Scientific American.

MUNN & COMPANY, Editors and Proprietors.

PUBLISHED WEEKLY At No. 37 Park-row (Park Building), New York.

O. D. MUNN, S. H. WALES, A. E. BEACH.

TERMS-Two Dollars per annum.-One Dollar in advance, and the mainder in six months. TERMS - I we bound by a manual sector and the sector of the paper are on sale at the office of publication, Single copies of the paper are on sale at the office of publication, and at all the periodical stores in the United States and Caonda. Sampson Low, Son & Co., the American Booksellers, No. 47 Ludgate Hill, London, Eugland, are the British Agents to receive subscrip-tions for the SourArtipic AMERICAN. By See Prospectus on last page. No Traveling Agents employed,

Vol. III., No. 3 [New Series.] Sixteenth Year. NEW YORK, SATURDAY, JULY 14, 1860.

THE NEW ATLANTIC TELEGRAPH.



OW since the Great Eastern is safely moor. ed in New York harbor, our hopes are once more revived about the establishment of an ocean telegraph

Ine between Europe and America. As neither the great mistake committed at launching the mammoth steamer, the explosion that took place on board, nor the quarrels of its stockholders have prevented her final triumph, it is not altogether impossible that the long silent Atlantic Cable, under the redoubtable galvanic volubility of M. De Santy, may yet be made to speak. Steamships are very well in their way, but the present times demand more rapid communication between the Old World and the New. We are impatient of tarrying from ten to eleven days for the latest news by the swiftest steam clippers; and as we can telegraph 3,000 miles in a few seconds, an Atlantic telegraph line must and will be established, not many years hence. It is just as easy to telegraph across the ocean as to communicate electrically between New York and Newfoundland. All that we want to do this are well-known agencies applied in the best manner. As the resistance to an electric current is inversely as the mass of the conductor, the larger we make the cable, the easier will it be to send messages by it; a cable of twice the diameter of the one that has been laid would offer only one-fourth of the resistance presented by the original. From this law it is easy to arrive at the conclusion that, with a suitably enlarged cable, submarine ocean telegraphing is quite practicable, especially if the cable is so made that electricity of quantity, instead of intensity, can be employed to operate the instruments; because the evils of inductive resistance would thereby be obviated. There has been some talk, recently, of again trying the old cable, by taking up the present "shore ends" and putting down larger ones; but no permanent success can ever be achieved on this route without a new and much larger cable. And when we remember the many failures that took place in laying the late one, it will be seen that quite different agencies are necessary for one of more massive proportions. It is not impossible, however, to obtain them; indeed the main one is at hand, namely, a suitable vessel. The Great Eastern appears to have been designed for just such a splendid operation. It has been stated that she moved among the ocean billows without experiencing any of those violent oscillations which rendered the running-out of the cable so hazardous with thosetwo "little boats"-the Niagara and Agamemnon. This huge steamer is capable of carrying and laying a massive and appropriate ocean cable, and it would be invain to try any other mode for accomplishing such an object by the old route-from New foundland to Ireland.

There are no indications, at present, of the above-suggested project being attempted; still, there is plenty of 'sea-room." and we are pleased to learn that a new company is "sailing on another tack," and with good prospects of making a successful voyage. This is the "North Atlantic Telegraph Company," the projector of which is Col. Tal. P. Shaffner, of Kentucky, who has been in Europe during the past year, organizing measures for the undertaking. His object is to lay a telegraph line by means of short cables and way-stations on land in the northern regions. The route for the first | connected with him or opposed to him in business; many | pursuing the present course. There are many persons

length is from the North of Scotland to the Faroe Islands, with a cable 250 miles long; the next cable is to be 350 miles, to reach Iceland; the third, about 550 miles to Greenland; and the last about 600 miles, to reach the coast of Labrador in America-thence down through Canada. The aggregate length of this submarine line would be 1.750 miles : the land lines 300 miles, or a total of 2,050, the same length as the old Atlantic cable. These short cables can easily be laid, and operated for a certainty, because there are some larger marine lines than these in successful operation in Europe, What then are the objections to this route-to the North Atlantic Telegraph? None whatever; all persons should wish it success, and it affords us pleasure to state that favorable measures are in progress for carrying out the enterprise. In the month of May last, a deputation (among whom were the Right Hon. Milner Gibson, M.P.; Sir J. Duke, M.P.; Mr. T. W. Russell, M.P.; Mr. H. Pease, M.P.; Mr. J. A. Roebuck, M.P.; Hon. Sydney Smith, Postmaster-general of Canada; Captain Sir Edward Belcher, R.N.; Captain Collinson, R.N.; Captain Robinson, R.N.; Dr. Rae, Colonel Shaffner, Captain Young, Mr. J. R. Croskey, Dr. N. Shaw, Mr. C. Bischoff, Mr. J. Howard, Mr. J. Arrow smith, Mr. J. Barrow, Mr. L. S. Magnus, Mr. W. Bevan, Mr. E. Wakefield, Mr. M. H. Chaytor, Mr. C. E. Deacon, and Mr. J. S. O'Beirne) waited upon Lord Palmerston to lay before him the plans for this new ocean telegraph line, and to solicit the British government to dispatch vessels for making soundings and otherwise surveying the facilities afforded by this route. The deputation was received with every mark of respect and favor, and Col. Shaffner explained the whole to the premier in a very able and satisfactory manner. The result of this is, that Col. Shaffner has conveyed to us the information that the British government has furnished a surveying ship, and he was to sail with it for Iceland and Greenland in the early part of this month. He also assures us that as much will be done by government patronage, for the North Atlantic Telegraph as was done for the old line; Captain Young , who accompanied Captain McClintock in his search for Sir John Franklin. has stated that the northern route is quite practicable, and he is well acquainted with the Arctic seas: and so we conclude that matters are progressing favorably for a new Atlantic telegraph.

