

understood that the only additional capital now intended to be raised is the small sum that will bring the total to £500,000, and which is required for the stations, &c., that remain to be established. The colonial concessions of the company give them an exclusive right for 50 years as regards the Newfoundland coast and the shores of Labrador and Prince Edward Island, and 25 years as regards Breton Island. They have also a similar privilege for 25 years from the State of Maine.

From the respective Governments of Great Britain and the United States the terms obtained are a payment of £14,000 per annum from each for the transmission of their messages for 50 years, until the dividends amount to 6 per cent. on the original capital of £350,000, after which each Government is to pay £10,000 a year, such payment to be dependent on the efficient working of the line. Previously to the failure of the first expedition, which sailed on the 4th of August, 1857, and lost 383 miles of cable, the £1,000 shares touched about £1,150 or £1,200, and the lowest point has been £300, a sale having been made at that price since the attempt last June, when there was an additional loss of 480 miles. On the present occasion it appears that nearly 500 miles of cable remain, the total paid out from the two ships having been only 2,022 miles.

TRINITY BAY AND SCENERY.

As present events have made this hitherto unknown spot one of the most remarkable localities in the world, and all facts connected with the Ocean Telegraph are sought for with avidity, we lay before our readers the following description of the bay and its scenery :

All who have visited Trinity Bay, Newfoundland, with one consent allow it to be one of the most beautiful sheets of water they ever set eyes upon. Its color is very peculiar—an inexpressible mingling of the pure blue ocean with the deep evergreen woodlands, and the serene blue sky. Its extreme length is about 80 miles, its breadth 30 miles, opening boldly into the Atlantic on the northern side of the Island. At its south western shore it branches into the Bay of Boules' Arm, which is a quiet, safe and beautiful harbor, about two miles in breadth, and nine or ten in length, running north west. The depth of water is sufficient for the largest vessels. The tide rises seven or eight feet, and the bay terminates in a beautiful sand beach. The shore is clothed with dark green fir trees, which mixed with birch and mountain ash present a pleasing contrast. The land rises gradually from the water, all around, so as to afford one of the most convenient and agreeable town sites in the island. You ascend only about a quarter of a mile from the water, and there are no longer trees, but wild grass like an open prairie. Here are found at this season, myriads of the upland cranberries, upon which unnumbered ptarmigan, or the northern partridge, feed. The raspberry, bake-appleberry, and the whortleberry, are also common. Numerous little lakes may be seen in the open elevated ground, from which flow rivulets affording abundance of fine trout. After ascending for about a mile and a half, you are then probably 300 or 400 feet above the tide, and nothing can exceed the beauty of the scene, when at one view you behold the placid waters of both Trinity and Placentia Bays—the latter sprinkled with clusters of verdant islands. You can now descend westward as gradually as you came up from the Telegraph landing, to the shore of Placentia Bay, where there is an excellent harbor and admirable fisheries, skirting the shore, and the accompanying road of the land Telegraph line leading from St. Johns westward through the Island to Cape Ray. At this season of the year game is very abundant. Reindeer in great numbers, bears, wolves, the large northern hare, foxes, wild geese, and ducks, &c. About four miles southward of the entrance of the Bay of Boules' Arm, on the shore of Placentia Bay, is situated the extraordinary La Mache lead mine, the property of the Telegraph Company, already yielding a rich supply of remarkably pure galena. The place where the cable is landed is memorable in the history of the Island as the naval battle ground between the French and the English in their early struggle for the exclusive occupancy of the valuable fisheries along the coast.

VALENTIA BAY AND ISLAND.

Valentia, the terminus of the Atlantic Cable on the other side, is an island of the west coast of Ireland, County Kerry, separated from the mainland by a straight one mile and a half in breadth, which forms the most westerly harbor in the British isles. The harbour is deep, capacious, and land locked, and bids fair to become the westerly terminus of railway communication and principal station for Atlantic steamers. The island measures two by seven miles, and contains 6,371 acres, and a population of 3,000. On it are slate quarries and the mansion of the "Knight of Kerry," chief proprietor. It exports slate, fish, corn and butter. Lat. 51 deg. 55 min. 8 sec. N., lon. 10 deg. 19 min. W.

