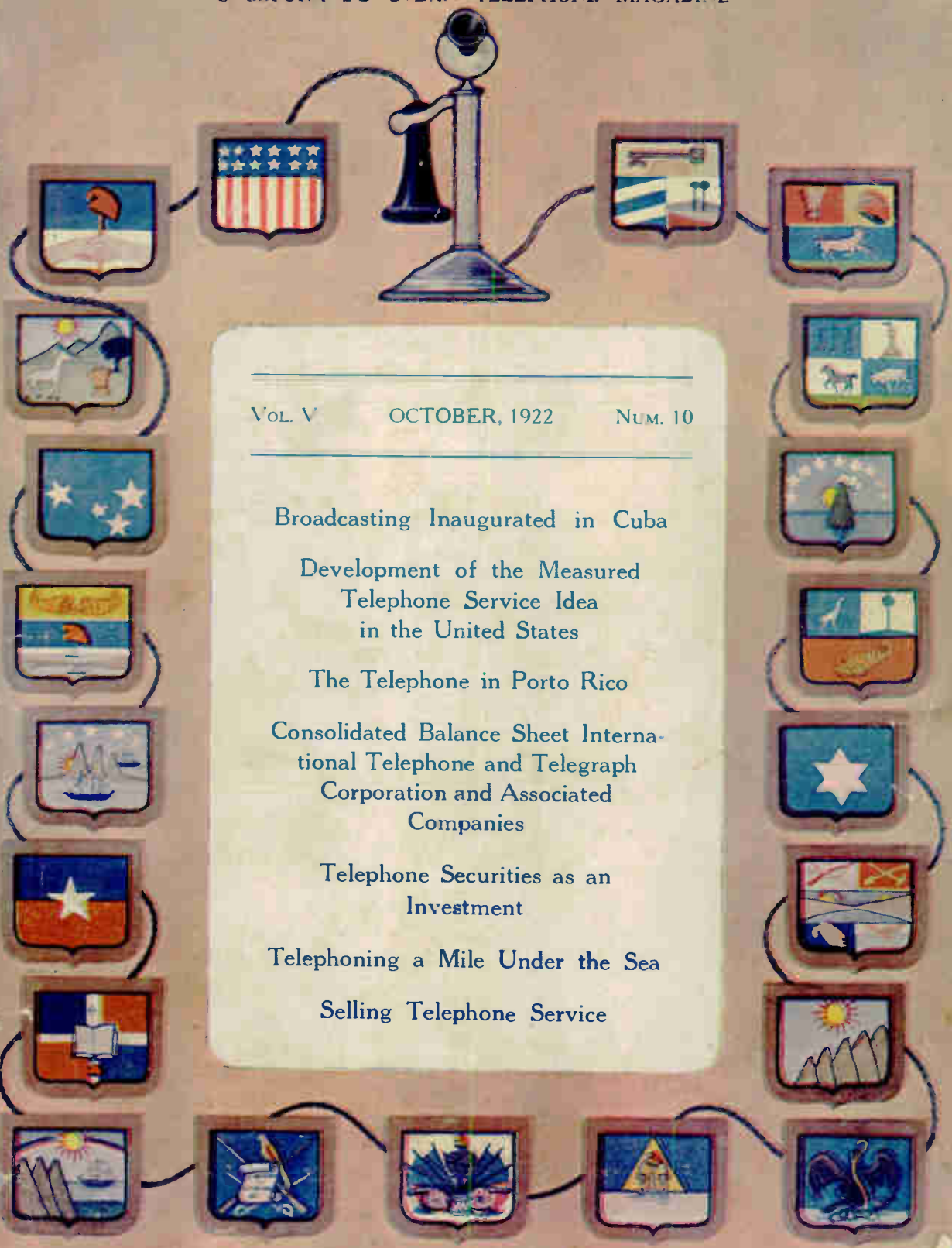
REVISTA TELEFONICA INTERNACIONAL

SUCESORA DE CUBAN TELEPHONE MAGAZINE



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Broadcasting Inaugurated in Cuba

Development of the Measured Telephone Service Idea in the United States

The Telephone in Porto Rico

Consolidated Balance Sheet International Telephone and Telegraph Corporation and Associated Companies

Telephone Securities as an Investment

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Selling Telephone Service

Hotel "LA UNION"

CUBA 53-55 AND AMARGURA 28

150 ROOMS

ALL WITH BATH AND TELEPHONE

Francisco Suárez & Co.

HAVANA

THIS TRADE MARK HAS BECOME A GUARANTEE.

THE purchase of rubber goods, a few years ago, was an extremely difficult task. The superior kind of goods in this line was unknown. There were many "brands"—names which distinguished both good and bad products. And the purchaser ran the risk of buying the poor, instead of the best quality.

Now the situation has changed. The rubber goods marked

"United States"

—tires, soles, straps, packing, hose, waterproofs, drug-gists' articles, or any other rubber goods—have won a commanding position, due to their intrinsic merits. Always reliable, uniform and rendering good service, the seal U. S., carried by all the products of the United States Rubber Company, has become a guarantee of good quality.

UNITED STATES RUBBER EXPORT CO., LIMITED

88 Havana Street, Havana

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50 Years of Good Insurance Service

1872
Capital
$1,000,000.00
Reserve for all other liabilities
342,291.68
Net surplus
26,798.79
Assets
1,369,090.47

Great American Insurance Company New York

HOME OFFICE ONE LIBERTY STREET, NEW YORK CITY

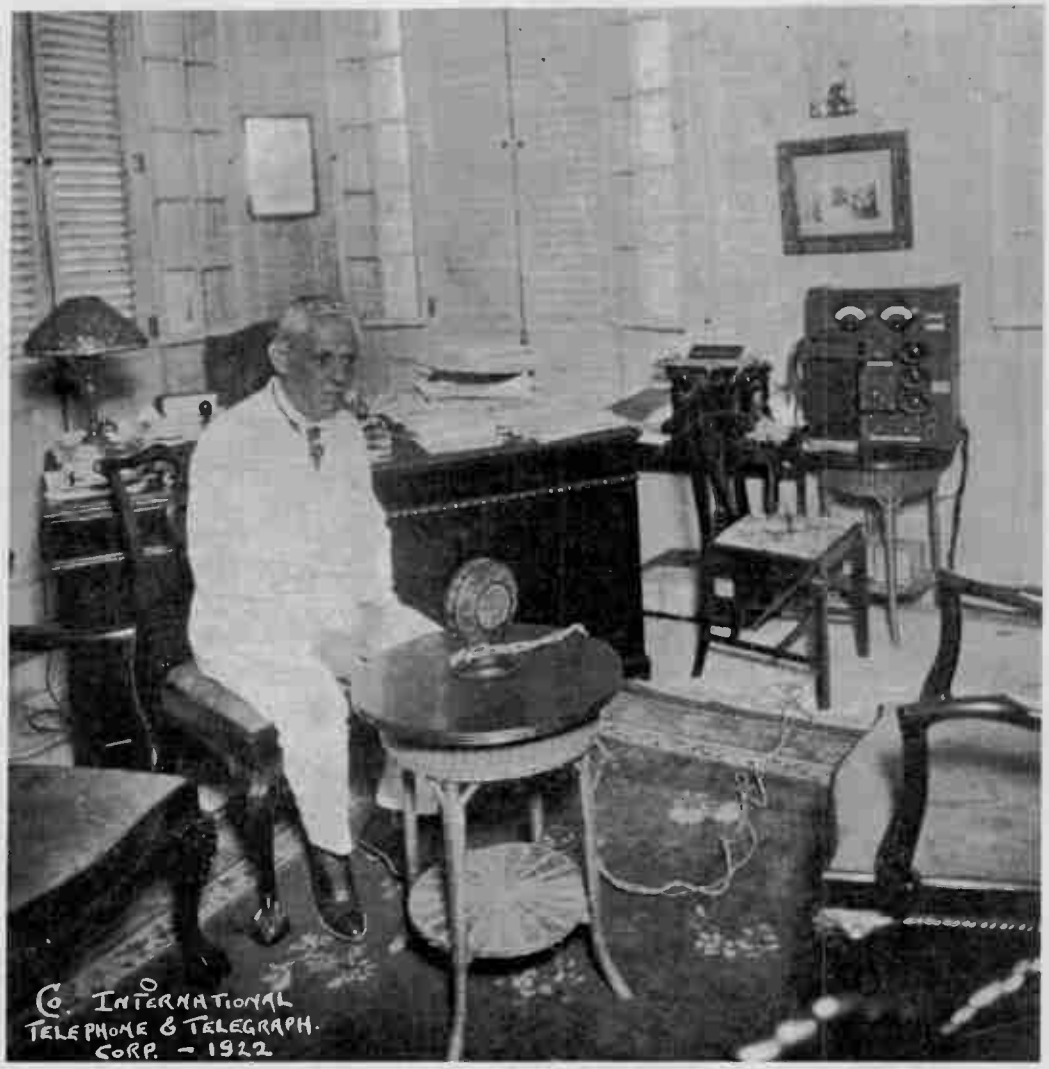
1922
Capital
$10,000,000.00
Reserve for all other liabilities
20,592,997.95
Net surplus
12,213,010.92
Assets
42,806,008.87

PAID FOR LOSSES $133,275,321.56

WE HAVE PLEASURE IN ANTICIPATING YOUR RECOGNITION OF THIS FIFTIETH ANNIVERSARY

CARRILLO & LA GUARDIA, General Agents, 214 Royal Bank Bldg., Telephone M-9113, Havana, Cuba

Putting Cuba on the Broadcasting Map



President Zayas inaugurating broadcasting

President Alfredo Zayas of Cuba inaugurating broadcasting in his country by addressing the people of the United States. The picture was taken in the Presidential Palace. Notice the microphone in front of the President, which picked up his voice and carried it to every state east of the Mississippi River, and several hundred miles west and north of that stream

REVISTA TELEFONICA INTERNACIONAL

Vol. V HAVANA, OCTOBER, 1922 No. 10

Broadcasting Inaugurated in Cuba

WHEN President Alfredo Zayas of Cuba dedicated the new radio broadcasting station of the Cuban Telephone Company on October 10 with an address to the people of the United States, he added a new fact to the history of the science. It was the first time that the chief executive of any nation, sitting in his own office, spoke to the citizens of another country over Hertzian waves.

Moreover, President Zayas spoke to as tremendous an audience as ever listened to the words of any ruler, for reports received by the Cuban Telephone Company show that the opening program was heard a distance of more than 2,000 miles. Letters have been received from owners of receiving sets in every portion of the United States east of the Rocky Mountains, and from various points in Canada.

The long distance record for hearing the Havana station (PWX) so far belongs to Clara Socolofsky (ER), of Loreburn, Saskatchewan, Canada, 85 miles northwest of Moose Jaw, which means that she was more than 2,400 miles in an airline from the sending station.

Miss Socolofsky wrote:

"Just ran onto you as you were signing off. Could not get properly tuned in to get full address, but hope this will reach you O.K. Would greatly appreciate program. Congratulations."

She did get the address all right, however, including the post-office box. Her postal card arrived ten days after it was mailed, which may give some suggestion of the comparative speed of the mail and radio.

"ER" caught "PWX" at 9:20 p. m. on October 10. She reported "QSS, none; QRM, none; QRN, some."

She was using two stages of audio frequency, and a four-wire fan inverted L aerial, 70 feet high.

Other Canadian stations reported hearing Havana clearly, including Thousand Islands, 1,500 miles away, and Toronto. The western audience reached into Texas, Oklahoma, Kansas and Nebraska, and reports came in.

Salient Facts of First Radio Broadcasting Program in Cuba

Station: P W X
Wave length: 400 meters
Power: 500 watts
Owned by: Cuban Telephone Company, associated with International Telephone and Telegraph Corporation.
Opened: October 10, 1922.
Greatest distance heard distinctly: 2,400 miles.
Dedicatory ceremony: Address to the people of the United States by President Alfredo Zayas of Cuba.
Present broadcasting schedule: Wednesday and Saturday evenings, 8:30 to 10 p. m., Havana time.
Mail address: F. C. B., Apartado 945, Habana, Cuba.
Cable Address: CUTELCO.

as a matter of fact, from every state of the Atlantic and Mississippi Valley regions.

Inasmuch as the program had been arranged hurriedly without any time for advance publicity, and as the wave length was 400 meters, it was surprising that so many did hear. A majority wrote that they had tuned in by chance and were greatly interested in hearing a foreign language, never guessing it was a station as far away as Cuba.

The first program was given at 4 p. m. and the second at 8:30 p. m., Havana time, which made it an unusual part of the day for anybody to be listening, either in the afternoon or at night, anywhere west of Central time. There is every reason to believe that had stations in California been advised and listening, some of them would have heard the Havana program.

The day was chosen because October 10 is one of the principal national holidays of Cuba, being the anniversary of the first revolutionary outbreak against Spanish domination. President Zayas was holding an official reception that afternoon at the National Palace. Transmitting apparatus was installed in his private office, a half a mile from the broadcasting station, and the members of his cabinet, Congressmen, other government officials and the foreign diplomatic corps, gathered in another room of the Palace, heard his remarks in English and Spanish by radio, with the assistance of a Western Electric loud speaker.

Westinghouse R.C. sets and Western Electric loud speakers were installed by the Company also in the home of Sr. Ricardo Lancis, Secretary of the Interior, and in the Hotel La Reguladora.

Naturally, every radio enthusiast in Cuba knew of the program, and it was heard as far as Santiago de Cuba, on the eastern end of the island, 500 miles from Havana. Dr. Valdés Figueroa telegraphed from Ciego de Avila that it came in clear enough at that point to furnish adequate music for dancing.

Undoubtedly the Cuban Telephone Company was aided materially in notifying owners of receiving sets to be on the lookout, through the courtesy of Mr. Stevenson and Mr. Drake of the American Telephone and Telegraph Company, who broadcasted the fact on October 10 from their powerful Walker-Lispenard station, New York City. The Cuban Telephone Company's station, incidentally, is an exact duplicate of the above mentioned New York station.

The satisfaction felt at the technical achievement was no greater than the thrill that came from the romantic realization that hundreds and thousands of miles away, persons of all types and classes were plucking from the air, in their homes or places of business, the program being presented in the silk-curtained studio next door to the terminals of the three submarine telephone cables which unite Cuba with the United States.

Try to picture, for example, the emotions of the impresario of a radio broadcasting station on receiving a letter like this:

Huntington, West Virginia, Oct. 15, 1922

The Cuban Telephone Company,
Broadcasting Station P.W.X.,
Havana, Cuba.
Dear Sirs:

While listening over my radio Saturday night, I heard you broadcasting between the hours of 10 o'clock and 11 p.m. I am very proud to know that I have heard you over in Cuba. I have a Westinghouse R.C. set.

