



THE LAST OF A GIANT BERG.
This berg grounded and gradually melted into this fantastic shape.



NEW-FOUNDLAND SEALER in the ICE PANS

A MENACE TO THE BIGGEST STEAMSHIP.

They Reach the Banks of Newfoundland in Bulks Sometimes Miles in Length, and Only Through Melting Influence of Southern Seas Do They Cease to Menace.

The Huge Ice Masses That Haunt the Region of Cape Race Make a Long Journey on Their Death Mission After Being "Calved" by the Parent Glacier.

THE epitaph, "the Graveyard of the Atlantic," which has been unanimously selected for the Grand Banks and the rugged cliffs of Newfoundland that bound the Banks on the west is as appropriate as it is hackneyed. No phrase could more truly describe that region of ocean currents, icebergs and fogs. If Cape Race may be called the Scylla of the modern transatlantic navigator, the combination of the water and the atmosphere represented in the currents, ice and fog may very properly be set down as Charybdis. The navigator of the Straits of Messina used to pray to Neptune to protect him from both. Apparently the powers of the earth still respect that ancient deity, for the statue erected to his memory on the waterfront of the city remained standing uninjured while the walls tumbled about it on that awful December morning a few years ago.

There is no similar deity to lead the mariner through the dangers of the Banks. The terrors of the rocks and whirlpools of the Italian strait have disappeared with the coming of the steamship, but the iceberg and the fog and the rocks of Newfoundland are as menacing to-day as ever they were in the history of navigation. Fortunately for the present day mariner, however, if he has been forsaken by the old god, invention and science have come to his aid, and the watertight bulkhead, the whistle, the thermometer and wireless telegraphy have combined to protect him and his charges from total annihilation. It is unlikely that in the future vessels with all on board will disappear leaving no record of their fate behind, as they have done in the past.

ICEBERGS THE GREATEST MENACE

The commander of the big liner fears two perils on the Newfoundland Banks. They are collision with another ship and the sudden looming up in front of an iceberg. Despite the fogs which hang over the Banks—from 40 to 45 per cent of the time in April—the dangers from the first peril have largely been eliminated, for the ships follow prescribed "lanes" which carry them well past each other and which can be avoided by small vessels. The steam whistle, the lights and the wireless telegraph are added protections. But the sinister iceberg carries no lights, no whistle, no wireless telegraph mechanism, and moreover, is no respecter of persons or the handiwork of man. Stolid, slow moving, imperturbable, it invades the ship's path and, unseen in the fog or the darkness of the night, may prove the vessel's undoing. While the watertight bulkhead, the foreknowledge of the approximate location of ice and the vigilance of the lookout avail much and are likely to save the great ship, yet on occasion the greatest liner succumbs.

The iceberg has its birth in the rocky fiords of Western Greenland. Under the ever present and irresistible pressure of "Greenland's icy mountains," the great ice cap, the remnant of that which once extended down over the northern part of the present United States, countless glaciers move toward the sea from an elevation of 9,000 feet. This sheet of ice covers an area estimated to be from 300,000 to 400,000 square miles, or from six to eight times that of New York State. It is believed that its depth in some parts is more than 6,000 feet. The ice gradually moves down the fiords to the sea level, having a greater or less speed, according to the season of the year, some of the glaciers travelling in the summertime as much as fifty or sixty feet a day. One glacier, that large one near Upernavik, has been known to move as much as 125 hundred feet in twenty-four hours.

