

During the last week of each of these years the Disasters were :

Years.	Wrecks.	Lives Lost.	Coal, tons.	Grain, tons.
1877	43	116	4659	600
1878	24	66	2390	750
1879	29	193	2915	3087
1880	40	50	2209	800
1881	64	134	6215	3568

During the last week of 1881, six steamers were lost. The value of property lost is estimated at £8,000,000, of which £5,000,000 belonged to Britain. 22 vessels were lost on the British coast, including 1 by collision; 6 were lost off the coast of France; 6 were abandoned at sea. One English vessel was 79 years old and another 91. The lives lost and missing during the week were 134; timber, 2239 tons; general cargo, including iron ore, potatoes and fish, 7620 tons.

During the year 1881, the estimated value of the property lost was \$1,400,000,000, of which \$900,000,000 was owned by the United Kingdom and the Colonies, and 1,000,000 tons of cargo are estimated as being the amount swallowed by the sea. There was \$500,000,000 more of loss than in 1880, many vessels of large tonnage and of great value were lost. 100 ships became wrecks through collisions; so that 1881 will long be remembered as one of exceptional disaster by reason of its gales and storms.

There were 171 British steamers, 857 British sailing vessels, and 56 Foreign Steamers included in the wrecks.

The heaviest losses appear to be owing to the failing of steering gear, or want of stability in bulkheads, want of proper control of the loading of vessels, sailing in face of heavy gales or in dangerous weather, diminished crews.

The wrecks were so frequent and so disastrous as to develop a feverishness of anxiety and expectation which degenerated into gambling in Marine Insurance. There were two classes of risks in which this business was done,—the first, vessels which were really overdue, and of the loss of which there was reasonable probability; the second, vessels which were making long voyages, but could not be considered out of time. The speculation was mostly in the latter class. Rumours were set on foot that a vessel, about which there had been, and needed not be any concern, was overdue; the report spread rapidly far and wide; anxiety was created, and those interested hastened to re-insure at a heavy premium. In the majority of cases these vessels arrived in safety within a few days of their nominal time.

That fewer vessels were detained during the past year upon the suspicion of unseaworthiness or overloading, is the best proof that the legislation initiated by Mr. Plimsoll is bearing fruit. Since the passing of the Act colloquially called by his name, no less than 430 vessels have been stopped, with the following results:

Found unsafe : 45 Iron Steamers,
 " " 2 Wooden Steamers.
 " " 5 Iron Ships.
 " " 362 Wooden Ships.

Found safe : 16 Vessels.

In addition to this 170 cases of over or improper loading have been remedied. This does not include stoppage for want of lights, fog signals, or not being properly marked.

It is time there was a revision of the law relative to wrecking and salvage on both sides of the line. There is no doubt that it would be to mutual advantage if the regulations, at least as regards shipping on the Upper Lakes, corresponded. If our neighbours find it pay to maintain a Salvage Corps for the benefit of their shipping and our own, why should we complain, especially when we have no efficient means of meeting the requirements of vessels in distress? If a vessel is sinking in Canadian waters, United States vessels may not come to her assistance under the penalty of confiscation; if a vessel is sinking in American waters, a Canadian vessel may not go to its assistance under

similar penalty. The other day a vessel grounded in the Detroit River. She was on the Canadian side, and none of the United States tugs dare go near her for fear of confiscation. The result was that it cost the owners \$1,500 to get her off; had the United States tugs gone to her assistance at first about \$200 would have covered all expenses.

Captain Trott, Commander Anglo-American Telegraph Co.'s S.S. *Minia*, writes concerning the cause of so many losses west of Cape Sable and on the south coast of Newfoundland. It is well known to navigators that the gales which so frequently sweep this coast and the North Atlantic eastward are all of a cyclonic character. They generally commence with wind S.E., veering to S. S. W., and ending with W. and N. W. gales. This is so well known that the time of the western shift can be calculated almost to an hour, more especially in this western portion of the Atlantic. Off the coast of Nova Scotia the day previous to such a gale is often marked by a clear sky and very high barometer; the gloomy leaden sky soon begins to show in the S.W., the wind falls light, gradually backs to the Southward and S.E.; at this juncture the barometer begins to fall, a N.E. current commences, and generally increases in strength till the fury of the storm is spent, or long after the wind has veered to the Westward. This fact is so well known at St. Pierre (if not understood) that whenever the current runs strong through the roads north-eastward it is considered a sure indication of bad weather, and from my own experience this is a better guide than meteorological instruments. This extra current, or storm wave, is common to the whole of this coast. The effect, however, is not so much felt or noticed by the navigator where the coast lies parallel to its course. Ships are found to be a little ahead or astern of what had been calculated, with a little pleasure or disappointment, as the case may be. No more notice is taken; it is passed and forgotten, without any reason being assigned for the discrepancy; but not so in the vicinity of Cape Sable. Here, this current, impinging on the outlying banks, is deflected to the northward; the water also shoaling, its velocity is increased to an alarming extent, sweeping into the Bay of Fundy directly across the track of ships from western ports. It is here the mischief is done, valuable property sacrificed, and often precious lives lost. I have frequently seen, from eight to twenty miles S.W. of Seal Island, the northerly current so strong that our fastest twelve-oared cutter could scarcely make headway when picking up our buoys. This is almost invariably the case before an impending storm. The same happens on the South coast of Newfoundland, and accounts for some of the sad losses that have occurred in Placentia and St. Mary's Bays; also on the islands of St. Pierre and Miquelon. The effect of barometric pressure and differences of temperature on the elements of air or water are now well known to scientific men. Captain Lunenburg of the *Minnie Butler* having narrowly escaped losing his ship near the scene of the wreck of the *Moravian*, after taking every precaution, using his lead, keeping a good look out, and getting a latitude by ex-meridian, found the indraft so strong that it would have deceived the best navigator. It was in this locality, where the *Moravian* met with her recent mishap, that the *Columbia* was lost, one of the first steamers of the Cunard line. In the same vicinity, the *Hungarian*, of the Allan line, was wrecked, about twenty years ago, ship, cargo, crew, and passengers—all lost. The *St. George*, another steamship of the Allan line, was lost near the same spot about ten years ago.

The Admiralty charts give absolutely no information about possible currents or storm waves, and very little about the tidal ebb and flow, except in the harbors or very near the shore. The books of direction say very little on tides in the offing; they are notoriously in error, often tending to mislead rather than guide the careful navigator. The nature of my occupation compels me to study this matter and investigate for myself, and I often feel surprised and wonder that serious mistakes do not occur more frequently.