

# A HALF-CENTURY OF SERVICE

1896



1946



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*1896-1946*



THE NEW YORK  
TELEPHONE COMPANY

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## This Brief

**Review** of the New York Telephone Company's half-century of service is addressed to the 56,600 men and women who compose its organization.

However much might be written, full justice cannot be done to the story of these fifty years because the history of our Company is really recorded in the lives of the great number of men and women whose interest and devotion have given meaning to the word so familiar to telephone people — service.

What they have built and accomplished is shown in the vast and essential service which the Company renders today — and through twenty-four hours of every day — to millions of people.

Surely, in these fifty years of the Company's increasing usefulness and progress, we of 1946 and the future have a strong foundation and an impelling inspiration for even greater achievement.

*Carl Whitmore*

PRESIDENT

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[ The 32-story headquarters building of the Company—the largest telephone building in the world—at 140 West Street, New York City. ]



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# A HALF-CENTURY OF SERVICE

1896-1946

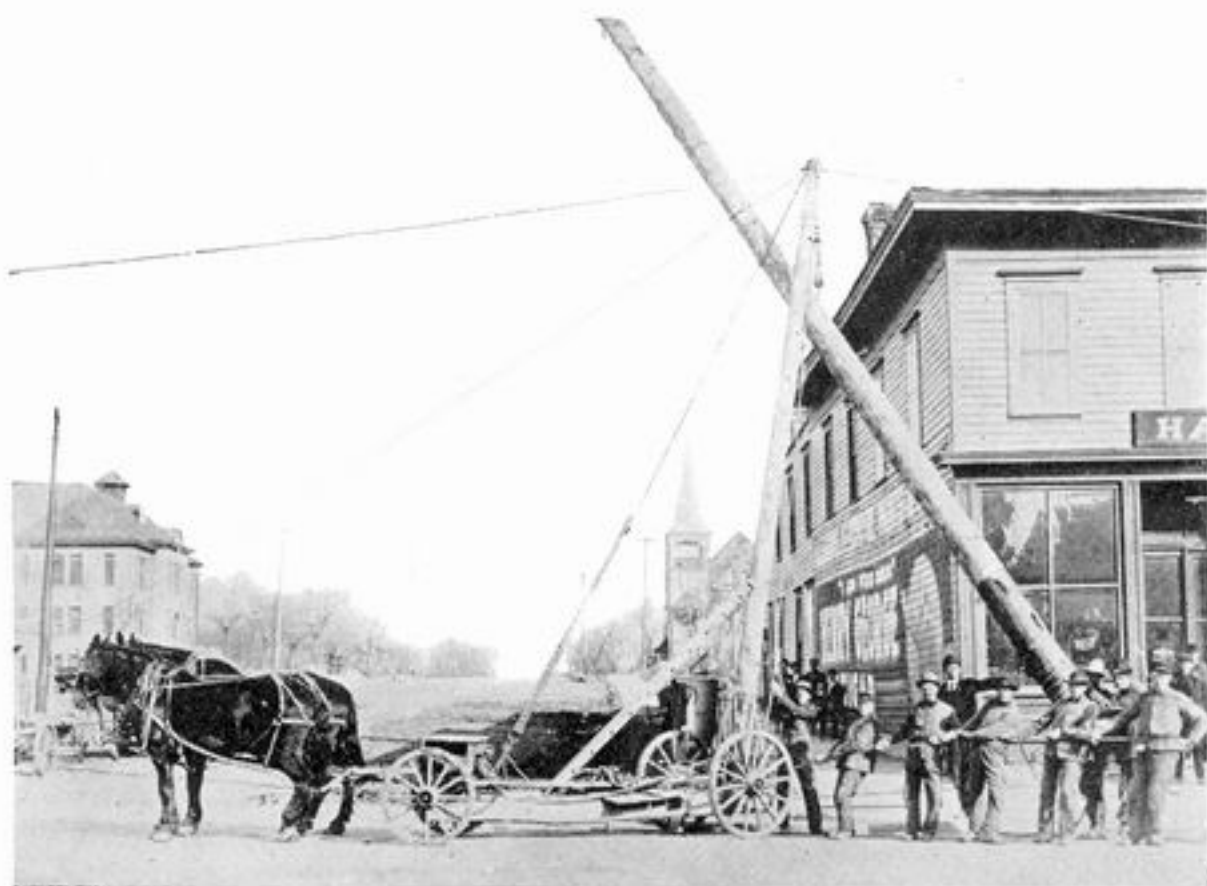
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ON A THURSDAY MORNING of fifty years ago — June 18, 1896 — many people traveled as usual to their places of business in downtown New York City. From uptown neighborhoods they came by trolleys and horse-cars and by elevated trains drawn by steam locomotives. From Brooklyn they came by ferries or by shuttle trains over the Brooklyn Bridge, the only span then crossing the East River. Others came by the ferries from Queens and Staten Island and New Jersey.

