

Guarding the Steamship Lanes from the Dreaded Icebergs

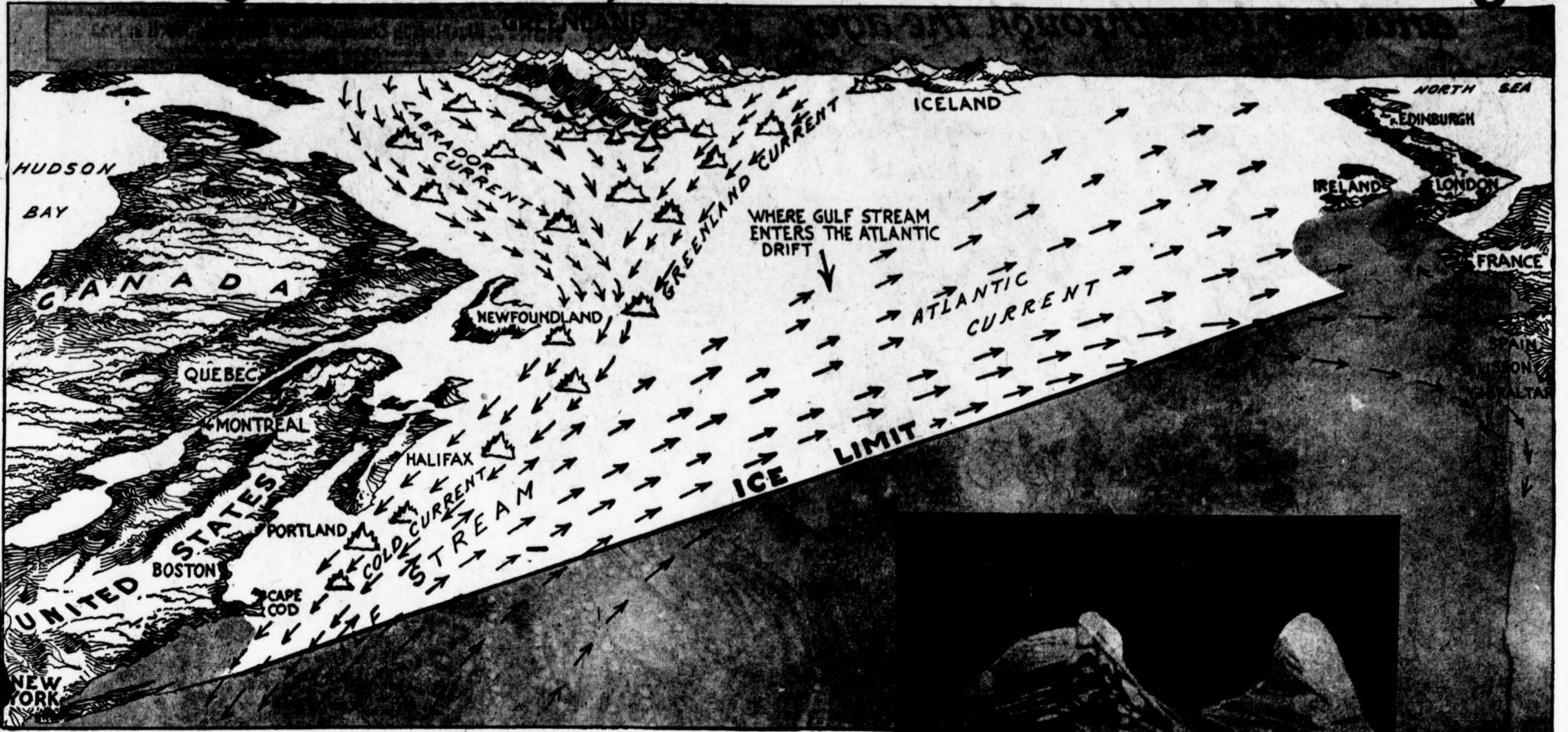


Diagram Showing How the Spring Crop of Icebergs Come from the Greenland Glaciers and Travel South.

U. S. Patrol Ships Now Watching the Procession of Drifting Mountains of Ice and Flashing Warnings to the Ocean Liners to Keep South of the Advancing Enemy

THIS is the time of year when icebergs, floating down from the frozen Arctic, threaten steamships in the trans-Atlantic lanes. A frightful menace, truly. The giant ocean liner Titanic went to her ocean grave gored by a Greenland iceberg.

