

It is well known that on many shelving coasts the breakers and tides give rise to banks of sand at no great distance from the beach. I learn from Mr. Whittlesey that a bank of this kind has been formed for several miles along the southern shore of Lake Erie, near Cleveland, the origin of which he attributes in part to the reflux of the waves from the beach, by which pebbles and sand are swept out from the land.

Mr. Mather informs us that the great beach on the south coast of Long Island, in the State of New York, extends for a distance of 104 miles, with a breadth of from 100 to 1000 yards. For 70 miles it is separated from the mainland by a continuous line of bays, which are between half a mile and six miles broad. "This great beach or bank forms a line of spits and low islands. One of the islands is about 25 miles long, with a breadth of a few hundred yards. They are all narrow and long, and when above the reach of the surf they are covered by a labyrinth of hillocks of drifted sand, imitating almost all the variety of form which snow-drifts present after a storm."\* They consist, he adds, of the materials derived from the neighbouring cliffs of Long Island, which are undermined and destroyed by the waves.†

Examples of similar banks parallel to the shore are cited by Mr. Darwin, in his work on Coral Reefs (p. 53). Capt. Grey also states that the west coast of Australia, in lat.  $24^{\circ}$ , is fronted by a sand bar about 200 yards in width, on which there is only two

\* New York State Report, 1838, p. 130.

† Journal of Two Expeditions, &c., vol. i., p. 369.