I am an invalid confined to my bed with a broken back, and have been so for five years.

The gentleman broadcasting spoke very distinctly. I will listen for you on Wednesdays and Saturdays. Yours,

J. K. KEATHLEY,
618 Sixteenth St.,
Huntington, W. Va.

Perhaps there are other unfortunate persons like Mr. Keathley, hundreds of them, scattered from the Equator to the Arctic Circle, who, lying on sick beds, have been entertained and

their hours made shorter by listening to the rhythmic Cuban danzón, the sweet Latin voice of some tropical singer, the inspiring national anthem of that patriotic people whose loyal blood stained their native land from the "Cry of Yara" in 1868 to the fall of Santiago in 1898.

The program to which Mr. Keathley referred was the second attempt, presented Saturday evening, October 14. It was a typically Cuban program of a very high qualitiy, and was heard and appreciated in more than half of the United States.

The speaker of the evening was Robert E. Hollingsworth, president of the American Club of Havana, and one of the leading American lawyers of that city. Like President Zayas, he spoke first in English, and then in Spanish. His message, however, was directed primarily at the residents of the United States, and was worded to express the fondness of the American resident of Cuba for the land of his domicile.

Typical group in an American home listening to far-away music by radio

Since then, the Cuban Telephone Company has been maintaining a regular schedule of two programs a week, on Wednesday and Saturday evenings, from 8:30 to 10 o'clock, Havana time, which is one-half hour earlier than Eastern standard time.

No plans have been made by the company for any great span of the future. The station was erected originally for experimental purposes, it being the policy of all of the companies associated with the International Telephone and Telegraph Corporation to keep up-to-date in all matters pertaining to the science of electrical communications. The equipment was installed and the hundred-foot towers erected on the roof of the main office building last Spring. It is one of the nine largest broadcasting stations in the Western Hemisphere.

For the time being, it is serving a worthy purpose in helping to entertain a great many family circles, and at the same time to give many in the United States a better understanding of the "Pearl of the Antilles."

Address of President Alfredo Zayas of Cuba to the People of the United States

Delivered by Radiotelephone, Oct. 10, 1922

"From the city of Havana, capital of the Republic of Cuba, I have great honor in directing my voice to the people of the United States of America, by the wonderful microphone installed by the Cuban Telephone Company, and I wish to send to that noble people a cordial salutation, expressing the feelings of friendship of the Cuban people, and the desire of maintaining it.

"My words, borne on the electrical waves, over the turbulent seas and across high mountains, on reaching your ears, citizens of Washington's native land, I hope may reach your hearts, and awake an echo which will vibrate toward a spirit of reciprocity.

"Today is for Cubans a date consecrated to the commemoration, in 1868, of the beginning of the war for independence, which during ten years gave to the world the evidence of the purest patriotism, abundant with sacrifices and heroism, preparing the way and making possible the armed uprising in 1895 that culminated, with your generous cooperation, in independence and the establishment of the Republic.

"Our love for independence, inherited through our forefathers, and fortified through torrents of blood and tears, lives and will live forever in our hearts; and I feel gratified to affirm that we are the same people of which your representative declared on a solemn day that we were by right free, and must be free.

"Being so near to your coasts, within the radius of action of your powerful commercial influence, and being sure, as we are, of your respect—and why not, love?—for our republican national institutions, we desire to maintain the most cordial relations, based upon the desire for a sincere and intelligent policy of mutual benefit.

"Our natural wealth is growing again very fast, after a period of troubles that all nations of the civilized world have suffered, and from which some are suffering yet. Peace and liberty are assured in our country. Our exterior credit is rehabilitated by the rapid restoration of our national interior conditions, and all the probabilities at the present moment are in favor of a bright immediate future.

"With my words, pronounced in the name of the Cuban people, I send to the United States a true expression of respect and admiration for its national institutions; of sincere friendship for its people; and of consideration for its national government.

"Three cheers for the glory of the United States!

"Three cheers for the absolute independence of Cuba!

"Hurrah! Hurrah! Hurrah!"

Address of Robert E. Hollingsworth to the People of the United States

Delivered by Radiotelephone, Oct. 14, 1922

"As president of the American Club in the city of Havana, Republic of Cuba, and speaking in behalf of its members and the American residents in Cuba, I have the honor of addressing the People of the United States this evening, through or by means of this wonderful invention, radio, which has been inaugurated in Cuba by the Cuban Telephone Company, and I wish to express to the people of that great and grand country of ours, rea-

sons why we should have faith in the business future prosperity of Cuba, as well as the faith and belief which we have that Cuba, and especially the city of Havana, will in the near future become the great winter resort for the tourists of the east and middle west of the United States.

"It is a well-known fact that since the inauguration of the Republic of Cuba, May 20, 1902, there has existed and been maintained by our government at Washington and the government of Cuba, the most cordial and friendly relations. There has existed, even before the Spanish-American war, a strong friendship between the American and Cuban people.

"Commercial business relations between the two countries have rapidly grown with Cuba's prosperity; and with that confidence which we have always had in the Cuban government and its people, large sums of American capital have from time to time been invested in different enterprises in Cuba. The properties covered by these investments are secured under the constitutions and laws of Cuba. In turn Cuba has been a large purchaser of merchandise and manufactured goods in the States, and her sons are being sent to our best colleges and universities to be educated, thereby bringing about daily closer and more friendly relations between the peoples of the two countries.

"Those of us who reside in Cuba, know Cuba and her people, and the great possibilities and advantages and have the utmost faith in her future prosperity. Law and order is maintained in Cuba and property rights secured.

"Those of you in the States who have visited the city of Havana during the winter season know of its charms and beauty. The climatic conditions are good, and the amusements and attractions in and around the city all help in making the visitor's stay here pleasant. Our hotel accommodations are good; transportation facilities between the States and Cuba good with quick service. Visitors in Cuba are able to keep in close touch with their homes and business by long distance telephone connections with every part of the United States, and the Cuban constitution has no eighteenth amendment.

"The tourist travel to Cuba has been increasing rapidly during the past few years, and the American and Cuban peoples are looking forward with pleasure to a large number of American tourists this coming season.

"We assure you a most cordial welcome. Three cheers for the Cuban flag."

A Few Extracts from Acknowledgements of Radio Broadcasting Program Station PWX

The three following were received by cable:

"Le oimos broadcasting tan claro que se pudo bailar perfectamente; felicítoles y nos felicitamos.—*Dr. Valdés Figueroa*, Ciego de Avila, Cuba.

"Heard you last night ten forty five to eleven twenty on detector alone. Congratulations."—*John H. Tyson*, Riverside, Conn.

"Heard you tonight ten twenty."—*Acme Electric Company*, Knoxville, Tenn.

"About 11:30 p. m. Tuesday night, I had the pleasure of hearing a voice first talking in your native tongue, and then in English, announce your call and address. Your call letters sounded like TWX, and all but these letters were quite clear." — *George Brown* Radio Station 3UT, Toronto, Canada.

"It is with pleasure I wrote you in appreciation of the highly interesting and perfectly modulated concert it was my pleasure to listen in on last night. I heard the address delivered

plainly, the music perfectly, and the whole concert in detail, making a perfect 'Radio Evening.' "—*Charles A. Thiel, Jr.*, President United Warehouse Co., New Orleans, La.

"Your wonderful program was received here at Charlotte, N. C., Elks Lodge a few moments ago, and was one of the finest I have ever heard."—*Jesse Willson, Jr.*, North and South Carolina Battery Co.

"Last night at 10 o'clock, I tuned in to your station with 100 percent clearness, from a standpoint of both voice and music. Very shortly after ten, your music came in wonderfully."—*A. P. Ford, Jr.*, Manager, Armour & Co., Atlanta, Ga.

"Last night, when I returned from the theater about 11:30 p. m., Eastern Standard Time, I sat down to see what I could get on my radio set; I immediately heard, without any tuning in and on a wave-length much higher than usually used, your closing remarks very distinctly."—*F. E. Mallery*, Secretary, North Adams Musicians' Protective Association, North Adams, Mass.

"I am only 60 miles from WSB, Atlanta, Ga., and you come in stronger than they do. Could have put on my loud-speaker, and heard you two blocks."—*Robert H. Kinabrew*, Carrollton, Ga.

"Voice was very clear and volume good."—*Roy Stodghill*, Queen City Electric Co., Cincinnati, Ohio.

"Received your station last night, and it sure was good."—*F. J. McKenny*, New Prague, Minn.

"Your signals came in very good here at Norfolk, Va. Heard one number complete, played by the Hotel Plaza Orchestra."—*George B. Jones*, operator, U. S. S. Humphreys, TBD 236.

"On Saturday evening at about fifteen after nine, while tuning about, I caught a station which was very loud and clear. It was an excellent orchestra and I listened through the selection, thinking that it was Denver, Colorado, or one of the closer stations. When the announcement was made I was quite amazed to find that it was in a foreign language which I could not understand. After the talk in the foreign tongue, the announcer spoke in very clear English, stating that it was Station PWX, Havana, Cuba."—*Carl Baumeister*, Avoca, Iowa.

"Your station came in good here tonight. Your voice was clear and distinct; music was good, and very much enjoyed by me."—*G. E. Clampitt*, 2920 Carlisle St., Dallas, Texas.

"Heard your program last Saturday night, listening in on a honeycomb coil set. Was using only two tubes at the time I heard you and it was coming clearly and distinctly. I live in the mountains of Virginia, near the Kentucky state line."—*W. F. Horne*, Coeburn, Va.

"I take pleasure in informing you that I heard your broadcasting clearly and distinctly on Saturday evening, October 14."—*Francis Heberger*, 1964 Chapel St., New Haven, Conn.

"This is to advise that on the night of the 14th inst., I received your program on my one tube regenerative receiving set, which I built myself, very plainly. I am about 1,000 miles on an air line from your transmitting station. I am a 15-year-old boy and am a very enthusiastic radio fan."—*Orren King*, Center, Texas.

"Your radiophone station was heard here very loud, clear, and with no fading on Tuesday night, Oct. 10, at 10:20 o'clock, Central Standard time. Congratulations, gentlemen, you certainly have a real "DX" station. The air line distance is about 2,400 miles."—*George C. Dyer*, Warrenton, Missouri.

"I live 30 miles south of Cleveland, Ohio. Saturday night I heard your station sending out your concert. I had this concert, not on

(Continued on Page 42)

Radio Enthusiasm in Porto Rico

By C. R. HARTZELL, JR., SECRETARY,

Radio Corporation of Porto Rico

UPON completion during August of the radio station of the Radio Corporation of Porto Rico in San Juan, a considerable contingent was added to the universal army of radio fans. Not that radio knowledge or interest is new in Porto Rico, there being a most creditable number of amateur installations on the Island and a flourishing Radio Club of several hundred members, but the big station installed by the Radio Corporation of Porto Rico, affiliated with the International Telephone and Telegraph Corporation, brings to the Island a local broadcaster of the highest type with the certain develepoment of radio enjoyment in Porto Rico, which the broadcasters have brought everywhere.

The need for such a station was doubly felt in Porto Rico, as the Island's geographical location is such that only the exceptional amateur installation could hear the larger broadcasters in the United States, over a thousand miles away, and then only under favorable conditions of static interference.

The average radio fan was restricted to the commercial Morse of nearby ships and Naval stations, or to such communications as the nearby fellow-fan would give. Hence the announcement of the erection of the San Juan broadcaster was received with the greatest enthusiasm.

The station is erected in the heart of the City of San Juan, the operating rooms, etc., being located on the Porto Rico Telephone Company's building, where its operation tests have been made.

Testing was done for about one week and the station's ability to serve the Island under every possible condition was clearly demonstrated. Furthermore, the test concerts and announcements were heard and reported from Santo Domingo, St. Thomas, Venezuela, Atlantic States, including Maine, and even an amateur station in Nova Scotia.

During tests the usual requests for reports on quality and clearness of reception were made, and the number and favorable nature of reception reports received from points in and out of Porto Rico indicate the usefulness which the station will have in developing radio interest and enjoyment in this part of the Antilles.

During the first concert and just before stopping to "listen in" the station asked for communications by telephone or mail as to reception and the operators were amused to hear a perfect chorus of amateur "sparks" from various parts of the Island all working in an earnest effort to notify W. K. A. Q. that it was "muy bueno" and "very fine."

The reception of speech and music of startling clearness and power even in the smallest crystal detector (accustomed up to that time to the monotonous drone of 600-meter Commercial Morse, none of which concerned the receiver, or perhaps the friendly but often "queer" spark of the neighbor amateur) was a radio event in Porto Rico which can be underestimated.

The intelligent enthusiasm and interest in radio now being shown by the world in general is also fully represented in Porto Rico, and the new station makes possible a very certain and equally rapid spread of radio interest in the Island.

Development of the Measured Telephone Service Idea in the United States

IN the United States, where the engineering side of the telephone industry is more highly developed than anywhere else in the world, there have also been some notable changes taking place in the commercial branch.

When telephones were few and their use was more of a luxury or curiosity than a necessity, less importance was attached to the commercial side of the business than today, when New York City has considerably more than a million telephones, and San Francisco has a telephone for every three inhabitants.

The telephone is being used in the United States for every conceivable type of communication between two individuals. Wholesalers use it systematically for selling to retailers, who in turn reach or are reached by a big percentage of their trade over the telephone. It enters into every sort of business transaction.

This fact has led to a careful study of the science of serving the public commercially. It is a science, an exact, intricate and fascinating science, just, like that of transmitting the human voice over wires to any distance and against every difficulty.

At one time the flat rate for telephones was the system of charges universally in practice; that is, the subscriber paid so much money a month for his telephone, no matter whether he used it much or little.

That method was undoubtedly good in the times when the telephones in a city were few and far between, the service obtainable from them none too dependable, and when all classes of business, as a result, did not rely absolutely upon the telephone.

There was no great congestion of traffic then, and the class of establishment that makes and receives a thousand calls a day at the present time, probably did not use the telephone more than ten times a day in that earlier period of telephony.

The fact that today there are many very heavy users of telephone service in any city, and that there are also smaller business men next door to them who have telephones for emergency protection, but use them comparatively seldom, has complicated the problem of charging for local service.

Long and careful studies were made of the use of the telephone on certain lines, groups of lines, in separate section of cities, at various hours of the day and seasons of the year. The mass of data thus obtained was tabulated in various ways and compared. The result was that telephone companies for the first time began to know exactly how much the telephone were being used, as well as when and by what element of the population.