To most of these travelers this particular Thursday may have been “just another day” in a busy week. But to the telephone men and women who went to their desks or switchboards in their Company’s several buildings, including an 8-story headquarters building at 18 Cortlandt Street, Manhattan, it was a day of special importance. For today all of them — including their President, Charles F. Cutler — were starting work for a new company. Before this it had been called the Metropolitan Telephone and Telegraph Company. Now it was to have a shorter but more inclusive name — the New York Telephone Company.



*The Company's first headquarters, at 18 Cortlandt Street, New York City.*



ABOVE: Setting a telephone pole in the 'nineties. RIGHT: Typical guardians of telephone manholes and conduits in the Company's early years. BELOW: A magneto type of central office in the late 'nineties. Toll switch-board is shown at the rear.



In keeping with its new name it was to be a bigger company too. Already it was serving about 15,000 telephones in Manhattan and the Bronx. And now, on this historic day, it took over a group of central offices operated in Westchester County communities by the Westchester Telephone Company. This brought the new Company's telephones to over 16,000. The total telephone plant in this wider territory was worth something like \$6,850,000. And the Company's employees numbered around 1,600.

Some day, it was even suggested, the Company might also be serving the telephones in Brooklyn, Queens, outer Long Island, Staten Island, and perhaps other places. After all, the Company's president, Mr. Cutler, was also head of a separate company, the New York & New Jersey Telephone Company, which had telephones in these nearby localities and in northern New Jersey as well. The two companies, thus serving the general metropolitan area, had together more than 30,000 telephones. Their lines were interconnected, and their subscribers were listed in a combined directory. The time might come when these companies, and others in upstate New York too, would unite as one corporate family.

#### THE "HORSE-AND-BUGGY AGE"

In 1896 the "horse-and-buggy age" had not yet passed, and would not for some years. That doesn't mean that the times lacked interest, opportunity or energy. It was in fact a stirring period in social life, in business and industry, and in politics; a stirring and forward-looking period too in the telephone industry, though as viewed from fifty years later it may have an old-fashioned flavor.

There were no motor trucks then to speed telephone crews, tools and equipment to the scene



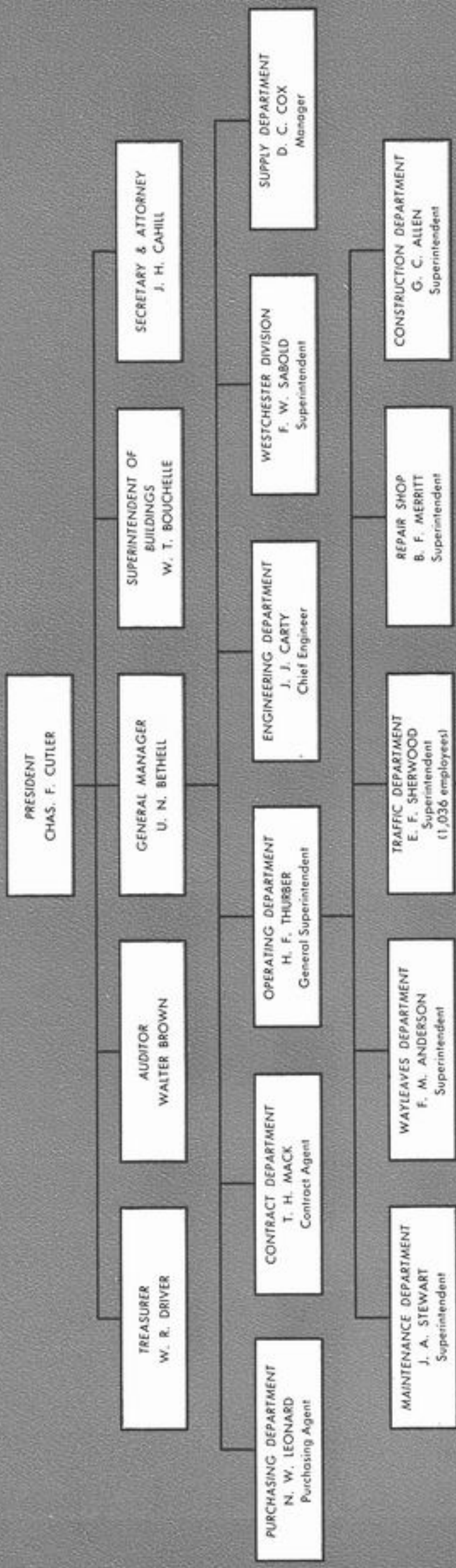
*First central office in New York State, and fourth in the United States, was opened at Albany on March 18, 1878, on the second floor of this building, now 472 Broadway.*