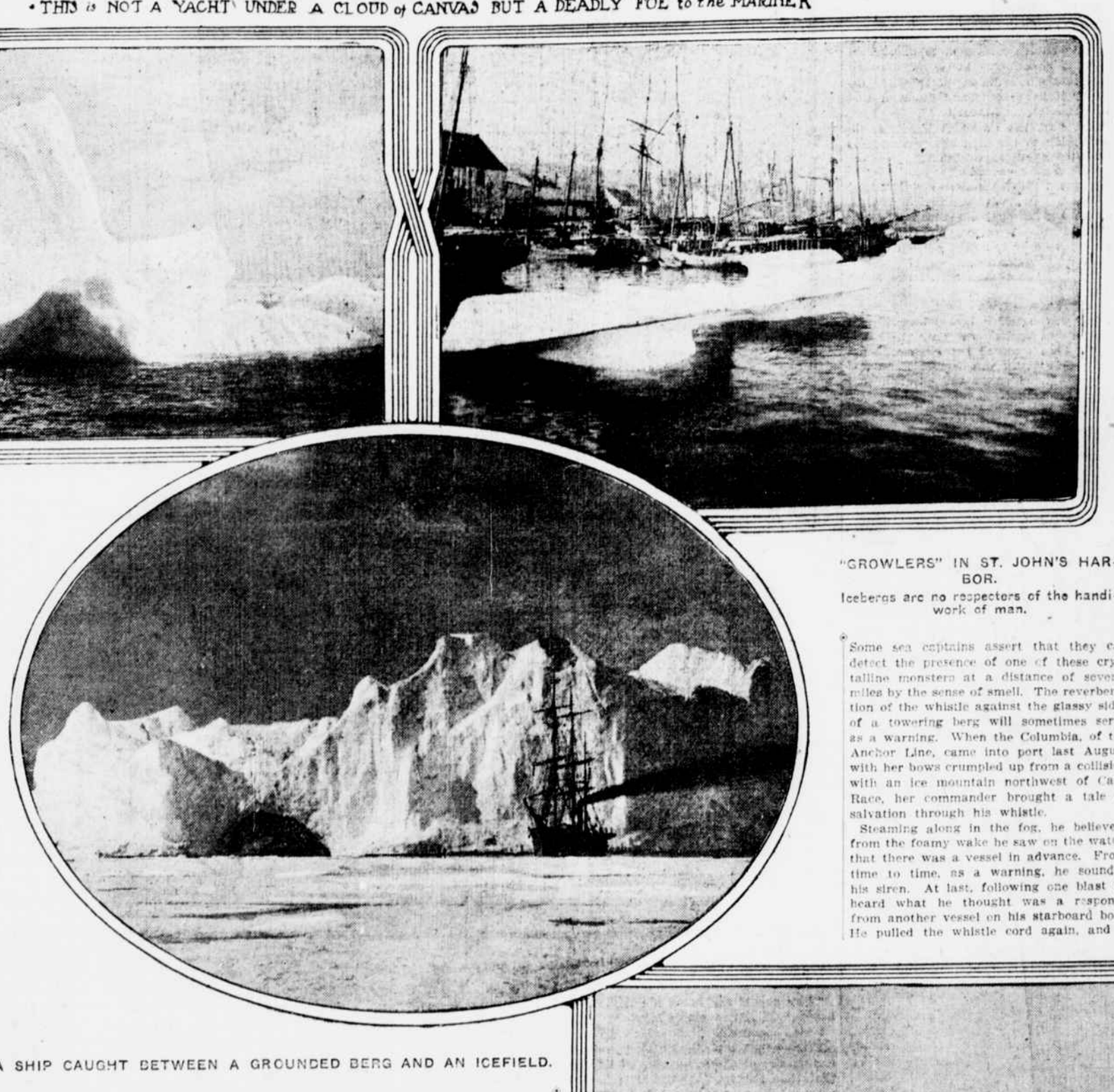
THE ICEBERG FACTORY.

The fringes of the ice cap as they flow into sea finally float and the ends are broken off. These floating fragments are the icebergs and the process of detachment from the parent glacier is called "calving." It has been estimated that the ice detached in this manner in the course of a year would cover half of Connecticut to the depth of the bergs themselves.

The bang of the separating ice may be followed by a great commotion in the water as the new berg, if it is a small one, turns over to readjust its equilibrium in its new environment. Then it floats out of the fiord or away from the shore carrying with it a quantitiy of the rock and soil which it has accumulated in the course of its journey down the slopes of Greenland. Settled for its voyage, it moves stolidly off into Baffin Bay or Davis Strait, as the case may be.

Some of these icebergs are miles in length, for the fronts of certain of the glaciers, such as those which come down to Melville Sound, are twenty-five or thirty miles in length. It is such glaciers as these that give birth to the bergs of the size described by the officer of the Etonian, which arrived here a few days ago. These larger bergs are slower in leaving the stream that gives them birth, for they must await the slow movement of time to carry them far enough into the water for their great bulk to be supported by that medium. The famous Humboldt glacier has a front sixty miles long and three hundred feet high with a depth of water of half a mile. It gives off enough bergs in the course of a year to form a chain clear across the State of New Jersey.