This information was tremendously valuable in facilitating the rearrangement of traffic so that overloaded trunk lines might be relieved and everybody enjoy the right of talking when he wanted to do so, without being penalized because he happened to be in a busy neighborhood.

Telephone service got a great deal better. As it improved, there was a consequent increase in the use of the telephone by business men. No longer bothered by frequently busy lines, they learned to rely more and more on their telephones to save their time and increase their efficiency.

Thus it worked out that the more active and successful business men were using the telephone a great many more times a month than their smaller or less aggressive neighbors.

A definite though small element of cost was involved in each call, and this, in the case of the big user, amounted to a considerable figure each month, which it cost the com-

pany to give him his actual service, to say nothing of the insurance value of having a telephone at hand.

The small user got the same insurance value out of his telephone, of course. It was there when he needed to call or when someone else wished to call him; in case of fire, robbery, injury to an employee, accident to machinery, a rush order for goods, or any other emergency. Each call he placed cost the company as much as each call of the big user. Yet there was an apparent inequality between the real value of the telephone to these two types of men.

In small communities, this was not an aggravated situation; but in the bigger cities it grew more apparent as installations increased that after a certain point the flat rate for local telephone use was unfair to the public.

Various suggestions were made, and each one was given a thorough study. At last, the weight of the evidence seems to be plainly in favor of a minumum charge with a certain number of calls and a graduating charge per call, depending upon the number of outgoing calls, no charge being made, of course, for incoming calls.

There are several variations to the exact application of this principle, according to the communities in which it has been put into effect, but the broad idea is the same in all the large cities of the United States. Telephone service is being measured, just like gas or electricity or water, and the consumer is being charged for what he uses.

Thus the small user is relieved from bearing part of the burden of expense for the amount of use which the bigger business man makes of his telephone, the big user pays a sum commensurate with the service he gets, and nobody is being charged for more or less than what he actually has had.

Nobody feels like being charged for the gas that somebody else burns. The man who lives in a cottage would complain if charged as much for his electric lights as the man who lives in a mansion. The housewife pays for potatoes and flour and other necessities, not so much a month on a flat basis, but at a definite price per unit for what she actually uses.

That is, in general, the principle which has been worked out for charging for telephone service in the United States. It seems to be agreeable to everybody. It certainly is an interesting subject to everybody who uses a telephone—and who does not?

Directs a Nation and a Telephone Company

Hon. Warren G. Harding not only directs the United States government, but also is chairman of the board of directors of the Marion County Telephone Company. Undoubtedly, he is the only telephone man who is at the head of a world power.

President Harding has been interested in the development of the telephone system of his own part of Ohio for a number of years, his business ability and foresight being largely responsible for the fact that the company is known among telephone men as a model. At the recent election of officers, he was again selected as chairman of the Board of Directors.

Automatic telephones were installed in Marion, the President's home, in 1917. "Since its completion," says the magazine *Automatic Telephone*, "the plant has been visited by telephone engineers from all over the United States as well as by government engineers from many European and South American countries."

There are nearly 20,000,000 calls a year made through the Marion plant, to which are connected 7,300 automatic telephones. The system consists of more than 13,000 miles of wire, 6,400 of which are in aerial cable, and 6,000 in underground cable. Overhead wires are being replaced by underground construction as rapidly as finances will permit.

The Telephone in Porto Rico

By J. T. QUINN, MANAGER
Porto Rico Telephone Company

THE island of Porto Rico, situated approximately 1,300 miles south of New York, 900 miles east of Havana, Cuba, and 500 miles north of Venezuela, is rectangular in shape, being about 100 miles long and 36 miles wide. The population is one and a quarter million.

Porto Rico was a Spanish possession until 1898, when by the Treaty of Paris it was ceded by Spain to the United States.

During the Spanish régime there existed a military telegraph system connecting the principal cities in the Island; and in the cities of San Juan, Ponce and Mayaguez, small and very primitive telephone systems were operated under royal grants. In the period between the beginning of the American occupation, 1898, and the year 1906, very little progress was made in the way of telephone development. One telephone company, "La Red Telefónica," operated two small magneto offices, one in San Juan and the other in Santurce, while three similar exchanges were operated by other companies in the cities of Ponce, Mayaguez and Arecibo. The San Juan plant was originally constructed for 100 subscribers, but in 1906 it consisted of 250 subscribers. In Santurce, that same year, there were 130 subscribers connected to the exchange.

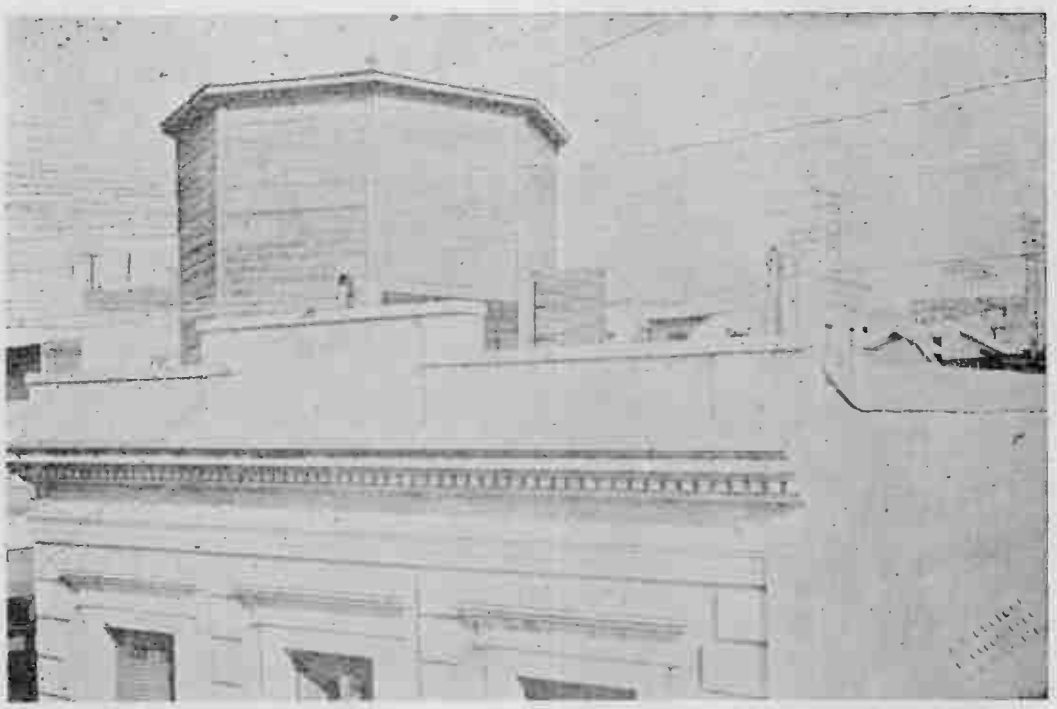
In 1906, the Porto Rico General Telephone Company was formed, and it acquired the franchise, grants and plants of the companies operating in San Juan and Santurce, Arecibo and Mayaguez. At that time, there were few long distance lines and the new company started the construction of an extensive system. Likewise, it opened new offices in several towns which heretofore had never enjoyed any telephone service.

The territory in which the Porto Rico General Telephone Company operated consisted of the north, eastern, and western coastal areas, including the important cities of San Juan, Arecibo, Mayaguez, Aguadilla, Fajardo and Humacao. Another company, the South Porto Rico Telephone Company, with headquarters at Ponce, at the same time was operating along the southern coast, and comprised the cities of Ponce, San German, Yauco and Guayama. The Insular Telegraph system,

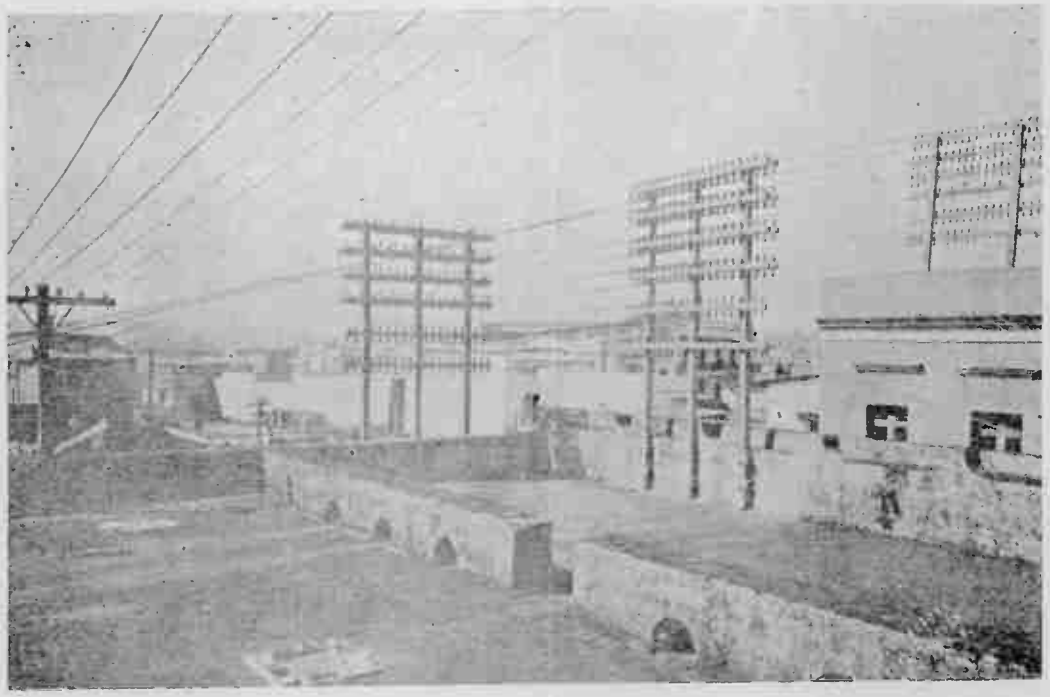
Main office of the Porto Rico Telephone Company, San Juan

an outgrowth of the military administration, operated telegraph throughout the island, and also telephone exchanges in the east central part of the island. It included in its territory the cities of Caguas, San Lorenzo, Aibonito and Cayey.

Up to 1911, the Porto Rico General Telephone Co. had been operating under rights



Roof of the San Juan central office prior to 1912, showing method used for terminating aerial wires



Aerial wire construction on roofs of houses in San Juan, Porto Rico, prior to installation of aerial cables in 1912

granted originally by old Spanish franchises, but in that year a new franchise was given to the Company by the Executive Council of the Insular Government. At the same time, the company was reorganized.

Previous to 1911, all telephones operated in Porto Rico had been of the magneto type, and with the exception of a small amount of aerial cable in San Juan, Santurce, Mayaguez and at Ponce, the entire outside plant was of the open wire type.

Immediately upon the reorganization of the Porto Rico General Telephone Company, a very comprehensive reconstruction program providing for the rehabilitation of the plant was inaugurated. In line with this, construction of a new six-story telephone building for San Juan was started, and in the following year a new central office building for the Santurce exchange was completed.

In 1912, entirely new plants of latest design were built in Mayaguez and Arecibo. Mayaguez was of the common battery type, and was the first central office of this kind to be established in Porto Rico. During this same period, considerable work was done in extending the long distance circuits and opening other new offices in the smaller towns of the island which previously had only been served by telegraph.

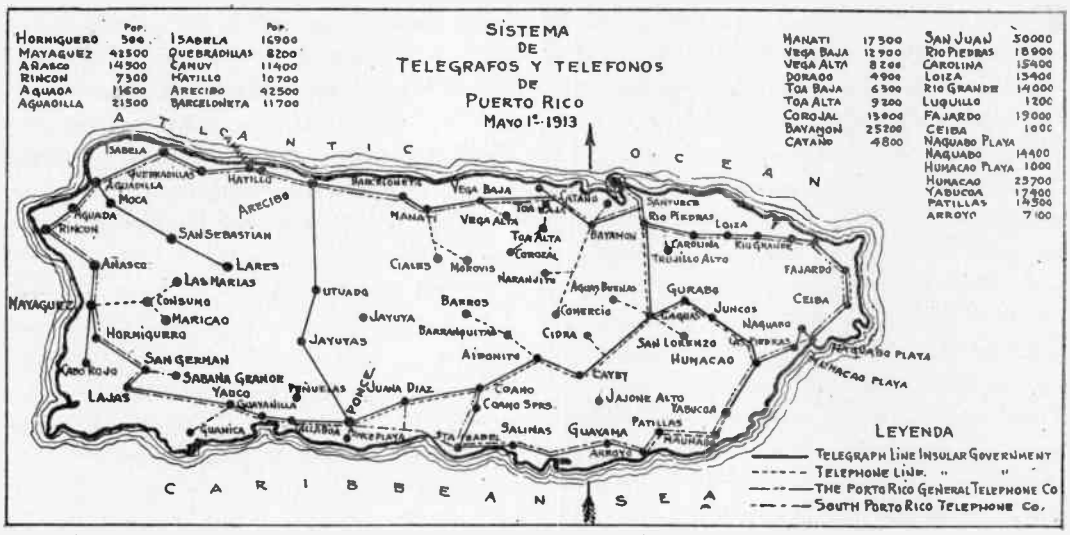
Later in 1912, a new plant consisting of an aerial cable system with a new common battery central office was opened in Santurce, and early in 1913 a new common battery plant with an up-to-date cable distribution was put in service in San Juan. All this work involved a great deal of foresight and perseverance, especially because it required the outlay of a large sum of money. The financial arrangements necessary to effect the above mentioned work required of the promoters great faith in the future of the island and the instillation of this faith into others.

In 1914, a new company called the Porto Rico Telephone Co. was formed and took over the South Porto Rico and the Porto Rico General Telephone companies, and merged all the telephone plants of the island, except those controlled by the Insular Telegraph, into one system. This was a very important step in the telephone development on the island, and from that time on, the new company enjoyed a steady and healthy growth, further extending its long distance plant throughout the island and opening up new exchanges.

In 1916, a common battery plant of 1800 line ultimate capacity, together with a new aerial cable plant, was installed at Ponce. This work was supplemented by the establishment of common battery exchanges at Arecibo, Aguadilla and Fajardo and other points. By 1920, the year fixed for the completion of the minimum plant stipulated in the franchise of the Porto Rico Telephone Co., twelve common battery exchanges and fifty-eight magneto offices were being operated and its long distance net-work had extended to practically every point on the island. This provided almost universal service throughout the island; and, moreover, represented notable development for an island the size of Porto Rico.

In 1917, when the United States entered the World War, a large number of the employees of the company entered the military service, and this, together with the impossibility of obtaining material, stunted the progress of the Company during the years of 1917 and 1918. Moreover, late in 1918, an earthquake virtually destroyed the city of Mayaguez, and caused a great deal of damage to other towns in the western part of the island. The telephone central office and most of the outside plant in Mayaguez were destroyed, and it was necessary for the company to replace this plant entirely. This work was completed early in 1919.