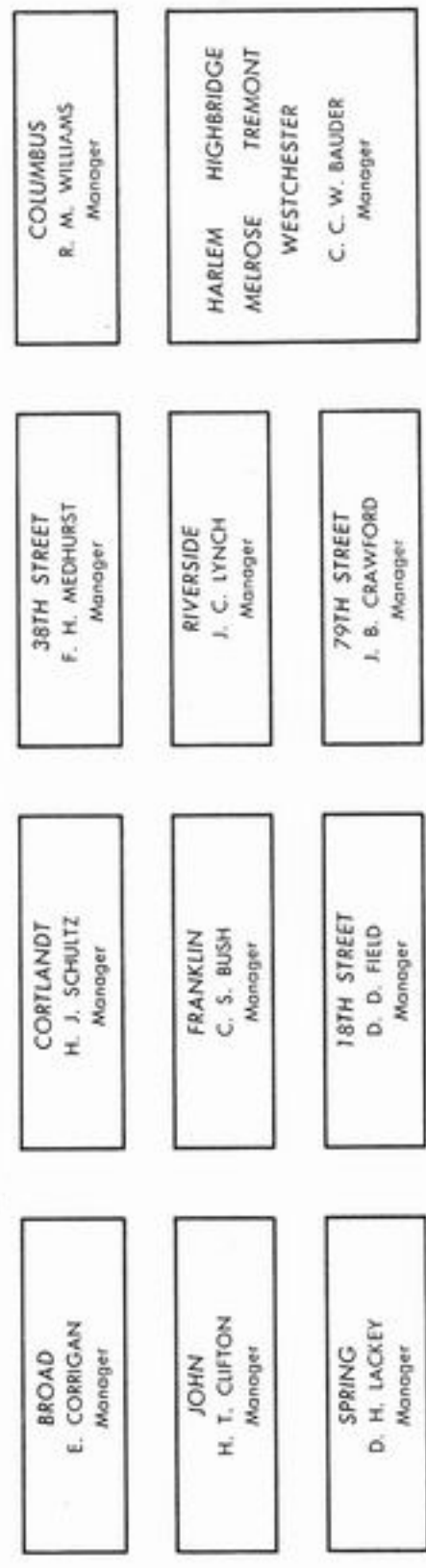
# PLAN OF ORGANIZATION OF THE NEW YORK TELEPHONE COMPANY

## SOON AFTER ITS INCORPORATION

Based on plan dated March 1, 1899, earliest in available records, when the Company had 2,360 employees



### CENTRAL OFFICES IN MANHATTAN AND THE BRONX



The Company's service territory at this time comprised only Manhattan, the Bronx, parts of Westchester and Rockland Counties, N. Y., and Greenwich, Conn. Twelve central offices served suburban communities comprising the Westchester Division.