Slowly and steadily the icebergs follow the West Greenland current northwesterly across Baffin Bay and Davis Strait toward the western shore, where they are taken up by the Arctic current, flowing southward. Tere they are joined by the smaller bergs and ice floes that represent the wastage of the numerous islands, and the procession of majestic masses of steel blue and green, towering into the sky two hundred, three hundred and occasionally five hundred or six hundred feet, or nearly to the height of the Singer Tower, journeys toward the open Atlantic. Not a few of them would rival the Flatiron Building in elevation. A great many of these bergs, however, will fortunately never reach the Newfoundland Banks, for, the sport of the oceanic currents and the winds, they will become stranded upon the hidden shoals or outcropping rocks that skirt the coastline. The shoals are of their own making, for in the countless years they have been depositing on the bottom the fragments of Greenland's rocky pinnacles collected in their slow, grinding pilgrimage over the great island.



AN ICEBERG AND AN ICEFLOE PASSING THE COAST OF LABRADOR ON THEIR WAY SOUTH TO THE STEAMSHIP TRACK.

Their great submerged bodies, for as much as nine-tenths of their mass is hidden below the surface of the water, sometimes extending downward into the sea to a depth of more than a thousand feet, stick fast, and they become the prey of the waves, which gradually beat them to pieces. A few of those which escape the headlands of Labrador, caught by some slant of current, pass into the Strait of Belle Isle and through into the Gulf of St. Lawrence, on the west side of Newfoundland. The great majority of those which are not caught up on the inhospitable shores which Dr. Grenfell has made his country sweep down the eastern shore of the triangular island and across the Newfoundland Banks, which are generally believed to be made up of debris dropped by their predecessors through many generations, until they reach the warm waters of the Gulf Stream, flowing across the Arctic Current in a northeasterly direction. They come in contact with this famous ocean stream at about the 43d parallel of latitude and between the 48th and 54th degrees of longitude. They pass so close to the shores of Newfoundland that a person standing on the headlands of the narrow entrance to the harbor of St. John's can sometimes count dozens of bergs, "growlers" and small fragments of ice glistening white against the dark water and the sky as they pass in steady procession.

All this time they have been altering in shape and size. The changing temperatures of water and of air have affected their form. Some are now mere spires of glistening ice that might be likened to spar buoys warning the mariner of hidden dangers in the form of great submerged reefs of ice which would tear the bottom out of a ship if she struck and rode up on them. Others have weathered into curious arches that remind one of the natural rock bridges familiar to landlubbers. Still others present frowning cliffs that are as stolid and frowning as a rocky headland. From time to time as the centre of gravity changes through the processes of attrition and heat, the monster heels over with a mighty commotion, and woe betide the vessel that chances to be close by when this happens. Some present none of these characteristics, being simply giant tables of ice, acres upon acres in extent and sometimes miles in length, which are invisible in the darkness of the night.

FIRST GLIMPSE OF AN ICEBERG.

The first glimpse of an iceberg is likely to bring disappointment to one who has feasted his imagination upon descriptions of their ponderous bulk and imperturbable demeanor. The glistening white, marblelike blocks dotting the blue expanse to the horizon seem too small to be guilty of the disasters charged against them. They do not seem capable of causing the shipwrecks and suffering that lie at the bottom of the universal homage paid them by the mariner.

As one approaches them, they gain in grandeur and impressiveness. They range from 50 to 300 feet in height, and one that rose above the water to an elevation of 836 feet has been recorded. They vary in length and breadth, bergs a mile long and a quarter to a half mile wide being not uncommon. It is reported that one which was five miles in length ran aground in 1884 on Cape Race, and persons from the headlands of St. John's saw one three miles in length pass that point in 1893. One nearly five miles long was seen off the coast of Labrador in 1905, and in April, 1882, observers in the neighborhood of Notre Dame Bay, on the northeast coast of Newfoundland, saw one which is said to have been nine miles long and more than half a mile in width and 200 feet high. A similar one is reported to have been passed by the steamer Portia, off Cape Fogo, Newfoundland, five years later.

Fortunately, icebergs of such dimensions are seldom seen in those neighborhoods. These are said to be the largest bergs known. Their size may be imagined when one stops to recall that a person standing on the beach at Coney Island and looking off to sea could see no object such as a flat cake of ice on the water, even with glasses, at a distance of nine miles, owing to the curvature of the earth. The iceberg seen off Notre Dame Bay was approximately three-fourths the length of Manhattan.