During 1920 and 1921, further extensions to the long distance network were made contemporaneously with installations of addional central office equipment in San Juan, Santurce, Ponce and Arecibo. Although Porto Rico has been passing through a business crisis, in common with the rest of the world, the



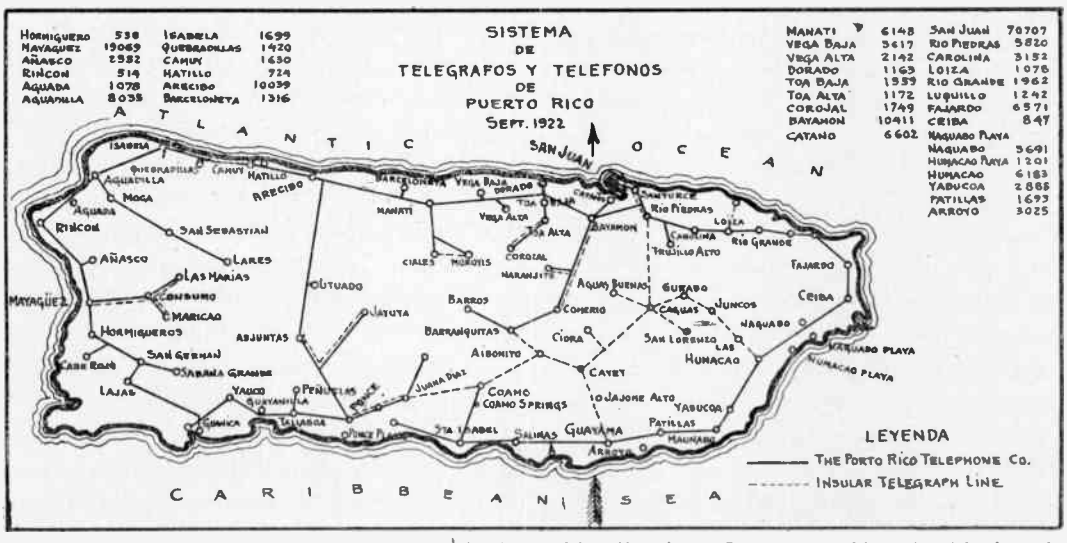
Map showing how the telephone communications were divided prior to the organization of the Porto Rico Telephone Company

increase in the number of telephones has made it necessary for the company to make extensive additions and betterments to the plant.

PLANT

The company owns its buildings in San Juan, Santurce, Fajardo, Humacao, Arroyo, Mayaguez, Coamo, Juana Diaz, Utuado, Rio Piedras, Bayamon, Ponce, San German and Arecibo. The San Juan building is a steel frame six-story central office, the business and accounting offices of the company, and also contains rented business quarters. In Santurce there is a two-story structure, the upper floor being used for telephone purposes and the ground floor rented for other business. The Mayaguez office, built in 1919, is a one-story building of special design.

The practice of having the operators live in the same building is carried out in all rented offices of the company. In this way the necessity for a night operator is eliminated, the service after 10:30 P. M. being cared for by night alarm attachments.



Map showing present comprehensive system of the Porto Rico Telephone Company, girdling the island, and reaching out with its branch lines to the important interior points

Practically all of the equipment is of Western Electric manufacture. The switchboards in San Juan and Santurce are 2000-line Western Electric Special No. 1 boards and the last section to complete its ultimate equipment has been ordered for San Juan. The exchanges at San Juan, Santurce, Mayaguez and Arecibo are operated with harmonic party-line, selective ringing, the color method of ringing being used . On the other hand, the board at Ponce is operated on the straight code-ringing system, using the tip and ring side of the line for two and four-party service.

In the offices at Mayaguez and Arecibo the company is using Western Electric boards

Humacao telephone exchange, typical of the smaller offices of the Porto Rico Telephone Company

of the No. 1258 type, and type No. 1248 are installed in the common battery offices at Fajardo, Humacao, Yauco, San German and Aguadilla. In the other offices, a number of the boards are of the Western Electric No. 1800 type, while others have been made in the shops of the company. Twenty-five private branch exchanges are connected to the system.

The central office equipment, as well as the substation apparatus, drop wires and other like material, are designed to withstand the atmospheric conditions encountered in Porto Rico which have been found detrimental to the operation and the life of the equipment. In the earlier development of the outside plant, much iron wire was used. This practice proved to be most unsatisfactory, as the rate of deterioration in all classes of iron equipment in Porto Rico is very rapid. The iron wire in existing toll lines along the coast is gradually being replaced with copper.

At present, only special weather-proof No. 14 B R C drop wire is used by the company. In the southern part of the island, especially in Ponce a fungus growth of orchid attaches itself to the drop wire. No detrimental effects have yet been observed, except that the drops present a grotesque appearance.

In the earlier days of the telephone in Porto Rico there was a limited amount of hardwood growing, and poles from this kind of lumber proved very efficient. However, the source of hardwoods was soon exhausted, and in the construction work carried on by the Porto Rico General Telephone Co. in 1908, other native wood was used. The poles obtained proved entirely unfit for telephone work, and after 1909 only creosoted pine poles from the United States were used. These poles are impregnated with twelve pounds of creosote per cubit foot, and have proven satisfactory.

Hurricanes and tropical storms frequently cause heavy damage, especially to the toll lines. Moreover, many toll lines are constructed along highways where the foliage and undergrowth is heavy, and eternal vigilance is required there to keep the lines clear of trees and brush. In many localities, the toll lines are built under cocoanut trees which overhang the roads and whose limbs frequently fall and break the lines.

In San Juan the saturation amounts to more than six telephones per hundred inhabitants, which is high in comparison with other Latin-American cities. The population of San Juan and Santurce, which actually form one city, is about 70,000, and there are more than 4,600 telephones in service at the present time. The average number of local calls handled daily by the company is 63,000, or nearly 23,000,000 calls per year.

The company provides telephone connections for forty sugar centrals located in various parts of the island, and its long distance service is used extensively by the sugar companies during the grinding season, extending from

November to June. The average number of long distance calls handled daily is 1,150, or about 420,000 calls per year.

The principal exchanges of the Porto Rico Telephone Company, together with the population of the towns in which they are located, and the number of telephones connected to each, are shown in the following list:

Town	Population	Number of Telephones
San Juan ..... / Santurce ..... \	70,707	4,636
Ponce Playa.... / Ponce ..... \	41,561	1,343
Mayaguez	19,069	572
Arecibo	10,039	353
Humacao	6,183	129
Fajardo	6,571	100
Aguadilla	8,035	151
San German	5,001	105
Yauco	7,054	79
Guayama	8,924	183
Rio Piedras	5,820	210
Bayamon	10,411	113

The other central offices of the company are smaller, but they serve to form on the island a complete system of communication between its inhabitants.

A comparison of the telephone saturation in San Juan with other important Latin-American cities can be seen in the following table. The data is based on reports of the Statistical Department of the American Telephone and Telegraph Company.

San Juan, Porto Rico..	6.16%
Caracas, Venezuela....	5.90%
Mexico City, Mexico..	3.07%
Montevideo	3.04%
Buenos Aires	3.03%
Rio de Janeiro	2.04%

The telephone growth in Porto Rico since the inception of the Company, is shown in the following table:

Table Showing Growth of Telephone Development

Porto Rico General and Porto Rico Telephone Cos.

1906-1922

NUMBER OF TELEPHONES

Year	San Juan	Santurce	Arecibo	Mayaguez	Total for all Exchanges
1906	250	130	...	...	
1908	440	185	95		872
1909	783*	.....	103	95	1,187
1912	623	438	136	232	1,716
1915	.....	.....	...	...	4,426
1916	1,392	1,038	167	342	5,018
1917	1,454	1,126	193	364	5,380
1918	1,627	1,224	201	3‡	5,386
1919	1,779	1,460	246	377	6,594
1920	1,985	1,632	274	469	7,415
1921	2,198	1,974	339	560	8,542
Aug. 1922	2,409	2,227	353	572	9,245

‡ Plant at Mayaguez destroyed by earthquake October, 1918.
* In San Juan and Santurce.

REVISTA TELEFÓNICA INTERNACIONAL

(SUCCESSOR TO THE CUBAN TELEPHONE MAGAZINE)

Published monthly by the International Telephone and Telegraph Corporation of New York in the interest of better communications service in Latin America and the development of telephone connections between those countries. This magazine is distributed among the employes of the Cuban Telephone Company, Porto Rico Telephone Company, Cuban-American Telephone and Telegraph Company, Radio Corporation of Cuba, Radio Corporation of Porto Rico, and read in the offices of the principal telephone companies of the Western Hemisphere.

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KENNETH MCKIM, *Editor*

THE COMPANY AND THE SUBSCRIBER

One of the most important factors in the success of the telephone business today is the establishment and maintenance of the proper relation between the company and the subscriber. When either lacks understanding and consideration for the other, the resultant unbalanced condition is bad for the service.

It is just as important for the company to appreciate the subscriber's requirements as it is for the subscriber to comprehend the natural limitations on the company. It is no less important for the subscriber to know in a general way the problems of the company than that the company should have the subscriber first in mind in framing its policies and planning its development.

Wide-awake telephone companies know this, and they are making a systematic and conscientious study of the business from the subscribers' point of view. There is nothing altruist about it. It is just plain common business sense.

Naturally, the subscribers have not the incentive or the facilities for getting the company's viewpoint. The few who do visit a telephone headquarters and are shown around the place are invariably surprised and deeply impressed by the evidence they find of thoroughness, scientific knowledge, progressive ideas and operation efficiency. What surprises them most, perhaps, is to find that every movement is in the direction of better service to the public.

That telephone users know virtually nothing of the science of telephony or the commercial business of giving telephone service is not their fault. The blame must rest on the companies which do not place the information at the disposal of their customers.

The citizen who pays a telephone bill is apt to consider that he is paying simply for a little metal contrivance that stands on his desk or table. Sometimes he wonders just why he pays what he does to have it standing in his home or office especially if he does not place frequent calls.

The man who takes this attitude overlooks the fact that the telephone is always at his disposal when he needs it, night or day; that it is ready to call the doctor in case of sudden sickness; the police, when he hears a burglar; the firemen, when his home is burning; a taxicab, when a heavy shower has him marooned indoors; the grocer or butcher, when unexpected company arrives just before dinner.

He forgets that it is at his service, too, to bring him the messages of those who would call him. It acts as salesman, collector, messenger and secretary to the business man; as servant, companion, social secretary and protector to the housewife.

To give this service, this protection, requires the maintenance of an expensive plant which he does not see or visualize; miles of lead-covered cables containing a multitude of little insulated wires, hundreds and hundreds of miles of heavy copper wire stretching from the top of poles across great reaches of unpopulated country, millions of dollars worth of delicate technical equipment in solidly constructed buildings—and all requiring the constant attention of a large force of skilled employees.

That is what is behind the little instrument on his desk or table—large investment, mechanism more susceptible to harm than that of a watch, a loyal and conscientious personnel employed only to make his telephone an efficient assistance and protection to him in business and in the family group.

Successful telephone companies are always striving to make the conditions of the service better for the subscriber. Coming back to the subscriber's bill, there is a growing tendency in recent years to base the charge upon the protection and the actual use which the telephone represents to each individual subscriber. Realizing that some business men naturally use the telephone many more times a day than others, companies are seeking to proportion the cost in such a way that each shall pay for what he gets.

This is a policy which has met with notable favor, because it aims at a fair deal for everybody. It is one illustration of the way in which telephone companies look to the interests of the subscribers as a means of promoting their own development through increasing the use of and demand for telephones.

Satisfied subscribers are the best asset of a telephone company. They have a powerful influence in stimulating others to take advantage of the conveniences of a telephone. The greater the number of telephones in use to any given population, the better the service is and the more its importance to everybody; and as the number of telephones increases steadily, the reputation of the company for good management and satisfactory service remains favorable in the world of finance.

A telephone system cannot grow without outside capital, for the profits of the business, while steady and reliable, are small, and will not pay in advance for the frequent large investments in plant which the public demand makes necessary. Capital is not interested in a business which does not grow; and the history of half a century has proved that the telephone business that does not go ahead goes backward.

So telephone companies that are intelligently managed try to give to the subscribers the best service possible at all times, thus insuring their own healthy growth and making possible properly planned programs for the future.

There are some things which interfere with good service, and which no company can control. A storm, for instance, may cause interruption or serious impairment of service in the region which it strikes. Even underground cables are not entirely immune from storm damage.

It is an inspiring example of loyalty and sometimes of courage as well to see telephone employees toiling without regard for personal comfort or safety to restore service to the public at such times as these. Here is an occasion when the subscriber, by a little exercise of patience, can show not only his spirit of co-operation with the company, but also

his appreciation of the unselfish efforts of the company's employees.

Progressive telephone companies—and that is the only kind that is successful—are constantly schooling their employees to be courteous to the public, to listen respectfully to complaints, even though somewhat excitedly expressed, to practice forbearance, to explain carefully and clearly the answer to any question, and to do all in their power to reassure the subscriber that his telephone troubles are those of the company, which is anxious to see that he gets everything to which he is entitled.

Courtesy of employees is a winning weapon for the company in the fight against suspicion, misunderstanding and distrust—that is, courtesy, backed up by genuine effort to make the service each year and each month a little better than it was before.

The associated companies of the International Telephone and Telegraph Corporation are determined to serve their subscribers well, and in this policy they have had generally the most loyal and intelligent support from their employees.

Automatic Supplant Manual Telephones in World's Metropolis

NEW YORK CITY woke up on the morning of October 15 using the automatic telephone for the first time. At midnight of the previous night the first automatic exchange in Manhattan, that of the Pennsylvania Central Office District, went into operation; and as the cut-over was made, the "Number, please" of "Central" died forever on those lines.

Approximately 1,700 lines in the area between Broadway and Fifth Avenue, and Thirty-second and Thirty-fourth streets, and between Thirty-first and Thirty-second streets and Broadway and Sixth avenue, were involved in this first step toward the modernization of telephone methods in the world's largest city.

There are now considerably more than a million telephones in New York City, and the New York Telephone Company is preparing to make every one of them automatic, thus greatly facilitating the handling of the tremendous volume of traffic and giving the subscribers better service.

Preparations are under way for making the change to automatic telephones in Chicago and the other large cities of the United States, it having been demonstrated to the satisfaction of the Bell System that the benefits to be derived from automatic telephones will justify the expense of the change, especially in the large cities where speed in handling calls means much.