[ Auditor's Office in New York City in late 'nineties. ]

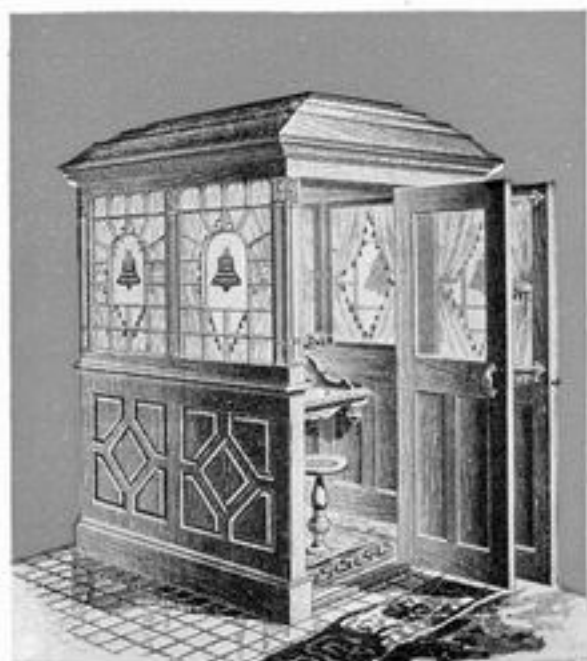
of a job. Even the "rolling stock" in horses and wagons was often too scanty for the needs of a growing company. If there was a heavy task for a line gang, vehicles were hired to transport poles and wire. To nearby cable jobs, pushcarts of the peddler type were often used to convey tools, charcoal, fire-pots and "soup-kettles."

While telephone wires were underground in congested sections of the larger cities, there were pole lines along various city highways as they approached residential and suburban sections. Many of the poles leading from populous centers were of towering height, with a score of crossarms and hundreds of wires.

Jobs above and below ground were challenges to both skill and muscle. The setting of a long and heavy telephone pole with horse-drawn equipment was an engineering feat. But telephone men were already known for their persistence and ingenuity. "It isn't in the nature of us to be quitters," was the way one experienced plant man expressed it to a puzzled and perspiring helper.



Special pole equipment in Yonkers in 1897.



*Long distance telephone booth used in the 'nineties.*

## “CHOKER COLLARS” AND “IRON HATS”

This was also the period in which the phrase “white-collar workers” was born. Executives, office men and agents of any company of importance wore starched “choker” collars, along with “iron hats” and mustaches. The more fastidious officers wore cutaway coats, and high hats too if there was a specially important appointment to keep.

The Company’s headquarters building at 18 Cortlandt Street was the first building in New York City erected solely for telephone purposes. It was occupied by employees both of the New York Telephone Company and of the American Telephone and Telegraph Company, which was

1896



TYPICAL  
“HAND CRANK”  
WALL INSTRUMENT  
OF THE 'NINETIES

providing long distance service and was gradually pushing the range of its service over more miles and into more communities.

Visitors to this building saw accounts being kept and bills made out by men seated on high stools at high desks. There were only a few public business offices, and many bills were collected by personal visits to subscribers. Letters to delinquent customers were frequently written in fine penmanship by a member of the Secretary-Attor-



ney's office, a department having a force of four.

The Contract Department, as the Company's Commercial Department was then known, was composed mainly of agents who canvassed for new subscribers. People usually had to be persuaded by vigorous and repeated sales talks to sign up for a telephone. Successful salesmen were promoted to the work of canvassing hotels and apartment houses to urge the installation of private branch exchanges. Telephones in hotel rooms were a novelty.

There already was, however, in proportion to the total number of telephones, a very large number of pay stations. This was in part because, in many concerns, the public telephone was also used for the purposes of the shop or office itself. In 1896 the Company had about 1,500 pay stations in Manhattan and the Bronx — about a tenth of all its telephones there.

For long distance calls, special booths were provided at a number of public locations. Some of these booths were ornate and almost the size of a modern apartment dinette. These had curtained windows and a floor rug. The caller sat at what was called a cabinet-desk set. The transmitter was fixed upon an arm screwed to the desk top.