Curious characteristics are seen sometimes when approaching an iceberg in the neighborhood of the Gulf Stream. It will be bearded with icicles formed from the dripping of the monster itself, and occasionally a cataract will be seen pouring from its crest into the sea, the source of which is a small lake formed on the top by the sun's rays and fog.

WHERE THE BERGS ABOUND.

Fortunately, a large number of the icebergs do not reach the Grand Banks, for they ground along the shore, but all too many of them do. From Cape Race to Cape Farewell, the southern extremity of Greenland, icebergs can be seen the year round, and as many as seventy-five hundred, besides the low-lying "growlers," have been recorded in one year at the signal station on Belle Isle, at the entrance to the strait of that name. In the neighborhood of Cape Fogo from 60 to 100 large icebergs can be counted from a steamer's deck at any time in midsummer. The period when they are to be most feared on the Grand Banks southeast of Newfoundland is from February to June. They are seldom seen south of 40 degrees north latitude, as they melt before they reach that point.

In order to assure a safe route for the big transatlantic liners during the period when icebergs are the greatest menace on the Banks, by agreement two courses were laid out a number of years ago from the British Channel to New York. The shorter of these, which takes the steamers across the Banks, is used from August 24 to January 14. This is the one on which the record passages are made. The long course carries the steamers to the south of the Grand Banks, the turn directly west being made at longitude 47 west latitude 42 north. The eastward course makes the turn at this point one degree further south. As the Titanic struck the iceberg in latitude 41:27, longitude 50:14, it will be seen that she was a trifle south of her course and almost midway between the westward and eastward courses.

Perhaps the Titanic took this course in order to avoid the ice. The necessity for looking for ice in that neighborhood was evident as early as April 10, the day the Titanic sailed from Southampton. On that date the German steamer Excelsior reported by wireless passing in latitude 41:50, longitude 50:25, a large ice field a few hundred feet wide and fifteen miles long, extending in a north-northeast direction.

THE LANES TO BE CHANGED.

Captain Smith of the Titanic steered south of his course when in the neighborhood of the Banks, and an hour or so before striking the berg relayed by wireless to the United States Hydrographic Office a message he had received from the German steamer Amerika reporting that that vessel passed two large icebergs in latitude 41:27, longitude 50:08. These bergs were slightly east and south of the point where the Titanic struck. On that same day the German steamer Pisa reported by wireless encountering in latitude 42:06, longitude 49:43 an extensive field of ice and seven icebergs of considerable size. These reports all indicated that there was much more ice than usual in this neighborhood for the season of the year. The steamers Carmania and Niagara had trying experiences with it, the latter suffering damage, and the Lapland, of the Red Star Line, reported contacts with ice.

As a result of the unusual volume of ice in this neighborhood, since the disaster to the Titanic, it has been agreed by the steamship lines that the westbound route beginning on April 25 should be the former eastbound course, which will take steamers coming to this country about fourteen minutes south of the spot where the Titanic sank, and the eastbound route beginning on April 16 should be fifty minutes south of the previous course. This will slightly lengthen the routes, but the courses will be more likely to be free from ice. In fact, they will practically be on the south side of the Gulf Stream, which will carry the bergs eastward on the north side of the steamship track and melt them rapidly.

The ocean currents are responsible for the dangers in the neighborhood of Cape Race and the Grand Banks. Not only do they bring the icebergs down, but the intermingling of the cold waters of the polar currents with the warm Gulf Stream on the Banks in the spring and summer causes fogs which add to the dangers.

On a clear day, of course, icebergs may be seen at a distance which removes them from the category of menaces. At night it is not so easy to distinguish them if the moon is not shining. In the case of a "growler" it might be impossible in the case of a great steamship driven at a high rate of speed by powerful engines to see them in season to prevent a collision. In July, 1907, the Kronprinz Wilhelm ran into a "growler," but she suffered little injury. When enveloped in the fog the iceberg becomes most sinister, for then it cannot be seen until too late to save the vessel.

There are various ways in which a captain may guess with some degree of accuracy regarding the proximity of an iceberg. A sudden fall in the atmospheric temperature might serve as a warning, the dread enemy have been invented, but they have not proved infallible as yet. One is a microthermometer, which is hung so as to drag in the water at the waterline of a ship and reveal the sudden change in the temperature of the water due to the melting of the iceberg. The inventor, Professor H. T. Barnes, of McGill University, has made a study of icebergs for the Canadian government in order to make navigation of the Gulf of St. Lawrence safer. Another device is that for detecting ice by means of sound. Lewis Nixon thinks perhaps a bell signal may be used to locate bergs under water.