Thus New York, Chicago and the other cities of the north are following the example of Havana, which abandoned the manually-operated telephone for the automatic ten years ago, with the result that the service there is now known among telephone men as one of the best and most reliable in the world.

"The new telephone system is so human that it seems uncanny," comments the New York World. "It will be the beginning of a new chapter in New York's telephone history—a chapter in which there will be nobody to swear at but yourself if you get the wrong number; and in which jiggling the hook will only disconnect you and leave you alone in the universe with a telephone receiver and a little metal dial with holes around the edge."

The task of wiring the Pennsylvania central office required more than 7,000,000 soldered connections by hand, and it took more than two years to install the automatic equipment. There are 109 central offices in New York City, which handle 4,500,000 daily telephone calls.

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION AND ASSOCIATED COMPANIES

CONSOLIDATED BALANCE SHEET JUNE 30, 1922

ASSETS

PLANT, PROPERTY, CONCESSIONS, ETC.		$26,401,564.10
ADVANCES TO AND INVESTMENTS IN AFFILIATED INTERESTS:		
Cuban-American Telephone and Telegraph Co.—		
Investment in Stock	$1,080,000.00	
Open Account	148,136.17	1,228,136.17
SPECIAL DEPOSITS:		
Deposits available for Construction Expenditures of Cuban Telephone Company Incurred after September 1, 1921	$ 504,178.10	
Sinking Fund Deposits	2,343.35	
Deposited to retire Cuban Telephone Company Collateral Trust Bonds	1,075.00	507,596.45
DEFERRED CHARGES:		
Bond Discount and Expense in Process of Amortization	$1,175,284.52	
Organization Expense	7,929.66	
Prepaid Accounts	56,080.85	1,239,295.03
CURRENT ASSETS:		
Cash in Banks and on Hand	$ 802,221.08	
Marketable Securities	38,670.00	
Loans Receivable	86,115.17	
International Telephone and Telegraph Corp. Syndicate	1,339,097.14	
Accounts Receivable	512,752.67	
Materials and Supplies	512,102.41	
Deposits to meet Matured Coupon Dividends Payable, etc.	257,833.81	
Accrued Interest Receivable	12,150.69	
Sundry Current Assets	24,937.18	3,585,880.15
Total Assets		$32,962,471.90

LIABILITIES

CAPITAL STOCK:		
Common Stock Authorized 250,000 Shares Par Value $100.00	$25,000,000.00	
Less—Unsubscribed and Reserved for Exchange.	9,994,600.00	$15,005,400.00
Preferred Stock of Associated Companies—		
Cuban Telephone Company	$ 2,000,000.00	
Porto Rico Telephone Company	258,500.00	2,258,500.00
Minority Stockholders, Interest in Capital and Surplus of Associated Companies—		
Cuban Telephone Company	$ 1,072,966.24	
Porto Rico Telephone Company	73,367.50	
Havana Subway Company	83,900.00	1,230,233.74
		$18,494,133.74
FUNDED DEBT:		
Cuban Telephone Company—		
First Mortgage 5% Bonds due January 1, 1951	$ 4,019,282.66	
First Lien and Refunding Mortgage Bonds Series A due September 1, 1941	4,519,800.00	
Collateral Trust Convertible Bonds (Cash deposited to retire Per Contra)	1,000.00	
	$ 8,540,082.66	
Porto Rico Telephone Company—		
First Mortgage 6% Bonds due 1944	1,049,800.00	9,589,882.66
CURRENT LIABILITIES:		
Notes Payable	$ 142,008.68	
Accounts and Wages Payable	368,787.24	
Due to Syndicate Managers	135,233.33	
Subscribers' Deposits	180,832.55	
Employees' Benefit Funds	26,868.32	
Matured Interest and Dividends Unpaid	303,116.06	
Dividends Payable	35,170.02	
Accrued Interest	119,263.25	
Accrued Taxes (Subject to review of U. S. Treasury Department)	199,790.22	
RESERVE FOR DEPRECIATION AND AMORTIZATION OF INTANGIBLE CAPITAL		1,511,069.67
		2,750,137.43
SURPLUS		617,248.40
Total Liabilities		$32,962,471.90

International Telephone and Telegraph Corporation and Associated Companies

CONSOLIDATED STATEMENT OF INCOME AND EXPENSES FOR THE SIX MONTHS ENDED JUNE 30TH, 1922

EARNINGS:	
Operating Revenues—	
Telephone Operating Revenues	$1,773,079.99
Miscellaneous Operating Revenues	120,411.09
Total Operating Revenues	$1,893,491.08
Non-Operating Revenues—	
Rent Revenues	$ 4,103.08
Interest Earned	110,427.19
Miscellaneous Non-Operating Revenues	53,138.88
Total Non-Operating Revenues	$ 167,669.15
Gross Earnings	$2,061,160.23
EXPENSES:	
Maintenance and Depreciation	$ 486,283.30
Traffic	126,214.91
Commercial	115,882.52
General and Miscellaneous	196,189.10
Rental Deductions	19,550.20
Taxes	82,790.58
Total Operating Expenses	$1,026,910.61
Net Earnings before interest deductions	$1,034,249.62
Interest Deductions (net)	289,705.29
Net Income	$ 744,544.33

New Local Telephone Plant in Cuba

LOCAL telephone service has been inaugurated in the town of Batabanó, Cuba, with an initial list of 116 subscribers who heretofore have had no means of communicating with each other except by walking. Now the housewife can order her groceries or talk with a friend on the other side of town in a few seconds.

The introduction of this modern necessity to Batabanó was made the occasion for a formal demonstration by the residents. Among those who took part in the ceremony were: Mayor Fernández; the secretary of the town government; Sr. Rodolfo Cancio, Spanish consul; Sr. Manuel Torres, school director; Sr. Félix Duarte, president of the "Surgidero Sporting Club"; Sr. Juan Espelet, president of "La Logia Virtud"; Dr. Pedro Pouz, chief of sanitation; Dr. M. A. Godinez, municipal doctor; Sres. Carrillo, Mas, Eres, González, José Fernández, Vicentes Tres, Ignacio García, Palmer and Pouz.

The Batabanó office has been placed in charge of Señorita Conchita Tres. The other operators are Señoritas Asunción and Manuela Tres. They were assisted on the opening day by Violeta Grillo, chief of the central office at Santiago de las Vegas.

J. A. Fernández, assistant to the president of the Cuban Telephone Company, called up from Havana to congratulate Mayor Fernández. He reminded the citizens of Batabanó that they are now in direct communication with the entire United States and Canada.

Miss Manuela Tres, operator

Telephone Securities as an Investment

By PAUL G. DE LA RIVIERE

Assistant Treasurer, Cuban Telephone Company

THE subject which I have taken as the basis for this article is one which covers a larger field than can be properly treated in the space at my disposal, but the writer has tried to bear in mind that all his readers are not "economists" or financial experts, and are, in the main, just plain people interested in knowing something about the financial end of an enterprise in which they are either actively engaged or in which they have a direct interest through their daily use of the telephone instrument.

I have, therefore, limited myself to explaining in as simple a manner as possible what are the principal causes that have led up to the undeniable fact that telephone offerings are to-day regarded by the conservative investing public as one of the world's premier securities, and considering the lack of real preparation on the part of said investing public in the matter of technical education in financial matters, it is really extraordinary the degree of discernment which has enabled them to pick out this class of security for the employment of their surplus earnings.

First and foremost among these causes I will place the basic principle that the use of the telephone to-day is an absolute necessity in the scheme of our business and social life, and that each new subscriber has a value to the Company far in excess of the mere additional revenue produced by his monthly subscription, because in order to get the maximum service from his installation he influences his friends to become subscribers, and we get the endless chain working; and I cannot think of any other field in which this basic principle operates to such a large extent as it does in the question of telephone service.

The second big cause is that no other industry gathers its revenue from a wider diversity of interests. In other words, telephone revenue is drawn from every field of human endeavor. If the reader will but think for a few moments along this line it will be interesting for him to try to find one single instance in whch the telephone would not be helpful in expediting the relations between man and man. Therefore, while good times increase telephone companies' earnings, periods of depression have not the disastrous results that are periodically shown in the earnings of other classes of business enterprises.

Thirdly, the history of telephone organizations has been much more free from the spectacle of the professional stock jobber than any other business, and this is quite understandable inasmuch as it does not offer large quick profits; its profits are the result of a slower and surer growth based on efficient service and continued expansion, the capital for which expansion must come in large part from the telephone subscribers themselves; therefore the individuals who have devoted themselves to telephone enterprises the world over have been men of high standing, with the result that the capital attracted to telephone enterprises has not been robbed and wasted as is so frequently the case in mining or oil ventures.

Conservative investors do not wish securities with wide and rapid fluctuations; they look for other elements, such as safety of principal, continuity of income and a slow and sure increase in earning power which is sooner or later refleced in increased dividends and higher prices; and the history of no other class of stock the world over has a better record for these things than has the record of the securities of telephone companies.

As illustrative of the above, I will cite the case of a recent offering of preferred stock of the Chesapeake and Potomac Telephone Company to the extent of $3,000,000, which was seven times oversubscribed. An interest-

ing anecdote is told by one of that Company's salesmen regarding the distribution of the $3,000,000 issue. On his approaching a prospective buyer he was dismayed and at the same time overjoyed to see his customer reach for his check book, saying, "I will take the entire issue." The Telephone Company, however, refused the subscription, inasmuch as it preferred to have 30,000 shareholders rather than one only.

Distribution of shares in every city, town and village makes for success on the financial side of the telephone industry.

Telephoning a Mile Under the Sea

LESS than two years ago, a lot of people called it an unthinkable dream to mention the possibility, to say nothing of the practicability, of telephoning from Cuba to the United States under a stretch of sea a mile deep. To suggest that it would soon be a common practice to telephone from Cuba to any part of the United States and Canada brought a laugh from these critics of the plan.

monstration on April 11, 1921, when President Harding of the United States and President Menocal of Cuba, speaking in their respective capitals before their assembled cabinets and accredited foreign diplomats, dedicated this service to better international relations. A new world's record for long distance communication was established on that date, Havana speaking with Santa Catalina Island, in the Pacific Ocean, over a circuit of 5,700 miles.

New warning to mariners marking the landing place of the three submarine cables in Havana

But now, for a year and a half, this has been an accomplished fact, and the use of the direct telephone connections between the three countries is becoming greater daily. It has proved itself to be not only scientifically possible, but commercially economical.

This great achievement in the science of telephony has just been celebrated in Havana by the placing of a bronze tablet on the hut in that city where the three submarine telephone cables terminate. This tablet recalls in Spanish and English the memorable de-

On that occasion, the human voice was carried by wireless telephone from Santa Catalina to Los Angeles, California, thence by the long distance lines of the American Telephone and Telegraph Company to New York and down the Atlantic Coast to Key West, Florida, and under the water to Havana by submarine cable. The conversation passed a mile below sea level and a mile above it; was sent over high mountain ranges, and across valleys and deserts; travelled through thick forests, swampy marshes, blistering

Bronze tablet recently placed on cable terminal hut in Havana, memorializing the historical establishment of direct telephone service between Cuba and the United States

stretches of sand, and deeply packed snow. Yet 500 guests in Washington, D. C., and nearly as many in Havana heard every syllable as clearly as though it had been over a local circuit.

At about the same time that the bronze plate was fixed to the wall of the cable hut in Havana, a new warning to navigators was set up on the wall of the Punta of that city, just outside the cable terminals, and facing historic Morro Castle and Cabañas Fortress. The existing sign in the English language was duplicated in Spanish, so that now there is an imposing bi-lengual sign that any ship's captain can see in plenty of time to prevent him from dropping an anchor in ignorance of the presence of underlying cables.

The cables were laid by the Cuban-American Telephone and Telegraph Company, which is owned equally by the American Telephone and Telegraph Company and the International Telephone and Telegraph Corporation of New York. They afford direct connections between the system of the Cuban Telephone Company and the Bell System, thus providing the connecting link in the greatest network of long distance telephone lines anywhere in the world.

The service thus provided has been of inestimable value to Cuban merchants, sugar growers, manufacturers and shipping men, to exporters, bankers, brokers, insurance men and the sugar interests of the United States; to citizens of each country visiting the other; to

foreign interests doing business in both countries; to the press of the two nations; in fact, to all important classes of the populations who are thus united.

An American tourist staying last winter at the Hotel Sevilla in Havana asked the manager if it was possible to get a telephone connection with the United States in a reasonable time and have any chance of being understood. Assured that the quality of the service was of the best, he placed a call and in three minutes was talking with his office in New York. He was greatly surprised that the connection had been made as quickly, and the transmission had been as clear, as on a local call.

All connections between Havana and New York are not made in three minutes, of course. Sometimes the party called is not in, or can not come to the telephone at once, or his local line is busy. But as Havana and New York are on opposite ends of one circuit, it frequently has been done. The time consumed is only that required for the Havana operator to repeat the call to the New York operator, and for the latter to make the local connection.

Calls from other parts of Cuba, and to other parts of the United States, are handled on a correspondingly rapid basis, and the transmission is as clear to San Francisco, California, as to New York. A horseman at the Oriental Racetrack, Havana, called another in the same business at Los Angeles, California, last season, using the automatic telephone installed at the gate of Oriental Park, which is not enclosed in a booth, and said he could hear as distinctly as though the other party had been in the same room with him.

These are typical cases, used to illustrate how international commerce is being speeded up by the mile-deep cables that less than two years ago a lot of people called an unthinkable dream.

Audience of Thirteen Thousand Hear Havana Speak with San Francisco

There were 13,000 persons assembled at Cleveland, Ohio, on the night of September 29th, when a long distance conversation between Havana, Cuba, and San Francisco, California, was amplified on a Bell loudspeaker for their benefit so that they all heard what was said.

F. T. Caldwell, chief engineer of the Cuban Telephone Company, using an ordinary conversational tone, exchanged a few vivacious remarks with Commercial Manager Bates of the Pacific Telephone and Telegraph Company, and the appreciative laughter and applause of the Cleveland multitude was heard distinctly at the San Francisco and Havana ends of the circuit.

Subsequently, Mr. Bates' little daughter played a violin selection in front of the transmitter on the Pacific Coast terminal of the long circuit, and Mr. Caldwell, at the suggestion of General J. J. Carty, vice president of the American Telephone and Telegraph Company, who was in Cleveland, played a phonograph record, both musical pieces being magnified to such an extent that they filled the Cleveland auditorium, the largest in the United States.

General Carty, who was in charge of the demonstration, given for the benefit of the Telephone Pioneers of America, called the roll of repeater stations between Havana and San Francisco, while on a large wall map an electric light showed as each town responded.

