while the cable was being laid. In this way communication was established from both sides on the 16th of August, but it did not continue long, for the insulation had been ruined by Whitehouse’s treatment, and after the 20th of October no signals could be got through.

The next attempt at laying an Atlantic cable was made in 1865, the necessary capital being again raised in England. It was determined that the work should be done by a single ship, and accordingly the “ Great Eastern ” was chartered. She started from Valentia at the end of July, but fault after fault was dis­covered in the cable and the final misfortune was that on the 2nd of August, when nearly 1200 m. had been paid out, there was a break, and all the efforts made to pick up the lost portion proved unavailing. Next year the attempt was renewed. The Atlantic Telegraph Company was reconstituted as the Anglo- American Telegraph Company with a capital of £600,000 and sufficient cable was ordered not only to lay a line across the ocean but also to complete the 1865 cable. The “ Great Eastern ” was again employed, and leaving the south-west coast of Ireland on the 13th of July she reached Trinity Bay a fortnight later, without serious mishap. She then steamed eastwards again, and on the 13th of August made her first attempt to recover the lost cable. This, like many subsequent ones, was a failure, but finally she succeeded on the 2nd of September, and having made a splice completed the laying of the cable on the 8th of September. These two cables did not have a very long life, that of 1865 breaking down in 1877 and that of 1866 in 1872, but by the later of these dates four other cables had been laid across the Atlantic, including one from Brest to Duxbury, Mass. It was stated by Sir Charles Bright in 1887 that by that date 107,000 m. of submarine cable had been laid, while ten years later it was computed that 162,000 nautical miles of cable were in existence, representing a capital of £40,000.000, 75 per cent. of which had been provided by the United Kingdom. Among the men of business it was undoubtedly Sir John Pender (1815-1896) who contributed most to the development of this colossal industry, and to his unfailing faith in their ultimate realization must be ascribed the completion of the first successful Atlantic cables. The submarine cables of the world now have a length exceeding 200,000 nautical miles, and most of them have been manu­factured on the Thames.

The monopoly conferred upon the Postmaster-General by the Telegraph Act 1869 was subsequently extended to telephony and wireless telegraphy, but it docs not extend to submarine telegraphy. The submarine telegraphs are mainly controlled by companies, the amount of issued capital of the existing British telegraph companies (twenty-four in number) being £30,447,191, but a certain number of lines are in government hands. Thus on the 31st of March 1889 the undertaking of the Submarine Telegraph Company was purchased by the governments concerned. France and Great Britain jointly ac­quired the cables between Calais and Dover, Boulogne and Folkestone, Dieppe and Beachy Head, Havre and Beachy Head, Piron, near Coutances, and Vieux Châteaux (St Heliers, Jersey). Belgium and Great Britain became joint-proprietors of the cables between Ramsgate and Ostend and Dover and De la Panne (near Fumes). The two cables to Holland and one of the cables to Germany were already the property of Great Britain, and the German Union Company’s cable to Germany was purchased by the German government. The offices of the Submarine Company in London, Dover, Ramsgate, East Dean and Jersey were purchased by the Post Office, as well as the cable ship; and the staff, 370 in number, was taken over by the government. The capital amount laid out by Great Britain was £67,163, and on 1st April the new business was begun with a uniform rate to France, Germany, Holland and Belgium of 2d. a word, with a minimum of rod.

In 1890 Liverpool was placed in direct telegraphic communi­cation with Hamburg and Havre, and London with Rome. The following year an additional cable was laid from Bacton, in Norfolk, to Borkum, in Germany, at the joint expense of the British and German governments. Direct telegraphic com­communication was thus afforded between London and Vienna. In 1893 a contract was made with the Eastern and South Africa Telegraph Company for the construction, laying and mainten­ance of a cable from Zanzibar to the Seychelles and Mau­ritius, a distance of 2210 m., for a subsidy of £28,000 a year for twenty years. In 1894 the Eastern Extension Telegraph Company laid a cable from Singapore to Labuan and Hong Kong, thus duplicating the route and making it an all-British line. The following year the rates to and from East and South Africa were reduced, by negotiation, from charges varying from 7s. 9d. to 8s. 11d. a word to 5s. 2d. or 5s. Government messages were accorded a rate of 2s. 6d., and Press telegrams one of from 1s. 5d. to 1s. 7½d. a word. In 1896 it was arranged to lay two new cables to France and one (for duplex working) to Germany. On the 1st of February 1898 a new cable was laid between Bermuda and Jamaica (via Turks Islands), giving an all-British line to the West Indies, with reduced charges. In 1900 direct telegraph working was established between London and Genoa, and a third cable was laid to South Africa via St Helena and Ascension. In 1896 a committee was appointed to consider the proposal for laying a telegraph cable between British North America and Australasia. The report of the committee, which is dated January 1897, was presented to parlia­ment in April 1899, and dealt with the practicability of the project, the route, the cost and the revenue. The committee was of opinion that the cable should be owned and worked by the governments interested, and that the general direction should be in the hands of a manager in London under the control of a small board at which the associated governments should be represented. The English cable companies urged that state interference with private enterprise was neither justifi­able nor necessary, as the rates could be reduced and an alternative cable route to Australia arranged on reasonable terms without it, and that the Cape route would be the best alternative route. The government policy would, they alleged, create an absolute and objectionable monopoly. In the corre­spondence (*Blue Book,* Ed. 46, 1900) between the Eastern Telegraph Company and the Colonial Office, the company pointed out that Mr Raikes, when Postmaster-General, had stated that “ it would be without precedent for the English government itself to become interested in such a scheme in such a way as to constitute itself a competitor with existing commercial enterprises carried on by citizens of the British empire. There would be a very serious question raised, and it would probably extend to other forms of British enterprise.” The company further pointed out that Mr L. Courtney (after- wards Lord Courtney), when Secretary of the Treasury, had stated that “ it would be highly inexpedient to encourage upon light grounds competition against a company in the position of the Eastern Telegraph Company which has embarked much capital in existing Unes”; and that the permanent officials representing the Post Office before the Pacific Cable committee had stated “ that there was no precedent for the Imperial Government alone or in association with the Colonies managing or seeking business for a Une of this kind.” The reply of the Colonial Office contained the following statements of general poliy:—“ With the progressive development of society the tendency is to enlarge the functions and widen the sphere of action of the central government as well as of the local autho­rities, and to claim for them a more or less exclusive use of powers, and the performance of services where the desired result is difficult to attain through private enterprise, or where the result of entrusting such powers or services to private enterprise would be detrimental to the public interest, through their being in that event necessarily conducted primarily for the benefit of the undertakers rather than of the pubUc. This tendency is specially manifested in cases where from the magnitude or other conditions of the enterprise the public is deprived of the important safeguard of unrestricted com­petition. . . . In the case of inland telegraphs and of cable communication with the continent of Europe government control has entirely superseded private companies. Closely