THE BERGS' MANY VICTIMS.

The list of collisions with these sea monsters is a long one, and, doubtless, should include those vessels which are classed as having mysteriously disappeared with all on board. One of the earlier of the crack Atlantic liners to meet with accident on the Banks was the Arizona, then the chief of the flyers. She tore away her bow near Cape Race in November, 1879. Most shipmasters in those days thought the region was free from ice at that time of the year. Experience has changed that belief. She put in at St. John's, where two hundred tons of ice was removed from her forepeak and a wooden bow was built in to enable her to reach New York. St. John's is the haven of refuge for vessels meeting with such accidents, and every year disabled vessels are obliged to put in there for repairs.

The City of Berlin in 1892 struck a berg on the Banks in a fog. Owing to the slow speed at which she was travelling, she suffered only a telescoped stem and the destruction of her forward gear, through the dislodgement of a hundred tons of ice which crashed down on her deck. Her sister ship, the City of Rome, a famous ship in her day, was saved from destruction in September, 1890, by her clipper bow, when she mounted a low lying "growler." She had a hole in her stem large enough to admit an automobile when she finally steamed into New York Harbor following the disaster. The Saale, which afterward suffered so severely in the fire that destroyed the Hoboken piers, struck a berg a glancing blow that threw her over on her beam ends and almost sank her on one trip. Her coal shifted and she came into port with a list.

One of the narrowest escapes from destruction from ice, and an incident which illustrates the treacherous character of icebergs, was that of the Portia. She was sailing along the coast of Newfoundland in 1895 when she ran close to a big berg in order to enable some of her passengers to take photographs of it. She climbed on a submerged section which disturbed its equilibrium and was being lifted out of the water by the swaying mass when it broke off and she settled back into the water and was able to steam away again within so short a time that the passengers had hardly time to become thoroughly alarmed before she and they were out of their great peril.

The list of accidents in which vessels have been sunk or damaged is a long one, but, owing to the precautions taken by navigators, the inventions which have brought ships into close communication with land and with other ships, there are greater opportunities for escaping the "Graveyard of the Atlantic."

"GROWLERS" IN ST. JOHN'S HARBOR.
Icebergs are no respecters of the handiwork of man.

Some sea captains assert that they can detect the presence of one of these crystalline monsters at a distance of several miles by the sense of smell. The reverberation of the whistle against the glassy sides of a towering berg will sometimes serve as a warning. When the Columbia, of the Anchor Line, came into port last August with her bows crumpled up from a collision with an ice mountain northwest of Cape Race, her commander brought a tale of salvation through his whistle.

Steaming along in the fog, he believed, from the foamy wake he saw on the water, that there was a vessel in advance. From time to time, as a warning, he sounded his siren. At last, following one blast he heard what he thought was a response from another vessel on his starboard bow. He pulled the whistle cord again, and a second time he received a reply. He ordered the engines stopped and reversed, but not quickly enough to save his ship from damage. With a heavy crash the steel prow cut into the wall of ice which suddenly loomed up ahead. It was this that sent back the echo of his siren. Under the force of the recoil, coupled with the reversed engines, the ship was quickly withdrawn from the twelve-foot hole she had made when she tried to burrow into the green crystalline wall. The forward deck was buried in ice. The reverberation had saved the ship.

The absence of swell or wave motion and the appearance of birds or seals from land are said to be evidences of the proximity of the menace of the North Atlantic. Devices for detecting the presence of

"THIS is NOT A YACHT UNDER A CLOUD of CANVAS BUT A DEADLY FOE to the MARINER"

MAJESTIC ICEBERGS SWEEPING DOWN FROM THE NORTH PAST THE "NARROWS," ENTRANCE TO THE HARBOR OF ST. JOHN'S, NEWFOUNDLAND.

THE WISE LION.

Paul Rainey, while showing privately in New York the cinematograph pictures of his African lion hunts, told an amusing lion story.

"A man," he said, "sat before his tent, when a magnificent lion stiffened for the spring, leaped and—missed, the man, missed him by jumping three feet too high. It then slunk back into the forest, looking thoroughly ashamed.

"The next day the man came unexpectedly on the lion by a stream. It had upended a leg of wood and was practising low jumps!"