Newton D. Baker, Secretary of War under President Wilson, was one of the speakers. He praised highly the services of General Carty in France during the recent war, as well as the work of the 20,000 telephone employees who joined the army.

Selling Telephone Service

By J. A. FERNANDEZ

Assistant to the President, Cuban Telephone Co.

TELEPHONE service, brought up by constant improvements to a high degree of efficiency, and considered with ever-increasing favor by all classes of society, has gradually become an indispensable help, in all homes, within reach of all, because the efforts of science have reduced its cost to a minimum.

These facts are responsible for the prominence attained both among the public and the telephone companies, by the commercial or contract agent. A leading factor in the telephone business, the contract agent acquaints the public with the advantages derived from the use of the telephone, shows how useful and necessary it is; and, emulating the life insurance agent, who protects a family by means of a policy against poverty when the father or husband dies, the contract agent fulfills an equally important and beneficial mission when he proposes the installation of a telephone.

The latter, besides saving time, money and energy, is of incalculable value when the home is threatened by any calamity, acting with almost instant rapidity and bringing to the distressed family the relief which science or heroism are always ready to give when life or property are in danger.

Although the advantages derived from the telephone are well known, there are many persons who remain without it, through negligence or apathy, exposing themselves to many regretable incidents in the course of daily life.

When wireless telegraphy was invented and vessels commenced to avail themselves of the advantages it offered, the world-wide comment on this wonderful improvement pointed, as the greatest benefit to be derived therefrom, to the lives that would be saved through the sending of the tragic sign of distress, S.O.S., to other vessels, and the promptness with which they would be able to go to the relief of crews and passengers.

The great importance assigned, above all other considerations, to communications from moving ships was due to the fact that, previous to this invention, vessels leaving port were looked at as toys of destiny and possible victims of the fury of the seas. Wireless telegraphy did away with these misgivings. It transformed all vessels into integral parts, so to speak, of the continents. The fatal isolation disappeared, thanks to these communications. The sailor could equip himself with a powerful safeguard, and now it is no longer such a fearful thing to be separated from the fellow-beings remaining on shore.

But in spite of the great convenience, so eloquently demonstrated, of such means of communication, there are many persons, who, living on the mainland and being in a position to use the telephone as a rapid means of communication with relatives, doctors, the police, the fire department, etc., are not provided with that almost indispensable apparatus and expose themselves to the calamities attending a lonely and isolated life.

It is for this reason that the contract agent's mission may be considered quite lofty. It not only averts danger, but it also offers countless advantages from an economic point of view. During the present hard times, when the standard of living is unavoidably governed by the strictest economy, the telephone is an excellent substitute for the servant at home; and in commercial life, by increasing the lines of trade contact and with an active campaign in favor of sales by telephone, clerks may be dispensed with and business improved.

The contract agent represents the Company before the public, and he should, therefore, be endowed with a pleasant personality, with face beaming with bright optimism. As a

good salesman, he should be able to meet with cleverness and rapidity all arguments opposing or tending to postpone the installation. There are abundant reasons why telephones should be established in all homes, however humble.

Courtesy and the sincere desire to serve and gratify the public are indispensable requisites. Most people are ignorant of the organization of the Company and the operation of the service, and the agent, therefore, should take pleasure in explaining and answering all questions addressed to him, even those the absurdity of which reveals the most complete ignorance of the details of our system.

But our Company sells telephone service not only within the city, but to subscribers residing in different towns, who may wish to communicate among themselves.

According to our statistics, there are subscribers whose calls have never gone beyond the city, during all the time they have had the telephone at their disposal, and this proves that they are ignorant of the advantages of the long distance service.

During the last few years great improvements have been introduced in the science of telephone transmission and in the rapidity with which communications are established.

The commercial agent, whenever the least opportunity presents itself, should lose no time in calling the attention of the subscriber to the long distance service, explaining how easy it is to establish the communicaton, and how low are the rates charged.

And, above all, he should always bear in mnd that our motto is:

"ONE TELEPHONE FOR EACH HOME"

Long Distance development in Cuba since 1921 and How the Business Houses are Using this Service

By A. HOWARD SOLER

Superintendent of Traffic Cuban Telephone Company

ONG DISTANCE? Will you please give me the Manatí Sugar Mill? It is A - - - - speaking. I would like to speak to the Mill manager."

"Thank you, we will call you."

The subscriber does not have to think any more about this call until he hears the long ring with which the long distance operator calls him.

"Do you wish to talk to the Manager of Manatí?"

"Yes, please."

"We are ready with the Mill manager."

Possibly ten minutes have passed between these two conversations, but in those ten minutes the operators have worked very quickly. The ticket has passed to the line operator at Havana; a few seconds later Ciego de Avila, 450 kilometers away, is receiving this call. In its turn it has been passed to Victoria, 200 kilometers still further away, and a few seconds afterwards the mill manager knows that they are calling him from Havana. When he answers the telephone, Victoria notifies Ciego de Avila and this exchange, connecting one of the cord circuit repeaters in the circuit, notifies Havana. It is not long before the two subscribers are speaking as though they were sitting at the same desk. Another ticket has been added to the thousands of calls which are completed every month.

Our subscribers judge our long distance service by the quickness with which they receive their calls and by the clearness and

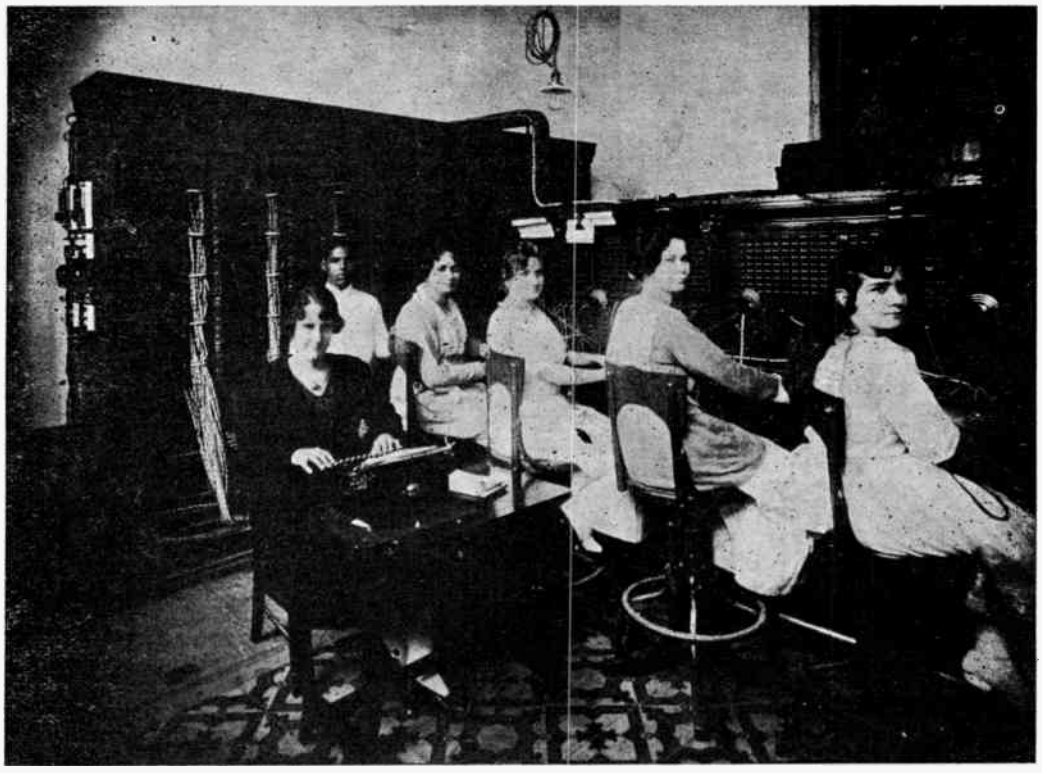
facility with which they speak. Quickness depends upon the Traffic Department; clearness, that is, good transmisson, on the Plant Department.

It would be interesting to make a short trip through these departments.

The Plant Department has in its charge more than 24,000 kilometers of long distance circuits connecting about 450 town and cities of the Island, with a total of almost 37,000 telephones. Adequate maintenance of this system, extending as it does from Guane, in the Province of Pinar del Río, to Baracoa, in Oriente, is a tremendous task, but it has been organized in such a way that daily circuit trouble lasts a very short while on our long distance lines, so much so that during the course of a month, the cases of line trouble that have to be carried over from one day to another can almost be counted on the fingers of one hand.

One must bear in mind that many of these break-downs are kilometers from any one town—a loose connection on account of heavy winds; a lightning stroke which has fused a line; two or three posts burnt; a palm leaf which has fallen on the lines; thousands of causes, but each one is repaired with little delay.

During 1921, the Plant Department installed several test panels in the principal exchanges of the Island in order to better and facilitate maintenance of the long distance lines. It has been possible to locate interruptions in our circuits very quickly by means of these test panels, and also to cut through and rearrange circuits in all cases of emergency.



Operating room, Santa Clara telephone exchange

There has also been a tremendous development in the facilities for long distance service during the year. More than 700 kilometers of pole line were reconstructed, which represents a distance almost from Havana to Bayamo, a 24-hour train ride. In this reconstruction more than 6,400 new poles were

used and almost 15,000 new crossarms. In addition to this, a total of 2,070 kilometers of new circuits were constructed, offering a great increase in facilities to more than half of the exchanges of the island.

This reconstruction, and the installation of the repeater units in the exchanges of Havana, Santo Domingo, Ciego de Avila and Victoria, has resulted in the perfection of transmission; that is, being able to understand clearly between any two towns of the Island and between any towns in Cuba and the United States. The Company has received a great many letters of congratulation from subscribers on the facility and clearness with which they can talk on our long distance circuits.

A repeater is an apparatus which automatically repeats and increases the volume of the conversation. In our long distance system two types are used: the through-line repeater, which is constantly connected in the circuit, like those between Havana and Ciego de Avila and between Havana and Santiago de Cuba, and the cord circuit repeater, which is only cut into the circuit when the operator is going to establish a call between certain towns. The cord circuit repeater offers a great flexibility in obtaining a good talking circuit in any call where transmission requires it.

It is a well-known saying that where better facilities are offered, demand increases. The installation of these repeaters has resulted in an increase of 2,800% in the number of calls between Havana and the cities of Oriente Province.

In the same manner the Plant Department has carried on, since 1921, constant construction and installation of new local exchanges, in the following places: Morón, Remedios, Ranchuelo, Cruces, Cabaiguán, Palma Soriano, Cueto, Antilla, Zaza del Medio, Florida, Perico, Limonar and Surgidero de Batabanó. It is a formidable list, and one that offers to our subscribers better facilities for their long distance calls.

Our Plant Department can very well be compared with a military encampment in which the long distance and local repairmen are always on guard duty, ready to help out immediately in case of interruptions or any other necessity.

The Traffic Department is the one charged with giving the subscribers the quickest service possible and foreseeing the present and future necessities of the long distance service.

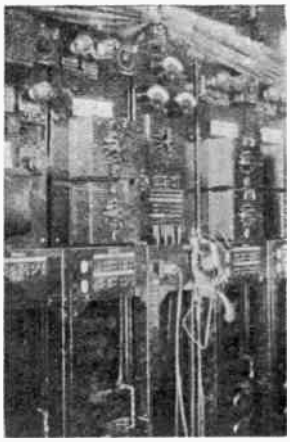
Annually more than 750,000 calls are completed by subscribers located all over the Island, or an average of one call every twenty seconds during the day.

Over a year ago this department undertook a campaign to help every subscriber utilizing the long distance service, in the least possible detail. A great many of these often believe that very little attention is paid them. On the contrary, every effort is made on the part of the long distance operator to complete their tickets, or calls, in the shortest possible time. It is a matter of pride with them, especially if the call offers more than the average difficulties.

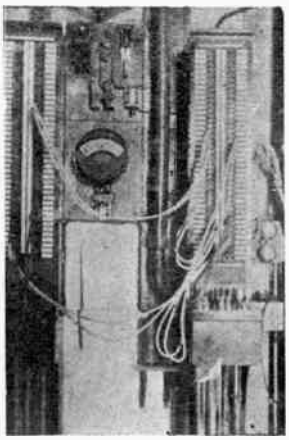
Taking any one day, we find that over 20% of our long distance calls are cancelled due to the fact that the called telephone does not answer, either because no one is home, the office is closed, or there is no desire on the part of the subscriber to answer his telephone. The company always tries to notify these telephones by means of the messenger service, without any extra charge to the subscriber, because it is its desire that everything possible be done to complete all calls.

By means of this method, we find that over 90% of all calls are completed with an average delay of about twelve minutes from the time the subscriber asks for the call until he begins to talk. In this average, all calls to specific persons have been included, in which frequently a delay of three or four hours is encountered.

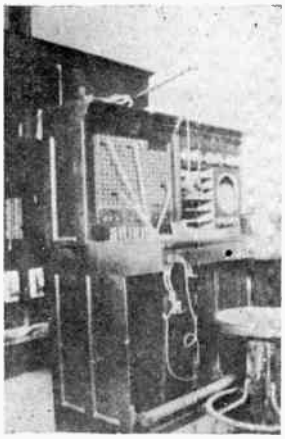
Within the past nine months the business houses of the Island have begun really to appreciate the better long distance service that they are receiving, and although it would be natural to suppose that the economic situation of the country would be reflected in the use of this service, on account of the general re-



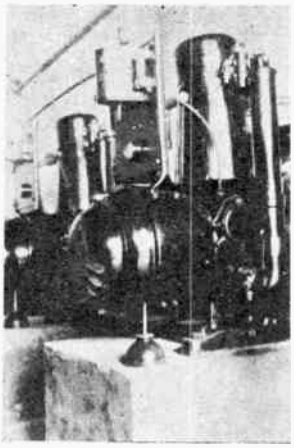
Repeaters, Santo Domingo



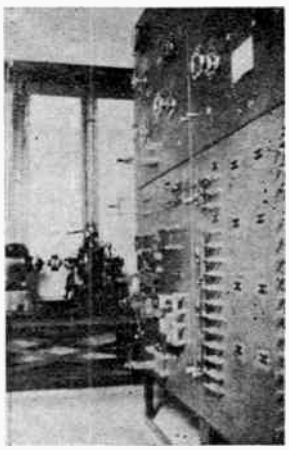
Test Panels, Santo Domingo



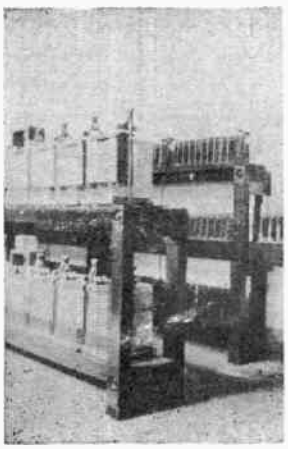
Switchboard, Victoria de las Tunas



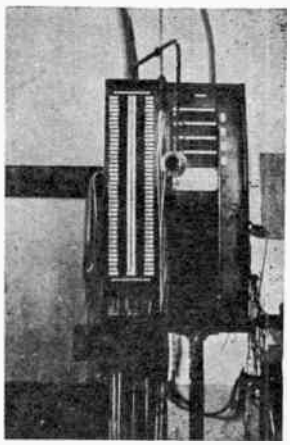
Power Plant, Victoria de las Tunas



Power Board, Victoria de las Tunas



Batteries, Ciego de Avila



Test Panel, Ciego de Avila

duction of expenses that all business houses have installed, quite the contrary is true, and today this company is experiencing an increase in the use of the long distance, principally through the saving in ultimate expense which this service offers its subscribers.