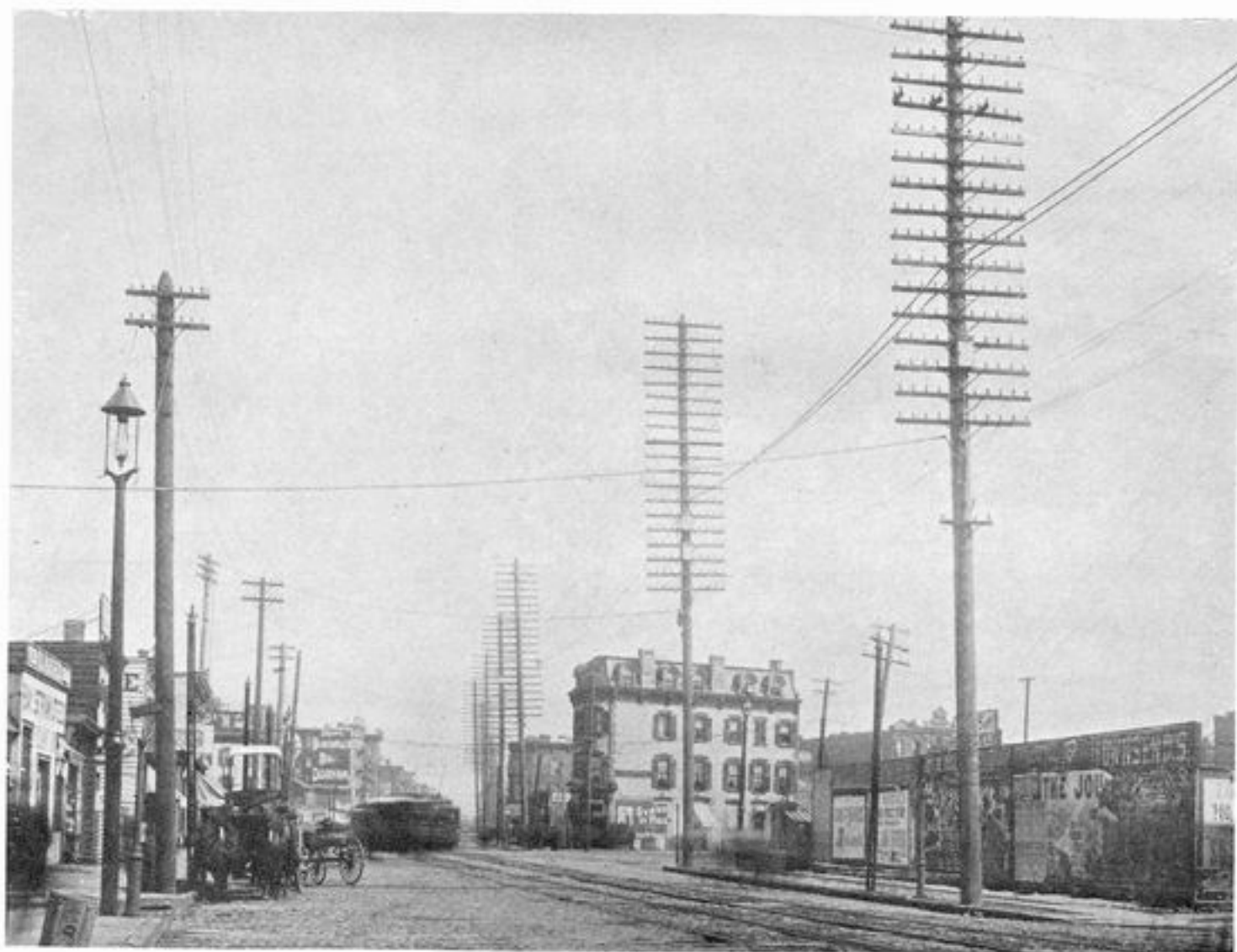
#### THE CORTLANDT SWITCHBOARD

Women were still cumbered with long and voluminous skirts; the current fashion also called for long loose sleeves and "high necks." Despite these interferences, operators handled their work with skill as well as devotion. They realized the essential nature of their work, and were proud to contribute to its increasing speed and reliability.

The long line of busy operators at the famous Cortlandt central office, on the eighth floor of 18 Cortlandt Street, was a "sight worth seeing" — an



*Style of dress and operator's set at about the turn of the century.*



*Telephone poles in the Bronx in 1896.*

outstanding example of the work being done by operators at switchboards in an increasing number of cities and towns. People of note from all parts of the world, and of course telephone people too, came to see "Cortlandt" in action.

This great switchboard which in the late 'eighties and early 'nineties had taken over the lines of seven downtown offices, had served for a time the entire financial district and adjacent sections. When built it was regarded as the major telephone engineering feat of the time. Its opening was a turning point in telephone history. Operators could now complete calls much faster than before.