The first of them makes its appearance about April 1, heading a procession of grim and hoary monsters that come down from Baffin Bay, bound for the Grand Banks of Newfoundland and points south. It is a regular annual performance and a very striking and wonderful phenomenon.

There is something horrible about them—drifting mountains of ice, enormous, silent, implacable. Some of them are more than 200 feet high above the sea—implying a depth of at least 1,400 feet below the water—and the United States Coast Guard has record of one that was over a quarter of a mile long. To strike an iceberg at night or in a fog means destruction for the stoutest steamship, with loss, perhaps, of all the lives on board.

To destroy an iceberg, and thus to get it out of the way of navigation, is impossible. Our warships have tried by attacking bergs with big, armor-piercing projectiles from high-power guns. A white spot showed where each shell struck, but that was all; the shell itself was broken to pieces. To blow up such a monster with mines is out of the question. It offers no point of attachment for a mine, and to approach it in a boat for the purpose would be dangerous.

So where icebergs are concerned there is nothing to be done but to keep a watch on them and give warning to ships of their presence and position. This is the business of the Coast Guard, which at the present moment has a patrol vessel cruising in the vicinity of the Grand Banks and sending out at frequent intervals broadcast cautionary wireless messages over the sea.

Up to ten years ago there was no such patrol and icebergs at this season of the year were a dread to navigators. If they did not happen to hit one, it was just luck. No such good fortune, however, attended the mighty floating palace Titanic, which, far south of the Banks, almost due east of New York, ran into a berg April 14, 1912.

That frightful disaster, so well remembered, brought about a conference of maritime nations, which resulted in the establishment of the patrol by our Government, each of the other Powers contributing to its maintenance.

On the first day of March each year a vessel is sent out to make preliminary ice observations. The season being then too young for icebergs, its business is to locate field ice, determine its drift and study the direction of the Labrador Current and Gulf Stream.

The movement of icebergs is influenced to some extent by winds, but mainly it is governed by three great oceanic currents—the Labrador Current (which is the important bringer of bergs), the East Greenland Current and the Gulf Stream. If these streams of the ocean would "stay put," like well-behaved rivers, the problem would be comparatively easy; but from

year to year they alter their courses, and so each season the drift of the icebergs offers a fresh puzzle.

About April 1 the Coast Guard sends out two vessels for patrol work. One of them stays in the iceberg track, sending out warning radios four or five times a day. The other is in port, refitting and taking aboard fresh supplies, after which it goes out and relieves the sister ship. The officers serving as observers are transferred from vessel to vessel at sea; their duty (while the ships alternate) is continuous for three months and, as one might well imagine, is very arduous.

The patrol vessel on sea shift, while sending out warnings of the positions of bergs in the danger zone, constantly receives reports from passing ships of bergs sighted by them. These reports also note the temperature of the sea. The latter is a point of much importance, because the sea temperature indicates the current through which the ship is voyaging. Inasmuch as the drift of icebergs depends upon the currents, utmost efforts are made to outline them accurately. They are plotted on charts (published monthly for the information of mariners), together with positions of bergs and directions in which they are moving.

Sometimes the patrol vessel will have to be in the vicinity of a very large and correspondingly dangerous iceberg, and drift with it, plotting its position from time to time by astronomical observations.

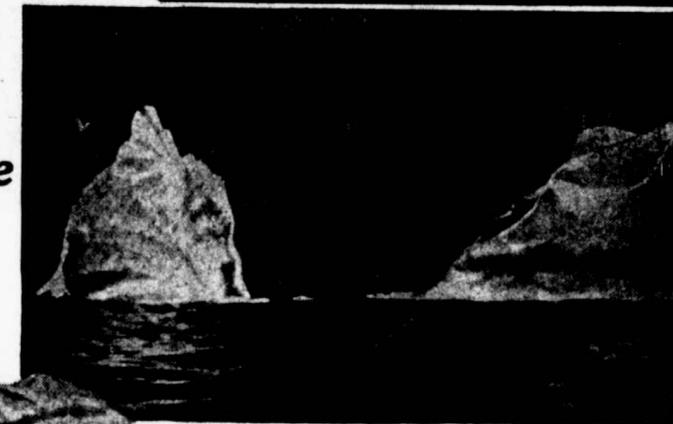
The East Greenland Current is part of the overflow from the Polar Basin, caused by the great influx of fresh water from the Siberian watershed. It sets southwestward along the east coast of Greenland, down to and around Cape Farewell. Some icebergs come with it.