As we propose in this article to publish a few facts about the results which our subscribers have obtained by using this service correctly, it would be well to deviate a little and take up two main objections which our subscribers have; that is, the long distance rates and the charged talking time.

Formerly the railroad fare from Havana to Matanzas was $3.20, to Ciego de Avila, $12.72; to Santiago de Cuba, $24.11. A pound of rice cost 4 cents, and a pair of shoes, $4. A long distance call from Havana to Matanzas was $.75, to Ciego de Avila, $2; and to Santiago de Cuba, $3.60. Today the railroad fare to Matanzas is $4.16; to Ciego de Avila, $16.53; to Santiago de Cuba, $31.35. One has to pay 7 cents for rice and from $8 to $10 for the same shoes that were formerly sold for $4. On the contrary, our rates to Ciego de Avila and Santiago de Cuba have remained the same, and that to Matanzas increased to $.95. actually a lower percentage of increase than any example given here. As experts in economics tell us, the intrinsic value of a dollar has been lowered and one cannot buy as much for one dollar as formerly. This applies to the materials which the company purchases as well as to the groceries that any citizen has to buy today.

Understanding how the fundamental rates; that is, our station to station rates, have been changed, we will see why increased rates have been established for person to person, messenger and appointment calls.

The long distance revenue depends solely on the efficiency with which the line time is utilized. We sell time, that is, the time the subscriber is actually using the circuits, not the time used in passing the tickets and making the necessary connections to complete the calls. After a great many observations on the circuits it has been determined that the operators use approximately ten units of time to complete a station to station call as compared with 18 units of time for a person to person call, and 25 units for messenger calls. It is only natural that any person who requires special long distance service should pay for it, inasmuch as if all our calls were station to station, it would be possible to complete a great many more calls over each circuit in any given time.

There are also a great many subscribers who do not understand why, in a person to person call, the first three minutes should not be charged with the person to person rate and all subsequent minutes at the station to station rate. This method of calculating rates would certainly increase all rates on person to person and messenger calls, inasmuch as it would be necessary to charge the extra time used in completing these special calls in the initial three minute charge.

Now, the total extra time used by the operators in completing person to person, messenger and appointment calls is spread over the total time which our subscribers use the long distance service for these classes of calls. In this way the subscriber talking six minutes with person to person rate, pays the corresponding charge for six minutes at this rate and it does not happen that the person speaking only three minutes at this rate pays more to cover what the former subscriber had not paid during the last three minutes he spoke.

When we come to consider the actual talking time which our subscribers use in conversing over the long distance circuits, we find that in former years a great many of them talked excessive periods without any charge. In order to correct this, all exchanges have been furnished with special clocks called calculographs. Under the present system the subscriber is fairly charged with the exact time that he speaks according to the three minute talking periods which our rates indicate. It has only been natural that this charge in time calls has caused a great many complaints on the part of many subscribers

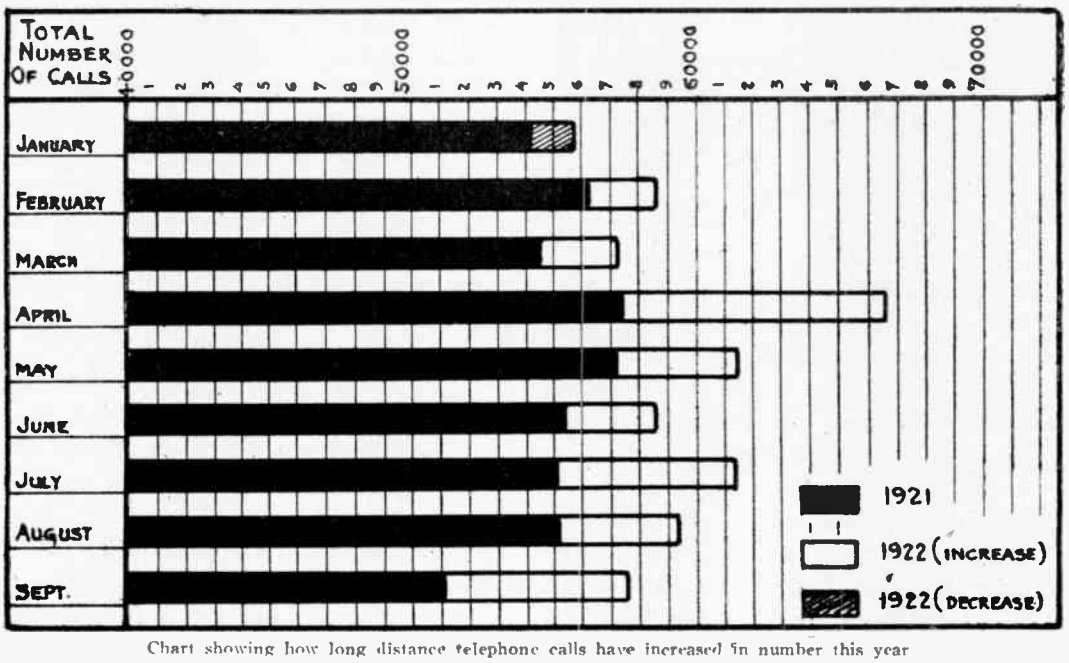


Chart showing how long distance telephone calls have increased in number this year

who previously used a service for which they did not pay.

The calculograph is a clock with which the operator marks the ticket at the beginning of the call and again stamps the ticket as soon as the subscriber is finished. The stamps made by this clock on the ticket indicate exactly the line time used by the subscriber up to the last second. Every call is stamped at both exchanges; that is, a call from Havana to Santa Clara is marked by the operators at Havana and Santa Clara.

It is only natural that our subscribers are better satisfied after they understand the way our long distance operators work in completing their calls.

During 1922, a great many of our subscribers have paid visits to our long distance exchange. It is our opinion that the great decrease in complaints and the increase in the use of long distance which we have experienced can be accredited to the better attitude of our subscribers, who have seen the careful manner in which this work is carried on and all the safeguards installed for their protection.

In Cuba everything is done "personally." To sell, one has to send a salesman to see the buyer; to collect, one has to send the collector. If there is any business to be done, that person immediately puts on his hat and goes out to see the proper individual; everything is personal. Long distance is also personal. One can speak directly with the desired party in the same way as if one were in his office. Any matter of importance or of special nature that would be considered a matter for a personal interview is just the thing which should be arranged over long distance. In addition, the time saved should be considered even though no attention is paid to the personal inconveniences, the unattended office and the unnecessary expenses.

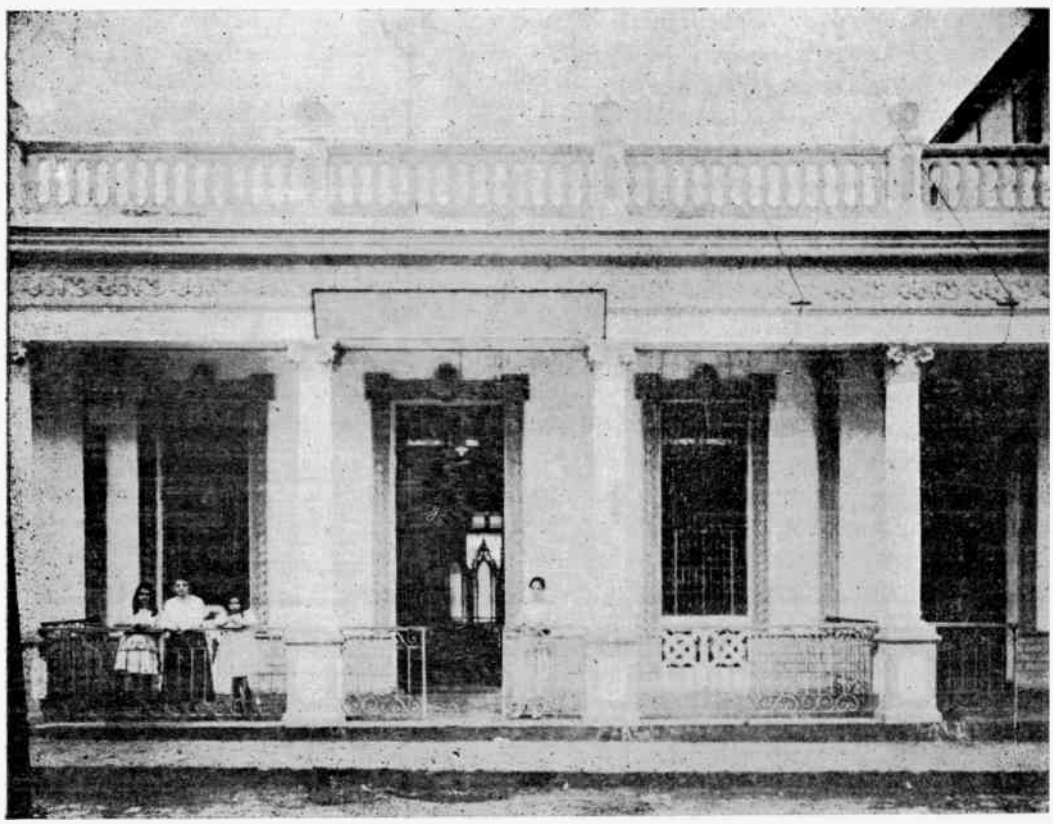
When any commercial house is selling, the gross sales depend upon the number of buyers that are seen during a stated period. The travelling salesman in the Island runs across a great many problems and difficulties in being able to cover his territory in a limited time, in a great many cases having to forego seeing a few business houses where possible sales might have been made, through the necessity of having to catch a train, perhaps the only one passing that day. Usually rail-

road and hotel expenses are high compared with the results obtained.

There are a few business houses that are obtaining surprising results by combining the use of long distance service with personal interviews. When a salesman reaches a central town he personally sees the buyers in that neighborhood, often calling over the local telephone so as to be sure that he will find the person he wishes to see on his arrival. Afterwards, this salesman goes to the telephone exchange and from there, within an hour, speaks to the managers of three or four sugar mills and the owners of the principal business houses in the small surrounding towns. Probably he spends $10 in long distance calls, but assuredly the business that he does would save him two days' hotel expenses in that town and all the other necessary expenses to go to neighboring villages where, in a great many cases, he would have to spend a night.

As soon as the travelling salesman has decided upon his next central town, he proceeds to call two or three of the business houses in order to have them prepared upon his arrival. The trip to this place often can be made at night without loss of time.

A house selling machinery and agricultural instruments that has put this system into practice has said, "We formerly had the opinion that your rates were excessive, but having tested the combined system of personal interviews and long distance calls as employed by our travelling salesmen, we have discovered that the results have been extremely beneficial to this establishment. Our salesmen have been able to cover the Island in 35% less time, interviewing, by long distance or personally, 20% more buyers and incurring only 60% of the usual expenses. It hardly seems neces-



Central office of the Cuban Telephone Company in Unión de Reyes

sary to state the effect this has had on our sales, inasmuch as we have been able to reduce the selling price of our articles and still obtain the same margin as formerly. We now consider long distance service our best and cheapest salesman, and our fastest."

Long distance is being utilized on an ever-increasing scale in the collection of past due accounts. The expense of sending a man to arrange these accounts personally is very great; and a letter or a telegram has small possibilities of being answered. Long distance offers the best solution to the problem. Suppose a merchant having a bill pending for collection for quite a long time should call the debtor over long distance and say, "I am calling you about your due account. You have certain difficulties, we will solve them for you in such and such way. We will do this and that. Yes, we will draw a sight draft for your acceptance, against a certain bank for so much and the rest can be paid at such and such a time." It is likely that this bill would be collected and that he would not lose a customer. Try it out.

A new system of cooperative buying is also developing. He who buys cheapest can sell cheapest, or selling the same, can make more money. In some places, four or five business men in the same business have established the custom of consolidating their purchases, calling over the long distance for prices from several wholesalers and then giving their orders to the one offering the best prices. It is only natural that on account of the volume they purchase, a better quotation is obtained. In order to balance these purchases, each merchant buys in turn, and they cancel their debts to each other in practically the same way that banks cancel their checks.

The sugar mill is naturally our best long distance user and today more than ever. As credits are more or less difficult to arrange, a great many mills notify the main offices of their monetary requirements at the last possible moment in order that the necessary advances be kept as low as possible. Others receive daily reports from their distant "Colonias," in this manner being able to distribute their cars to better advantage and prevent any possibility of stoppng the mill through lack of cane. Still others do must of their purchasing over long distance either through their main offices or through special agents, obtaining in this way the best and latest market prices and keeping this investment in material as low as possible.

During the last grinding season in the Eastern part of the Island, there occurred an enormous fire burning millions of "arrobas" of cane (also burning 2 kilometers of our long distance lines) but our service was reestablished so quickly that it was used practically solely, to arrange with the mills of this zone and the neighboring zones to grind the burned cane and to obtain the numerous cane cutters, carts and railroad cars which this work required. Usually, when sugar mills need cars, they are asked for by long distance as personally, by telephone, they are much easier to obtain.

The uses of long distance by sugar mills are innumerable.

We know a wholesaling merchant of the Interior who perhaps has the smallest warehouse on the Island for the enormous business that he does; but he has three telephones. It can be said that his merchandise comes in one door, is distributed and goes out the other door to his numerous clients. This business man has carefully studied selling over the telephone and uses long distance as his best salesman . It is his belief that it is better to invest his money in selling expenses than in having an enormous warehouse full of paid merchandise; perhaps, paid for with borrowed money, on which interest is constantly due. This merchant has carefully taught his employees to sell over the telephone; to say the most in the least amount of time; to be able to arrange, immediately, the usual difficulties; to have the price-book always up-to-date and near the telephone and most important of all, as he says, "to use the inflections of the

voice in the best possible way, always in a courteous manner."

