purposes in horizontal plans and vertical sections. It is necessary, in order to be able to see anything in the sections, to exaggerate the scale of depth in comparison with the scale of horizontal distance. This is shown in Fig. 152, which represents the floor of the Atlantic Ocean along the parallel of 40° N. The upper line (A) shows the section drawn to the same scale for depths and horizontal distances; the variations in the depth are represented by a thin uneven line, indicating how relatively small is the depth of the Atlantic Ocean compared with horizontal distances on the earth's surface; the lower diagram (B) shows the section with the depths exaggerated 500 times. Drawing the depth on a larger scale brings out the details of the relief of the ocean-bed: thus off Portugal there is seen a narrow continental shelf, and then a rapid falling-off towards the deep water (the continental slope); farther west (about the middle of the figure) there is a corresponding slope, on the summit of which the Azores appear; then another fall towards the western basin of the North Atlantic, followed by the continental slope on the American side, where again a narrow continental shelf borders the coast. The continental shelf is seen to be wider on the American side than on the European side of the section. This exaggeration of the vertical scale allows of the representation of a number of details, but, of course, the lines look very much steeper than they really are. One must not imagine that the continental slopes are so marked as they appear in the figure, for the angle is usually not so much as two degrees, the slope being similar to that of our common roads and railways; real submarine precipices do occur, but mostly as rare exceptions.

To show physical conditions in diagrammatic sections it is necessary to exaggerate the vertical scale.

Section across the North Atlantic.

At a comparatively early date it was known that the temperature of the sea-surface was strongly influenced by the currents. In the beginning of the seventeenth century, for instance, it was noticed that there was a sudden change of temperature on passing from the cold Labrador current south of the Newfoundland Banks to the adjacent warmer waters of the Gulf Stream. Benjamin Franklin, who made a careful study of the Gulf Stream (see Fig. 153), advised ships' officers to use the thermometer in order to find out when they entered the Gulf Stream, so that they might take advantage of the current when voyaging eastward, and steer clear of it when sailing westward.

The temperature of the sea.

Benjamin Franklin and the Gulf Stream.

The American naval officer M. F. Maury (1806–1873), **Maury.**