on one farmer to every half to three-quarters of a mile. It will take the line nine or ten miles. If only fewer farmers can be connected per mile than the number mentioned, or if there are any special circumstances increasing the cost of erection, special arrangements are made by which farmers assist by hauling poles or in some other way. A farmer's line to carry a single iron wire, twenty-five poles to the mile, is said to cost about £10 a mile. Lines are of all prices per mile, according to the number of wires to be carried, which determines the sizes of poles and the closeness of erecting them. Single wires grounded are mostly used. Poles are of cedar, and no pole carries more than two cross-arms. A repeating-coil is placed in the cord circuit. Farmers, it is said, do not want lock-out systems; they like to hear what is going on at the telephone. The company runs single wires on brackets on the poles, and uses glass insulators. In towns of three thousand people the wires are run underground. Two-hundred pair lead cable is the largest used. Fibre ducts in concrete and concrete manholes indicate the construction. The toll charges for talk beyond the area in which the charge has been stated to be 5d. are on the basis of ¼d. per mile for three minutes, and each following minute at one-third of a farthing per mile. Some farmers own their own lines, and the company meets them at the town limits about a mile from the exchange. The charge in such cases is 2s. 1d. a month (practically a switching fee). The company undertakes the tests. The farmer has to maintain his own line and find his own telephones and equipment. The farmers put twenty-five or thirty telephones on an earthed line which may be twelve or thirteen miles long. The farmers' lines erected by the company average eight telephones to a mile. They sometimes have ten. Code ringing is used.

It is quite apparent from this how closely farmers' residences are dotted over the country, the holdings being generally small. Indeed, it is only under these conditions that such development could arise. This feature of numerous farmers in a few square miles was one that always impressed me when passing through rural territory. A question that naturally arises is, what kind of service can that be where so many persons are placed on one circuit with several grounded circuits running on one pole-line? It certainly cannot be very good. The farmers' lines are said to be busy all the time. These lines are not liked by the company, but farmers are accommodated for the sake of the town customers, who insist upon being able to speak to them, and whose business would be lost to the company if they were unable to talk to the farmers.

The rates to subscribers in the towns are—Business connections £5 and residence connections £3 2s. 6d. per annum. Extensions: Business 2s. 1d. a month, residence 1s. a month. The company supplies all material and labour for the extensions.

The area in which this company operates is about twenty-four miles square, and there are sixteen townships. It is this density of distributed population that explains the service that has been referred to.

The company operates cheaply, from 7 to 9 dollars a telephone. The usual investment per telephone in such companies varies from £15 to £20. The operators are paid £4 to £7 a month, and in a few special cases £11. Toll operators get £7 a month. They all work eight hours. Troublemen—*i.e.*, men who go out and remove faults either on the line or at the subscribers' stations—get 10s. 6d. for nine hours. This company does not work under a union rate. Union rates are higher.

Poles last from twelve to fifteen years, but usually larger poles have to displace small ones. Condensers and Columbia dry cells are used in the telephones. This case is fairly typical. In most cases it was found that farmers' lines were not liked by the exchange management. The usual story was that the companies liked to get about two farmers to a mile and would go out seven or eight miles, sometimes as far as fifteen miles to a few subscribers, and take from six to ten on a line—charge 15 to 18 dollars, or £3 2s. 6d. to £3 15s., each farmer. In many cases a metallic circuit of iron wire was given at that rate. 25 ft. cedar poles, 6 in. or 7 in. at the top, range, in the north and middle States, from 8s. 6d. to 12s. 6d. according to locality. Haulage affects the price.

In one exchange it was found that where the farmer's line was about eight or nine miles long the farmers paid half the construction-cost and turned everything over to the company, which charged £3 2s. 6d. each farmer for service yearly. The company maintains the line. They require six telephones on such a line for a start, and will put eight on. In other cases the same company will meet the farmers' lines at a mile from the exchange. The farmers then maintain their own lines. The company charges 10 dollars, or £2 1s. 8d., annually per telephone. All-night service is provided at this exchange.

At another exchange farmers' lines were dealt with somewhat differently. Where they were beyond the usual boundary for ordinary exchange rates the persons requiring service built the line and handed it over to the company, who required six telephones to be on the circuit, and charged for business connections £2 10s. and for residence £1 5s. annually. An allowance of 25 per cent. was made on any business they originated for which charges were made.

The Pacific Telephone and Telegraph Company of San Francisco, operating throughout California, charge an individual as follows:—

Connecting with Exchanges of	Switching-rate per Year.	Payable.	Company furnishes	Subscriber furnishes
	£ s. d.			
300 stations or less ..	0 12 6	Annually in advance to 1st January	Switchboard and circuit to town limits for not less than five subscribers per circuit, central office service, listing in directory, and code ring-card.	Circuit to town limits, complete telephone and battery, substation protection, and maintenance of above.
300 to 500 stations ..	0 15 0			
500 ,, 750 ,, ..	0 17 6			
750 ,, 1,000 ,, ..	1 2 6			
1,000 ,, 2,000 ,, ..	1 10 0			
2,000 ,, 4,000 ,, ..	1 15 0			