It would be well to indicate the innumerable ways in which long distance service can be utilized as a powerful ally, not only for the business man of importance, but also for the small merchant in whatever line of business he might be established. This service offers advantages of time saving, expense saving and the saving of inconveniences to the merchant.

Among the uses of long distance service are the following:

1. To order merchandise.
2. To sell service or merchandise.
3. To constantly follow up shipments and steamships.
4. To arrange for collections and facilitate credits.
5. To advise clients on receipt of new merchandise.
6. To save expenses and inconveniences of unnecessary trips.
7. To avoid the loss of orders.
8. To arrange or change business or social engagements.
9. For wholesalers or retailers when they wish to dispose of special or perishable merchandise in a limited time.
10. To save the time and expense of traveling salesmen.
11. To obtain quotations of the market before selling.
12. To hold consultations with specialists or doctors.
13. To pick up the loose ends of business.
14. To accelerate law suits, inscriptions, law deeds, or commissions.
15. To be able to keep in touch with the Home Office when it is absolutely necessary to take a trip.
16. To receive reports from travelling salesmen and to keep in touch with their progress.
17. To obtain or facilitate any information quickly and correctly.
18. To arrange any business matter immediately.

The business man reading this will be able to find four or five ideas which he can very well apply to his business. He might find it to his advantage to cut this list out and place it underneath his desk glass.

It is only natural that the commercial man should be interested in the experiences of others engaged in his line of business and the results which they have obtained. During hard times business men will not use any service which will not give them adequate returns, cheap as this service might be.

Among the numerous instances in which long distance has served the business man, we quote the following cases:

1. A sugar mill prevented a complete stoppage by the quickness with which they were able to order a repair part, although they had to call more than fourteen other sugar mills and machinery houses to obtain this.
2. A wholesaler was able to obtain a better price on a shipment of rice than that offered to him by letter on account of the fluctuation in the market.
3. Another wholesaler disposed of a carload of perishable merchandise to his clients very quickly.
4. A broker has obtained an enormous clientele throughout the Island on account of the system he has of attending their needs by long distance.
5. A commercial house selling agricultural instruments has the custom of investigating the credit of their new merchants by telephone because, as they say, "The new merchant today is worth his weight in gold and if you are going to send him the merchandise, there should be no delay in doing so."
6. A drygoods warehouse has obtained a great many friends among its buyers through the method of taking care of due bills, personally, by long distance.
7. A paint and oil shop has saved a great deal of the time and expense of the travelling salesmen by having the salesman call from a central city to the surrounding plantations and buyers in order to find out exactly what their needs are.

8. A lawyer is in the habit of arranging his business matters over long distance instead of, as he says, "spending three times the money on the trip and leaving my office unattended for two or three days."

9. A travelling salesman says, "We have been able to obtain quite a few orders by notifying my clients of my coming visit two or three days beforehand, and in this way they have not given urgent orders to other salesmen."

10. A hardware house has used the system of calling its customers who have not purchased in some time. "In this way I have been able to obtain a great many orders," the manager declares.

11. A sales manager says, "My travelling salesmen call me certain days each week. In this way I am not only able to keep in touch with them, and also cheer them up during these hard times, but on a great many occasions I have the opportunity of closing a sale by long distance which my salesman has not been able to arrange."

12. A retailer, who has opportunity of buying merchandise in bulk at low prices, uses long distance to arrange with two or three others in the same business so as to distribute what he does not need of these advantageous purchases.

13. A business man says, "I find that I can do a great deal of business during the early hours of the evening when my clients have plenty of time to hear carefully what I am offering."

14. Another business man assures us that the time he saves by the use of the long distance in closing his different affairs over the time which he loses in writing and receiving answers to his letters will mean that this year will be his best commercial year.

We have left until the end probably the most powerful reason why long distance is used. It is the "open door" used to obtain personal interviews with anyone you desire. Often one can write or send telegrams but they will not receive the urgent attention re-

quired and are sometimes considered an intrusion. One can even make a personal trip and find a thousand difficulties before obtaining an interview, in some cases not even being able to see the man one desires.

However, when the operator says, "Long distance is calling Mr. So and So," a few seconds afterwards you are speaking with this man and he will give all his attention to solve the problem if possible right away.

A LONG DISTANCE CALL
IS A CALL OF IMPORTANCE

Bell Vice Presidents Hear Havana

All the operating vice presidents of the associated companies of the American Telephone and Telegraph Company heard the voice of Havana, Cuba, coming over the submarine cable and long distance lines to Shawnee-on-Delaware the evening of October 23. Most of them took the opportunity to say a few words with F. T. Caldwell, chief engineer and assistant to the president of the Cuban Telephone Company, and thus judge for themselves how remarkably clear the transmission was.

Mr. Caldwell spoke at length with Mr. F. A. Stevenson, head of the long lines department of the American Telephone and Telegraph Company, and with Mr. Bancroft Gherardi, chief engineer of the Bell System.

Broadcasting Inaugurated in Cuba

(Continued from Page 10)

head receivers, but on a Western Electric loud speaker. I used a Westinghouse RC set and used 3 steps of power amplification. My best regards to Señorita María; also to the orchestra. Just think of hearing you on a loud speaker, and living on the northern border of the U. S. A." — *George McKee*, Mallett Creek, Ohio.

"Wish to inform you that on last night, Oct. 18, I brought in your entire program

using only *one stage*. This is the third time that I have had excellent reception of the musical program as transmitted from your station. The music rendered last night by the Plaza Hotel orchestra from your studio was exceptionally clear and fine, as well as the selections played on the piano."—*F. F. Fletcher*, Hotel Piedmont, Charlotte, N. C.

"Could almost hear the corks popping."—*T. O. Ott*, Columbus, Georgia.

RADIO PROGRAMS OF THE CUBAN TELEPHONE COMPANY

Station P W X (400 metres)

October 10, 1922, 4 p. m.

Cuban National Hymn
By the orchestra of First Lieutenant Luis Casas, second chief of the General Staff Band of the Cuban Army.

Address (in English and Spanish)
Doctor Alfredo Zayas, President of the Republic of Cuba.

Violin solo, "Liebesfrend"—Kreisler
Prof. Joaquín Molina, accompanied on the piano by Señora Matilde González de Molina.

Cuban Songs
"Roses and Violets"—José Mauri.
"Presently"—Eduardo Sánchez de Fuentes.
Soprano solos by Señora Rita Montaner de Fernández

Danzón "Princesita"—Lieut. Luis Casas
Casas Orchestra.

"I Am a Cuban," Criolla—Lieut. Luis Casas
Tenor solo by Mariano Melendez, accompanied by the Casas Orchestra.

8:30 to 10 p. m.

Part I.

Cuban National Hymn
Casas Orchestra

Aria from the opera "Wally"—Catalani
Soprano solo by Señorita Lola de la Torre, accompanied on the piano by Sra. Matilde González de Molina

Address
President of the Radio Club of Cuba

"Romance of the Star" from the opera "Tannhaüser"—Wagner
Baritone solo by Nestor de la Torre, of the operas of Milan, Barcelona and Buenos Aires

"To Live Without Your Caresses"
Poem by Amado Nervo
Music by E. Sánchez Fuentes
Baritone solo by Nestor de la Torre

Violin solo, "Ave Maria"—Schubert-Wilhelmy
Prof. Joaquín Molina, accompanied on the piano by Sra. Matilde González de Molina

Danzón "Primavera"—Felipe Valdés
Casas Orchestra

Part II

"Criolla"—Casas Orchestra

Recitation
Lyric Cuban composition on patriotism (Written by President Alfredo Zayas during the Cuban war of independence, while he was a political prisoner of the Spanish government in Madrid)

Violin solo
"Meditation from Thais"—Massanet-Marsick
Prof. Joaquín Molina, accompanied on the piano by Señora Matilde González de Molina

"Thou," Habanera
Eduardo Sánchez de Fuentes
Soprano solo by Señorita Lola de la Torre, accompanied on the piano by the author

"The Child of My Affections"
Lieut. Luis Casas
Danzón by the Casas Orchestra

Automatic Private Exchange

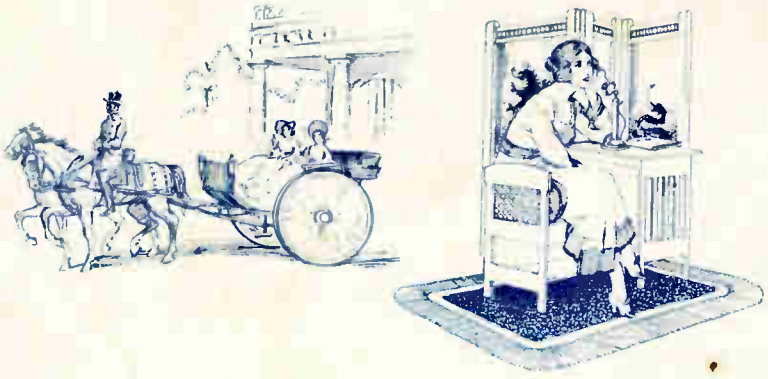
THE CUBAN TELEPHONE COMPANY takes pleasure in announcing to its subscribers and the general public that it is in a position to install automatic private exchanges in large industrial and commercial establishments, NO OPERATORS BEING REQUIRED TO MANAGE THE SAME.

¶ This equipment has been adopted by the most important organizations in the United States and Europe, and is used as a means of interior communication in the War Departments of the United States and France, by the British Admiralty, the great Ammunition Factories of Europe, and also great banking institutions, stores, hospitals and plants of all kinds all over the world.

¶ The use of the interior automatic system increases the efficiency of the outside service and makes possible more economical and efficient work by the personnel. These facts have been practically demonstrated in all large establishments. The equipment can only be installed in establishments of importance, and the Company places at the disposal of all those wishing to utilize this class of service a technical expert, with a practical knowledge of installations, who will study their needs and draw a plan, which will be submitted for their approval.

¶ A postcard or a telephone call will be sufficient to place all of our resources at your disposal.

Cuban Telephone Company



The Good Old Days and The Better Modern Days

IT used to be in the Latin American countries that the social standing and general reputation of a family depended upon the ownership of a coach or a piano.

Today it is the family with a telephone that enjoys the distinction of belonging to the "Who's Who" of any community.

The household without a telephone has to be content with a second-class rating in the neighborhood.

A few years back, when the Señora had something to say to a friend or relative, she had to make a journey in the jogging old coach and spend a half a day or more. Now, she rings up on the telephone and says it in a few minutes without discomfort.

A woman's Pride and Convenience have always been important factors in the progress of civilization. A telephone serves both her pride and her convenience.

International Telephone and Telegraph Corporation

THE TIMES OF CUBA, SAN LAZARO 95, HAVANA

Automatic Private Exchange

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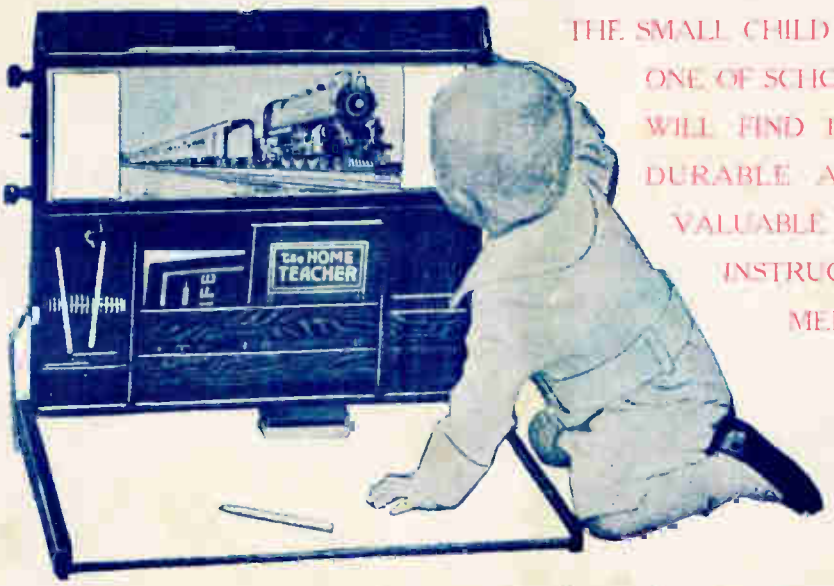
Cuban Telephone Company

Chautauqua Industrial Art Desk



THE SMALL CHILD OR THE ONE OF SCHOOL AGE WILL FIND IT BOTH DURABLE AND INVALUABLE FOR ITS INSTRUCTIONAL MERITS

AN IDEAL CHRISTMAS OR BIRTHDAY PRESENT

ONLY A BABY SMALL

BUSY little hands always looking for something to do. Busy little minds thinking—thinking and taking in impressions of every-day happenings. *Today* it is play — *Tomorrow* into school — Day after tomorrow into *Life*. Today is *your* day to help guide the mind and hands of your child "As the twig is bent, so is the tree inclined."

Organized play, as developed in our plan, will do more for your baby than all the schooling in after years. The greatest and the lasting impressions are taken in from babyhood to early youth. Picture your baby today. Then close your eyes and look into the schoolroom in the front ranks of the class. Then look on into *Life* and see that baby grown up and taking part in the big things of life.

Play today—but tomorrow—These busy hands are growing up and the boys and girls who are playing about us *today* will be the men and women who *tomorrow* will be called upon to shape the destinies of our great countries and from among whom will be chosen our leaders in all walks of life. Start your children on the road to achievement by giving them the advantages of the **Chautauqua Industrial Art Desk.**

Space will not permit us here to give you a detailed description of the unlimited plans and ways of its use and adjustments of its parts which make it a boon to busy mothers and a blessing to the eager active child of any age.

Be on the lookout for our representative and don't miss the opportunity to have this wonderful *equipment* demonstrated to you which might be the means of helping your child find his place in life as it has for countless numbers.

Why should a child be left to stumble into his future career? Through work and play with this desk, thousands of boys and girls have discovered and developed unsuspected latent talent, thereby putting themselves in the way of a successful life work.

This equipment is endorsed by well-known educators the world over, and through our easy payment plan is in reach of every parent who has the interest of his child at heart.

For further information write to Lewis E. Myers & Co., Valparaiso, Indiana, or get in touch with the Latin American Distributor.

M. W. PURVIS
M. de Gómez 312, Habana
Kindly send me information about the Chautauqua Industrial Art Desk
Name
Address

MARCUS W. PURVIS

FLATIRON BLDG., NEW YORK — 11 ALLEN STREET, SAN JUAN, P. R.

MANZANA DE GOMEZ 312, HABANA, CUBA