

THE HISTORY OF THE TELEPHONE ENGINEER

Evolution of Art Explained to Show Improvements.

VAST SUMS ARE SPENT

Expenditure of \$100,000,000 for Iron Dust Casing Cited as Aft Example of Progress.

Complete evolution of the telephone art in the United States during the last 40 years, brought about by constant research work carried on by the general staff of engineers of the American Telephone & Telegraph company...

The recitation of the inside workings of the Bell company was conceded to control the telephone situation in the United States, was given in Oregon yesterday for the first time.

It was the purpose of the witness to show by his testimony that the Pacific company, in connection with other associate companies, is saving hundreds of thousands of dollars annually through its efficient management...

Charts Illustrate Points. Charts and photographs were used by the witness to illustrate his points, and actual reproductions of parts of telephone instruments found their way into the records before the day had ended.

Assistant City Attorney Tomlinson entered objection after objection during the morning session, but the testimony offered by Mr. Rhodes, the city's representative took the position that the progress of the telephone art under the direction of the engineering staff of the American company was not relevant or material to the case before the court.

War Causes Changes. The late world war caused many changes in the manufacture of telephone equipment, and caused a revolutionary change in the insulation of wire carried in cables.

The improvements along this line, according to the witness, amounted to more than \$100,000,000. Development of the duplex system, made by the engineers of the American company, has already saved associate companies \$1,000,000, the witness averred.

Big Sum Paid for Patent. The witness, under direct questioning by Attorney Shaw, stated that he had been informed that Professor Pupine had received between \$500,000 and \$1,000,000 for his patent, which came to the Bell interests undeveloped.

Development of Wireless Factor. The development of wireless telephony, as an adjunct to the land wire, was explained by the witness, who said that the work of the engineers of his company had made it possible to provide telephonic communication over a telephone by radio waves from Washington, D. C., to San Francisco, and thence to Hawaii, and also from Washington across the Atlantic ocean to Paris.

Stepping from the department of research in the American company,

Mr. Rhodes next told the commission of the fundamental plans which are prepared by engineers of his company for the guidance of the engineers of the associate companies. These plans include a map of what a telephone plant should be in a city 25 years from the time that the plans are evolved.

At the expense of the parent company, engineers are sent to the cities in which associate companies are operating and make a careful commercial survey, including a thorough house count, gathering statistics of value in such a study.

The witness went in detail into many phases of the work carried on by the American company in its laboratories in Boston. No phase of the business is overlooked when it comes to working out methods of improving this service for the benefit of the associate companies.

Economies Are Effectuated. If the associate companies were required to maintain staffs to do this work they would entail a cost of huge sums of money and the witness pointed out that the standardization of the telephone equipment used by the associate companies is the result in saving much money and also of giving better service than if the various companies installed equipment of various kinds, as is done in France and other foreign countries.

Development Work Done. For instance, he explained that the American company maintains a department of development and research in connection with new telephone systems, apparatus and devices used in plants of the association companies.

Competent engineers, he said, are constantly studying patents on various types of switchboards and other instruments and devices used in the telephone system. Not only are such patents purchased by the company, he said, but they are improved and put into practical use as quickly as possible.

The legal department of the American company is divided into many subdivisions. One department is maintained to handle the legal matters of companies with expert advice on all questions arising in connection with the telephone business.

But, although Mr. Rhodes held that this part of the legal department was of tremendous value to the subsidiary companies and saved them a large sum of money annually, he maintained that the patent department of the legal bureau effected the real savings.

While on the subject of patents, the witness denied most emphatically that the American company was guilty of suppressing patents, saying that any such policy would be slighted and would cost the company large sums of money which might be conserved.

From the executive and treasurer's departments of the American company come loans to the Pacific and other associate companies at low rates of interest, according to the witness, and in addition this department assists the subsidiary companies in financing by taking its stock without discount, and assisting in the sale of its securities.

