

Gisborne had finished some thirty or forty miles of telegraph out of St. John, but the new company had to begin at the hardest point. Matthew Field, as practical engineer, had charge of the construction, and brought without delay his company of six hundred men to the scene of action. Then came the question of supply. For this purpose small boats were used, and as they unloaded their freight of food and implements, it was carried inland, for the most part on the backs of men. The army, for such it really seemed, moved from place to place in a great camp, the men sheltering themselves in rudely built huts or tents. In spite of storm and wind, however, through summer days and autumn storms the work went on, but the winter season, with the sufferings it brought, is a page in the history of telegraphy which cannot be paralleled.

The company expected to be able to reach across Newfoundland in a year's time, and Mr. Field was sent to England, little thinking to how many voyages this was the prelude. John Bright calls him "The Columbus of our time, who, after no less than forty voyages across the Atlantic in pursuit of the great aim of his life, at length by his cable moored the New World alongside the Old."

In August, 1855, was the first trial of cable laying in America. Never did expedition set out under clearer skies or fairer auspices to end in disappointment and disaster. All went well till the expedition was about half-way across the Gulf of St. Lawrence. Then a sudden gale arose, so that in order to save the vessels the cable had to be cut. Among other things, this first trial taught them that a sailing vessel was not the style of ship from which to lay a cable. It needed something that would be self-propelling, and that

would move steadily in spite of wind and wave. This loss, besides being a sad disappointment, delayed the work of the company for a year, and it was not until the next August that with no display whatever the cable connecting Cape Breton and Newfoundland was successfully laid and remained in perfect working order for nine years.

After untold hardships and toil, a system of telegraphy ran from end to end of Newfoundland, through Cape Breton, connecting with New York. When Field's own countrymen failed him, England furnished anew, men, money and ships for the furthering of the great effort. And when history tells how the Atlantic telegraph is of American inception, and how the moving spirit of the whole enterprise was an American, it will also record that it was the science and seamanship, the undaunted courage and capital of England that brought it to its successful termination. It will tell how Englishmen and Americans worked side by side for the weal of the two nations and of the world.

Poets sing to us of the silent sea, the beauty of ocean's caves, and the rolling deep, but this is not practical enough for men of science. They must know whether the ocean bed was a level plain, or undulating fields of rock and sand, whether it consisted of a series of chasms separating hills and mountains and whether the ocean currents reached to the bottom of the deep. All this had to be determined before a cable could be laid to rest beneath the blue sea. In order to do this there must be an examination of the bottom of the sea. To Lieutenant Maury the world owes the means of finding out what is at the bottom of the sea. He used a simple instrument, a long line, at the end of which is a clasp something like