By 1896 other central offices were taking over some of the traffic load of the city's downtown district, but Cortlandt was still the biggest and



busiest switchboard. Including the toll operators whose switchboards were on the same floor with Cortlandt, the operating force totaled nearly 300. In this total was a small night shift of men operators, who did not give way to women until early in the new century.

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1898



DESK-STAND  
TELEPHONE

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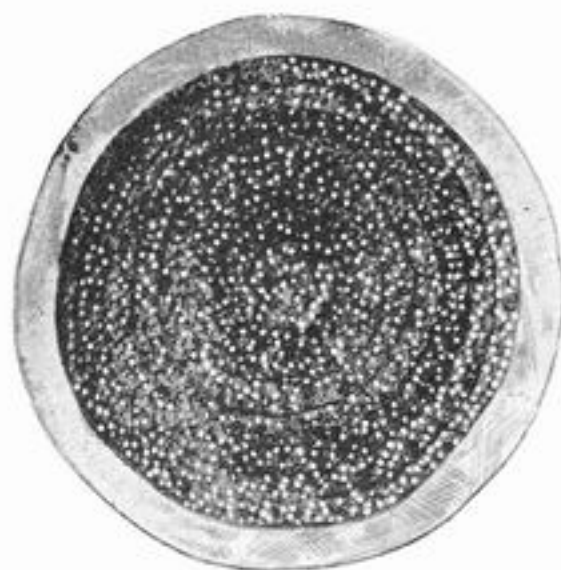
At this time, in large as well as small communities, switchboards were of the magneto type. Typical instructions to telephone users were as follows:

"To call the central office give the bell crank one sharp turn and then place the telephone to your ear. The operator will answer 'What number?' and when she has received from you the number of the subscriber desired will repeat it to you."

At the central office the caller's turn of the crank caused a small brass shutter to fall in front of the operator. When the call was finished the caller gave the bell another "sharp turn," notifying the central office to disconnect.

#### TRAINING — THEN AND LATER

An important step in efficient work at the switchboards had been the introduction of the present set-up of a chief operator and a number of supervisors in each large central office. Super-



*Largest telephone cable in 1902 contained 1212 wires, providing 606 message circuits.*