Latest methods of handling traffic and the detail of the telephone department are handled for the subsidiary company by the department of operations conducted by the American company. Likewise, the departments of the associated company, as has been intimated by hostile witnesses.

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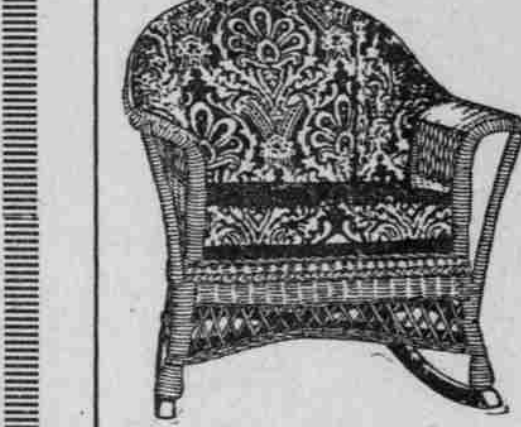
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Fourth Floor - Our remaining stock of high-grade Reed and Grass Furniture will be closed out at special low prices...

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Gossard Corsets are designed to accent the natural charm of every type of figure and are created in accordance with the unchanging principles of beauty and good taste...

Gossard Brassieres give a trimness above the waistline that assures a youthful and charming silhouette beneath the shirrest blouse. Gossard Brassieres fit perfectly. Scores of dainty styles ready for your selection.

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Fourth Floor - Reed Davenport in pleasing design, upholstered in art cretonne. You will surely buy one of these when you see how attractive they are...

Sale of Summer Silks \$1.98 \$2.98 \$3.98

Main Floor - A vigorous clearing of the Silk stock to make way for Fall merchandise presents to the women of Portland a phenomenal opportunity to buy Summer Silks of highest quality at sacrifice prices.

Mildred Stout Tailormade Undermuslins

-LARGE WOMEN who have experienced difficulty in buying Undergarments that fit properly are invited to come and view the famous Mildred Stout Undermuslins.

Sale of New Wash Goods - Main Floor - Prices have been greatly lowered on practically all novelty Wash Goods.

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Basement - Glass Butter Boxes like above sketch. Keep butter cool, sweet and wholesome during the hot weather.

Boys' Blouses for \$1 - Basement - Blue chambray and fancy striped Percalé Blouses in sizes from 6 to 12.

Odd Lines Undermuslins \$1 - ENVELOPE CHEMISE in many dainty styles, trimmed with laces, beading, etc.

Woolnap Heavy Cotton Blankets Special \$2.48 - Third Floor - Take our word for it, these Blankets at above price are the best buy in Portland today!

Easy Loans Are Made. From the executive and treasurer's departments of the American company come loans to the Pacific and other associate companies at low rates of interest.

Fire Department Poor - Bandon Citizens Decide to Make Service More Efficient. MARSHFIELD, Or., Aug. 9. - (Special.) - A fire apparatus locked in a garage with the key carried by the city marshal might prove rather inefficient in case of need.

PIPE LINE SALE REFUSED - POWELL VALLEY WATER DISTRICT FILES LETTERS. Section Line Company Declared to Have Declined to Enter Into Negotiation on Terms.

YOU'LL GET RID OF BLACKHEADS SUR - There is one simple, safe and sure way that never fails to get rid of blackheads and that is to dissolve them.

Wheeler County Bonds Sold. FOSSIL, Or., Aug. 9. - (Special.) - The county court of Wheeler county on August 5 sold the Wheeler county

Peppermint Still to Operate. SOUTH BEND, Wash., Aug. 9. - (Special.) - Pacific county is to have

WOMEN CONTINUALLY OVERDO - This applies to all women, regardless of caste or color. The ambitious girl striving for school honors, the overworked housewife, the shop girl, girls in offices and stores, and the society woman, all climb too high, overtax their strength, and what follows?

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