INTERESTING INCIDENTS CONNECTED WITH THE ATLANTIC CABLE.

A New York journal notices some curious coincidences in the matter of laying the cable, as shown by Mr. Field's letter to the Associated Press. The 29th of the month seems to play quite an important part, both for good and evil, in its history. Thus, for instance, the telegraph fleet sailed from Plymouth on the experimental trip on the 29th of May. The cable was broken at the stern of the Agamemnon on the first attempt to lay it, on the 29th of June; and the splice in mid-ocean on the last and successful attempt was effected on the 29th of July. The fifth of August, too, seems to be, *par excellence*, the red letter day in the company's calendar. On that day, in 1857, the Niagara landed the end of the cable on the Irish shore; and on that same identical day in 1858, the same vessel landed the other end of the cable on the shore of Newfoundland—both ends of the cable being thus laid by the Niagara. On the third of August, 1857, the telegraph squadron left the Cove of Cork for Valentia Bay, and on that very same day 365 years before the little squadron which carried Columbus on his first voyage of discovery to these shores, weighed anchor from the port of Palos in Andalusia, Spain.

It is a singular coincidence that the electric cable which united the three continents of Europe, Africa and America should have been landed in Trinity Bay—*Trin juncta in uno!*

The Queen wrote her message to the President early in June, and sent it to the Lord Lieutenant of Ireland, to be forwarded by him when the cable should be laid. The telegraph expedition which sailed on the 10th June, resulted, however, in a failure. So the Queen's Message remained in the Lord Lieutenant's hands, and shortly after the Queen herself went on a Royal visit to the Continent. When the cable was successfully laid on the 4th of August, the Lord Lieutenant forwarded the message to its destination. This explains why no date specifying time or place accompanied it.

THE ELECTRIC APPARATUS USED ON THE NIAGARA AND AGAMEMNON.

A system was devised for transmitting and receiving signals through the cable, from ship to ship, during the progress of paying out by Mr. Laws and Mr. De Santy, the two gentlemen who have charge of the electrical department on board the Niagara. It was accepted by the directors of the company, and made an order of the Board, by their minutes of June 7, 1858. It consists in an exchange of currents sent alternately during a period of ten minutes by each ship, and which not only serve to give an accurate test of the continuity and insulation of the conducting wire, but also to give certain signals which may be required to be sent when the ships are far apart. For instance, every ten miles of cable payed out is signalized from ship to ship, as also the approach to land or momentary stoppage for splicing, shifting coils, &c. The electrical apparatus employed on board the two vessels is not very complicated, and is simply composed of testing instruments, wholly different from those to be used for the transmission of messages when the ends of the cable shall be landed.

The electric current is generated by sand batteries consisting of plates of zinc and copper, about fourteen square inches each, arranged by pairs. These plates are immersed in a solution of sulphuric acid and water, mixed with saw dust, for the purpose of preventing the liquid from overflowing. Two hundred and forty of these pairs are in operation on board each ship. The instrument used for sending the current thus created through the line is an ordinary commutator, in the form of a reversing key, by which the operator can at will send the zinc or copper current of the battery into the cable, and by so doing change the nature of the signals. The current next passes through an electro-magnetometer, an instrument very useful for the purpose of testing. It is composed of an electro-magnet, the armature of which can be "furthered" or "approached" by a small screw, so as to require a stronger or a weaker current to attract it. It shows the charge as every current flows into the cable and the discharge as it comes out.

Before entering the line the electric current is made to pass through a second instrument called the marine galvanometer, which was invented by Professor Thompson, of Glasgow University, one of the directors of the company. The magnetic needle, which is placed in the centre of a coil of wire, instead of marking its own deflections as in ordinary galvanometers, has a little mirror fixed to it, the reflection of which creates a small spot of light according to the deflection moving on a horizontal scale of white paper, placed at about eighteen inches from the instrument itself. This instrument reports accurately the force of the currents not only in the sending but also in the receiving from the corresponding ship.

Besides this marine galvanometer, the only other instrument in circuit when receiving is the ordinary galvanometer usually employed for testing. According to the nature of the current received, the needle is deflected to the right or the left of a point marked zero on the dial, and where the needle is in a vertical position when no