*( $\frac{3}{4}$  actual size)*



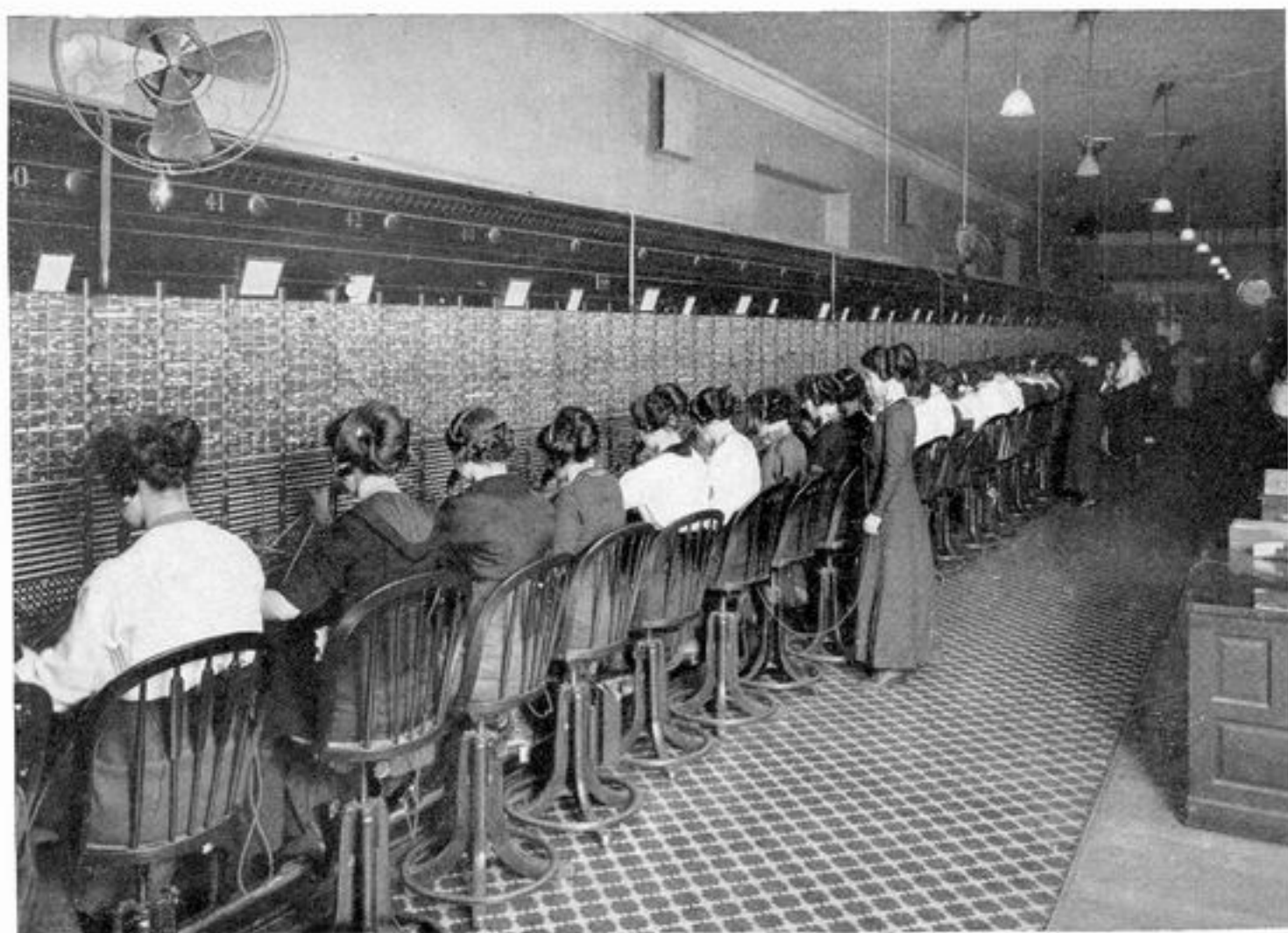
*Laying tile conduits for telephone cables in the early nineteen-hundreds.*

visors, whose employment did not become general practice until the late 'nineties, not only assisted the operators at their work but continued their training, thus supplementing the preliminary instructions they had received.

Though training had not attained the organized teaching methods of later years, it was concerned not only with technical proficiency but also with the vital elements of clear speech, courtesy, poise and ready cooperation.

Working conditions, while excellent for that period, lacked the advanced standards of lighting, heating, ventilation and personal comforts which came with later inventions and improvements. And getting to and from the job was often difficult. All in all, it became the duty of the chief operator to be a sort of "house mother."

[ *"Cortlandt" — biggest and busiest central office for many years — shown after its change to common battery service.* ]







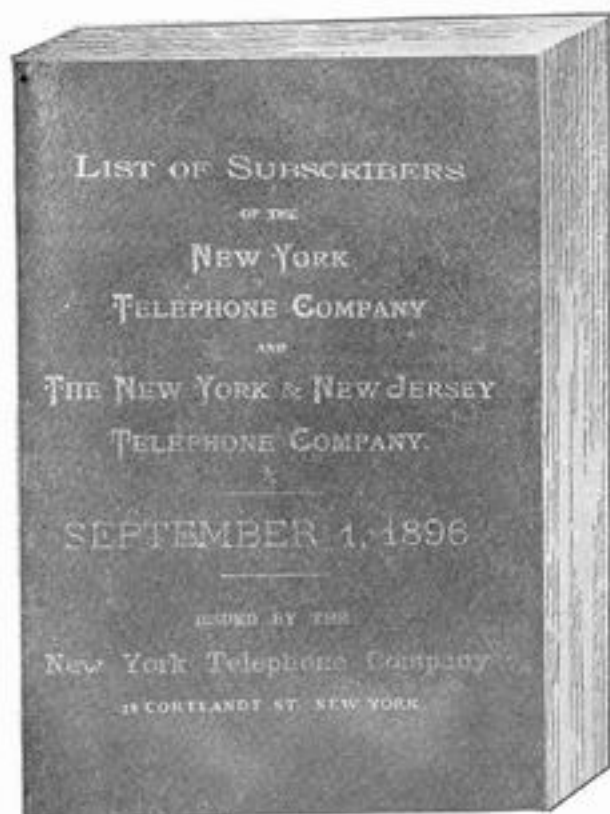
[ Study period for "belles of 1905" in Company's training school for operators, established in 1902. ]

In smaller central offices there were chief operators who even handled on occasion some of the work ordinarily done by men, such as connecting new subscribers' lines, checking the equipment for troubles, and keeping the stove filled with coal and the ashes shaken down.

