

leaving only a comparatively insignificant part of them discernible, while the lower parts may be very large. It was precisely this description of floe that blocked the channel against us. They were so tough that it was useless to try to break them with the stem of the vessel, although we repeatedly made at them with full speed. We could plainly see how the tough old ice bent and rose up at the shock without breaking. The blasting of such floes was frequently impracticable, as they were of such a thickness that we were unable to lay the mine under them. And even if we succeeded in blowing up one of these floes we gained little or nothing, as the channel was too narrow to allow the pieces to float astern, and they were too heavy and thick to be forced beneath the solid edge of ice.

Occasionally it happened that old, thick ice suddenly emerged from beneath the water in a channel or opening which we were just about to pass into, thus blocking up the passage before us. On one of these occasions the *Fram* received a blow in the ribs that hardly any other vessel would have withstood. As we were passing through an open channel I saw from the crow's-nest one end of a large submerged floe appearing above the edge of the solid ice, and I immediately gave orders to steer clear so as to pass round it. But at the very moment when we reckoned to clear it the floe was released, and came to the surface with such a rush that the spray rose high into the air and struck the *Fram* at the fore-rigging on the starboard side with such tremendous force that the ship lurched violently and fell about 10 points out of her course, until she ran up against some small floes. When the monster floe emerged it lifted a huge mass of water and sent it like a roaring cataract out into the channel.

Something similar happened when we occasionally touched a drifting hummock that was just on the point of rolling over, owing to the quicker melting of the ice below the water-line. The slightest push would be enough to capsize the hummock and turn it over in such a violent way that the sea around us would become as agitated as during a storm.

On August 9th we worked the whole day clearing the channel, but only made slight headway. On the 10th the work was