

readily be understood that such a ship's side, with its rounded form, would of itself offer a very good resistance to the ice; but to make it still stronger the inside was shored up in every possible way, so that the hold looks like a cobweb of balks, stanchions, and braces. In the first place, there are two rows of beams, the upper deck and between decks, principally of solid oak, partly also of pitch pine; and all of these are further connected with each other, as well as with the sides of the ship, by numerous supports. The accompanying diagrams will show how they are arranged. The diagonal stays are, of course, placed as nearly as possible at right angles to the sides of the ship, so as to strengthen them against external pressure and to distribute its force. The vertical stanchions between both tiers of beams and between the lower beams and keelson are admirably adapted for this latter object. All are connected together with strong knees and iron fastenings, so that the whole becomes, as it were, a single coherent mass. It should be borne in mind that, while in former expeditions it was thought sufficient to give a couple of beams amidships some extra strengthening, every single cross beam in the *Fram* was stayed in the manner described and depicted.

In the engine-room there was, of course, no space for supports in the middle, but in their place two stay ends were fixed on either side. The beams of the lower deck were placed a little under the water-line, where the ice