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engine, with shafting and drums for heaving in the dredging and sounding-lines, extending entirely across the ship; and on the after-part of the deck, besides the usual standard and other compasses, was the Fox dipping-circle, with which it was intended to make an extensive daily series of magnetic observations.

From the Hydrographic Department at the Admiralty a code of instructions was issued, regulating the daily routine to be carried out whenever the weather and other circumstances permitted. The *Challenger*, after visiting Lisbon, Gibraltar, and Madeira, was to proceed across the Atlantic, through the trade-wind region, to the Virgin Islands; thence to Bermuda, onward to the coast of North America; and eastward again to the Azores, and thence to the Canaries, Cape de Verde, and to the equatorial regions—which were to be thoroughly investigated—westward to St. Paul's Rocks, Fernando de Noronha, and to the coast of Brazil. After leaving Bahia, it was desirable that the island of Trinidad, Martin Vaz, and Tristan d'Acunha should be visited on the passage across the South Atlantic to the Cape of Good Hope, which it was expected would be reached at the close of 1873.

From the Cape it was proposed to examine the small groups of islands of Marion and Crozet, and to visit Kerguelen Land; from which the expedition was directed to proceed as far south as safety would permit in the neighbourhood of the Antarctic ice-