

Murray Printing-telegraph.—The Murray telegraph printing-instrument is in use between London and Edinburgh, but is still in the experimental stage, and no definite conclusions have been arrived at whether or not it is likely to be adopted to any considerable extent.

TELEGRAPH-WIRES UNDERGROUND.

Telegraph-wires in Cables.—The Departmental Administration is rapidly placing all their important telegraph-wires underground. These are copper conductors of various sizes with paper insulation, and lead-covered, sixty or more wires being made up in one cable. Where there are such numbers of wires required as in Britain, the cost of placing the telegraph-wires in cables underground will, it is expected, eventually probably not be any greater than that of overhead wires, especially as the routes for pole-lines become congested. Pole-lines that are abandoned for telegraph purposes will still be used for long telephone trunk circuits.

Storm Interruptions.—The first object of placing telegraph-wires underground was partly to avoid interruptions from storms, which are not infrequent, but the pole requirements for long-distance telephone wires, which must be overhead, helped to produce the change.

The British telegraph system may be considered as second to none in the world.

New Zealand Telegraph Methods similar to British.—In New Zealand the practice and methods adopted are similar to those in Britain, much use being made of quadruplex and quadruplex repeaters and of the Wheatstone automatic system.

Return to Simpler Methods.—When more underground cables are laid in Britain for telegraph work, and plenty of conductors are available, some of these more complicated methods of working may disappear. The simpler the circuit, as a rule, the more average work can be done by an operator, and when the use of complicated apparatus reduces what may be called the output per man, it is not profitable to use such apparatus. All experienced telegraph engineers agree in this view.

RENTING LONG TELEGRAPH-WIRES.

Rate for Renting Telegraph-wires, £4 per Mile per Annum.—There is considerable business done by the British Postal Telegraphs in renting long telegraph-wires, principally to stockbrokers. For example, a stockbroker in Glasgow rents a wire direct to his office in the Stock Exchange, London. The rate paid for the use of these wires is £4 per mile per annum. Some customers pay as much as £4,000 a year for private wires.

LINE-CONSTRUCTION.

The line-construction in England and in New Zealand is not unlike, and, indeed, in all countries any differences that exist are only in quite minor details.

PROVINCIAL TOWNS.

The apparatus and methods in the telegraph-offices at Manchester, Glasgow, and several other provincial towns were practically the same as those used in London.

WIRELESS TELEGRAPHY.

Muirhead's System used by Army for Short Distances.—At Dr. Muirhead's factory at Elmer's End an exhibition of wireless-telegraph working was witnessed.

Dr. Muirhead's appliances are used by the army for comparatively short distances. These equipments are not of use to this Department.

The subject of wireless telegraphy is still a matter for inquiry.

Its use hitherto has been mainly confined to steamers.

Wireless Signals crossing Atlantic.—When crossing the Atlantic the apparatus aboard was examined and communications from another steamer fifty or sixty miles distant were listened to. The signals were received on a telephone, and the dots and dashes could be easily read, although they were not very loud.

Method of Transmitting Daily Bulletin.—The Daily Bulletin received aboard the Atlantic steamers is sent from a shore station of either continent at 1.30 a.m. The shore station with long-distance power repeats the message four times. The ship cannot respond, not having the power. The message is repeated again once at a certain hour in the morning, and generally the Bulletin, containing 100 words news of the world, is forthcoming at breakfast-time.

There are not a great many messages tendered for transmission by passengers. On the ship referred to there was only one presented during the voyage. The charge is 8s. 4d. for so-many words, and 6d. for every additional word.

TELEPHONE EXCHANGES.

British Post Office Telephones a Recent Undertaking.—The British Postal Telegraph Administration only comparatively recently entered on telephone-exchange business to any considerable extent. There was, therefore, available to that Department all the experience of the different telephone undertakings in Britain and the Continents of Europe and America to guide them, and, as was to be expected, their switchboards and general equipment represent the highest development of telephone-work known to the best telephone engineers.

After two or three years spent planning their work, operations were commenced in London.

Prior to that time the National Telephone Company practically owned the whole of the telephone-exchange business in Britain.

American Telephone Practice followed.—American practice is the model followed by the telephone administrations of Great Britain and of those countries in Europe that have, or aim at having, superior installations.