

from the first four causes of danger, and even in the fifth case it may prolong the ship's life, or lead to her rescue.

How? Let us see! It is impossible in most cases to repair a broken shaft at sea, but in a twin screw the only effect is to diminish her speed about one-third, say from 18 knots to 12 or 13, and thus slightly prolong her voyage. As a matter of fact, the *City of New York* (a twin screw vessel), once made 382 knots with one screw

cause it. But from all these accidents a "twin screw" is virtually free: or rather, if they do occur, the second screw is always available.

The third is also a very common accident and renders a single screw vessel perfectly helpless. The *Great Eastern* became unmanageable and slowly returned to Queenstown. The *Sardinian* transferred her passengers in mid-ocean and was towed to Liverpool; and the *Alaska* was assisted into New York by the *Lake Winnipeg*.



THE SALOON, SS. EMPRESS OF INDIA.

in 24 hours,—an average of nearly 16 knots per hour.

The second kind of accident is a very common one. The screw cannot be replaced at sea, but in a twin screw the effect is no worse than in the first case. Many things cause the loss of a screw. The *Scythia* lost hers by striking a whale: the *Peruvian* by striking field ice; the *Sardinian* by breaking the end of the main shaft. Floating timber, too, or a sunken wreck may

But in a "twin screw" it is possible to overcome even this disaster. By going ahead with one screw and astern with the other, from time to time as may be required, it is quite possible to make a fair course, sufficiently so to take the vessel near to her destination. She has also the great advantage of being able to turn a circle in about her own length—an immense advantage in a narrow channel, or when fighting an enemy, as every sailor knows.