But the great berg-bearing stream (as already said) is the Labrador Current, which flows from the Arctic through Smith Sound, thence south along the shores of Baffin Land, and out through Davis Strait into the Atlantic Ocean.

Some of the icebergs continue to hang about the Grand Banks. Most of them float further southward, pursuing aimless voyages which in occasional instances have been known to extend to the latitude of the Chesapeake capes. But the berg-infested region ordinarily is north of 47 degrees N. latitude. From April 1 to July 1, which is the iceberg season, all of the great expanse of sea north of that latitude and southeast and south of Newfoundland is beset by fogs, which, rendering the floating ice mountains invisible even in the daytime, augment the danger of collision with them.

That is, at the present season of the year the danger zone, out of which steamships must be kept. Inasmuch as it shifts more or less, the icebergs extending their range further at some times than at others, a watch of unremitting vigilance is the price of safety for navigation. By keeping in touch with the south, west and east limits of the berg-infested area the patrol is able to warn vessels out of it.

An aim always in view is to keep ships out of the Labrador Current and in the Gulf Stream—this being accomplished mainly by charted observations of the temperature of the sea; observations that have to be constantly taken, inasmuch as those great rivers in the ocean have a way of



Photographs of a U. S. Patrol Ship Watching an Iceberg Which Melts and Splits into Two Mountains of Ice Which Take Separate Courses and Begin to Float South.



Unusual Photograph of the Patrol Ship Near a Cavern in a Gigantic Iceberg.

Patrol Ship Near One of the Broken Halves of the Iceberg.

polled by gravity, it is continually working its way toward the sea, where huge chunks of it break off and are set afloat. We call these floating masses icebergs. Ordinarily it takes one of them a year to drift from its place of origin to the Grand Banks.

Speaking in another sense, an iceberg may be 200 years old. Snow falls on the crest of Greenland's icy mountains, hardens

shifting their courses. In the Gulf Stream (which is a current of warm water from the tropics) the weather is usually clear and pleasant; where the Labrador Current flows it is foggy and disagreeable.

Thanks to the patrol, the transatlantic passenger steamers are now able—as was not the case up to ten years ago—to keep clear of the iceberg zone. No matter how it may shift from year to year they can avoid it passing south of it.

Passengers enjoy the comforts of travel unconscious of danger or of the anxieties of the master of the ship. They reach port unaware that their safety may have been due to a wireless message from the patrol vessel reporting a large berg directly in the path of the steamer—visible, of course, at night or in a mist. A slight shift of the steering wheel in response to the warning makes the difference between survival and a miserable death by drowning in icy waters, and the ship goes quietly on.

All the icebergs come from Greenland—those, that is to say, which beset the eastern coastal waters of America. That great island, save for a small strip of its southern coast, is completely covered by a heavy ice cap, which, never melting much, receives annual additions from snowfall. The ice cap is thousands of feet thick and, im-

tively cold latitude, with the result that in the following years the pests appear in more than ordinary numbers.

After reaching the "tail" of the Grand Banks and the steamer lanes most of the icebergs keep on going south until they encounter the Gulf Stream, when they are rapidly turned back to the northeast. Some of them, meeting this adventure, are carried far to the north and frozen in salt-water ice, and come south again as early arrivals in the following April. But, as a rule, they split into smaller bergs and melt rapidly in the Gulf Stream.

The greatest number of bergs are usually seen in May and early June. From that time on they dwindle both in number and size. As Summer advances the temperature of the sea rises, the sun's rays grow hotter and the Gulf Stream spreads out, dispelling the cold Labrador Current at the tail of the Banks. The icebergs melt, break up and disappear. By July 1 the last of them is gone.

One of the oddest things about icebergs is the way in which they upset themselves. When one of them strikes warm water its under part begins to melt, and this goes on until the equilibrium of the mass is so far disturbed as to cause it to turn suddenly upside down. Observers on board the patrol vessel Androscoquin saw a very large berg "turn turtle" in this fashion four times in twenty minutes.

An iceberg is not composed of ice, properly speaking, being made up chiefly of solidified snow. That is why it looks so brilliantly white, the ice which it contains being shown in streaks of vivid blue. A very beautiful object is an iceberg if viewed on a sunny day from a respectful distance.

When it begins to melt, the snowy parts go much quicker than the ice, and great caverns may form in the berg; or, as sometimes happens, an arch may appear beneath it of such size that a big ship could pass through.