. . . . THE DEATH OF CHARLES GOODYEAR

"I know well that it is written in the Book of Genesis that God created all things in six days and that he rested on the seventh; but for all that, God did not create these things to leave them idle; therefore each performs its duty according to the commandment it received from God."-BERNARD PALISST.

We are called upon to chronicle the decease, during the past week, of a man whose genius, whose patient labor, whose trials and privations have placed him foremost in the list of American inventors. Mr. Charles Goodyear died in this city on the 1st instant, after a protracted illness. The name of this great inventor has been familiar to the public for many years; yet few out of the circle of his immediate friends have known the story of a life so full of the strangest vicissitudes, ennobled by such a self-sacrificing and nevertiring devotion to one object, but saddened by so many sorrows that it sounds like a romance as well as a reality. He lived, indeed, to see his bright dreams realized; he lived to see the almost worthless gum with which the savages of Central Africa smeared their bodies as a protection from insects, become a staple of commerce, employing for its transport ships in every sea, giving employment to thousands of workmen and millions of capital, and entering into the arts, the sciences, the daily uses, and the mechanical industry of the highest civilized life. The man who accomplished all this has not lived without purpose or in vain. Yet it is impossible to give any complete idea of the price which was paid for these great results-the long toil, the suffering so cheerfully endured, the privations which none but a son of genius, living on his dreams could have borne, the failures, the disappointments, the mortification and the success which came at last so late that it was no longer worth wishing for

The most striking point in Mr. Goodyear's character was his sunny and cheerful disposition. He lived a life of constant struggle, he was involved in long and painful lawsuits with those who pirated his inventions, he was necessarily brought in collision with many who were

lost money by the connection; but such was the impression made by this simple-minded and enthusiastic dreamer that, at the hour of his death, he had no enemy living. His generosity, his animated and affectionate nature, his earnestness and enthusiasm made him friends everywhere, and he was fortunate, far beyond the usual lot of men, in exciting neither hatred or envy or malice.

We presume that the story of this eventful life will be made public in some more formal mode by the friends of his family, and we will not attempt to fully trace the progress of his inventions. It was in 1834 that Mr. Goodyear turned his attention to the manufacture of india-rubber. There was a mystery about this tropical gum which gave it a strange charm in his imagination. It was not an article of commerce, but appeared from time to time only as a rare curiosity brought from foreign lands. The savages who possessed it kept the mode of its manufacture a profound secret. It was found only under the burning sun of the equator, in the gloomy swamps of the unexplored Amazon or the jungles of Asia and Africa. Its nature was as mysterious as its origin, the chemists who examined it were baffled in their attempts to make it of practical use. Ingenious men. abroad and at home, had attempted to solve the mystery, but all had failed. That it was of immense value in the arts, to supply a thousand wants of civilized life, was obvious to all, but the elastic gum kept its own mysterious secret and there was no clue to the discovery.

To discover the secret and solve the problem became the dream of Charles Goodyear's life. The difficulties and failures which he encountered only made it more dear to him. He asked aid from men-of-science, but they discouraged him; his associates abandoned the pursuit in despair; his friends one after another left him. but he only clung the closer to his cherished faith. In one of the contests by which pirates of his invention sought to rob him of his rights, the veil was half withdrawn from the life of the inventor, and a few details of the privations which he endured were given. He was in such extreme penury that his bed was sold from under him; he was so poor that it was said he could not buy an ounce of tea on credit. In the dead of winter there was no food in his house and no fuel for fire. This was not the struggle of a few months only, but it was the story of years, for it was not till 1844, after ten years of toil, that he perfected and patented his discovery. His labor, however, did not cease, and even to the hour of his death he was devoted to the favorite pursuit upon which he lavished the immense sums which he received from his patents. His life was subject to the strangest vicissitudes. He went from a poor debtors' prison to a palace in Paris. The man who was an object of cold contempt in an obscure village, on account of his poverty, received the Grand Cross of the Legion of Honor from the Emperor Napoleon as a reward of his genius. In Europe as well as America his name was honored and his merits appreciated, but to the hour of his death he was the same enthusiastic and patient inventor. We have placed at the head of this article a beautiful sentence of Palissy, the potter, which should be the motto for every true inventor. Charles Goodyear has been well called the American Palissy, and to his last hour he acted on the principle that God did not create him to leave him idle.

THE "GREAT EASTERN" OPEN TO THE PUBLIC.

On Tuesday, last week, the noble steamship was opened to public inspection at the modest charge of only One Dollar per head. The directors, in our opinion. have made a great mistake in charging such an exorbitant admission-fee. We consider it a very unwise exaction; because the majority of our practical mechanics and the mass of our working people-the very persons who are most anxious to visit her-cannot afford to pay so much for the privilege. One dollar is quite a large amount to be taken from their moderate incomes; and hence, where ten thousand would visit her if the charge were only twenty-five cents (which we deem sufficient), not five hundred can or will pay one dollar. We would recommend the directors to change their programme of admission, and charge one dollar only on certain dayssay two per week-and twenty-five cents during the other four. We venture to assert, positively, that more money will be made by such an arrangement, and more general satisfaction will be given to the people, than by