Typical of these "mothers of the telephone industry," and known to thousands of telephone men and women, is Miss Katherine M. Schmitt, of Brooklyn. She became an operator in 1882 in New York City, was chief operator at Cortlandt for many years, and in 1902 established and conducted until 1925 the first operators' school, a pioneer step in vocational training. This school was responsible for many years for the selection and initial training of every new operator in New York City. From then until her retirement in 1929 she supervised this and other schools for the Company. These became widely known among tele-



One of the Company's dining-rooms for operators in 1905.



*The Company's first directory, September 1, 1896.*



*In early days, too, boys liked to watch cable splicers at work.*

phone people and many came from other companies to study and adopt their methods. While the classroom type of training was eventually superseded, the influence of these schools has been far-reaching through the standards set and the contributions made by their many "graduates" to the quality of the service.

Although the term "The Voice With a Smile" was not coined until 1912, it was first used to describe the operators of this Company, and could have been applied with equal truth to the operators of earlier years in the Company's history.

#### EARLY DIRECTORIES AND RATES

The first telephone directory after the formation of the New York Telephone Company was dated September 1, 1896. This issue listed all subscribers served by both this Company and the New York & New Jersey Telephone Company. It included 16,520 listings of New York Telephone Company subscribers. Fifty years later, the original area represented by these listings of 1896 has about 880,000 listings in seven directories and parts of three other directories.

A section of this directory listing out-of-town points within telephone call included about 500 communities from one end of New York State to the other.

Interesting comparisons with today are provided by the rates. The station-to-station day rate for a call from Manhattan to Boston was then \$2.00 for 5 minutes — now 75 cents for 3 minutes; to Albany \$1.50 — now 65 cents; to Buffalo \$4.00 — now \$1.00; to Chicago \$9.00 — now \$1.55. To St. Louis, which had just recently been brought within telephone reach of New York State communities, the rate from New York City was \$10.00 — now \$1.65. The most distant point listed in the



directory of September 1, 1896, was Merrill, Wisconsin, some 250 miles northwest of Chicago.

Compared with present rates those of fifty years ago are impressively high. But these are not the only differences. Connections then over the longer distances frequently took hours to complete, and talking was often difficult, even to fairly nearby points. When a clear conversation on a long distance call was possible, as a telephone man of that time testifies, "the caller ended it with a radiant face, as if he had just had the experience of a lifetime."

#### A NEW TELEPHONE ERA BEGINS

In the late 'nineties a marked change was taking place in the attitude of the public toward the telephone, which had been regarded almost entirely as a business instrument. Residence telephones were relatively few, for many people considered their use in the home a luxury, and for so-

[ *A business office of the Company in the early years of the new century.* ]





[ *Before the days of motor vehicles telephone plant construction crews got around by horse-power.* ]

cial matters an intrusion on privacy. "Probably what did most to promote telephones in residences," reports a telephone man of that time, "was the fact that a man in his office would wish to talk to his house."

A strong stimulant to telephone growth in New York City at this time was the fact that the Company's management had recently found a way through the message-rate plan to reduce substantially the cost of service to subscribers. A marked improvement in business took place almost immediately. By the end of 1900 the Company was serving three times as many telephones as in 1896.

Important improvements were in progress too in telephone equipment. By 1896 the desk-stand type of telephone was rapidly taking the place of wall instruments. Until the early 'nineties, what was called the Blake transmitter, which worked satisfactorily over short distances, had been generally used by Bell telephone companies. Its working parts were contained in a box. One talked into

a mouthpiece in the front, which was also a door and a support for parts of the instrument. Now it was rapidly disappearing. Continued studies and tests had resulted in the construction of the "solid back" transmitter. This not only contained important improvements but could be housed in much smaller space and made a part of a movable instrument, placed on a desk or table.

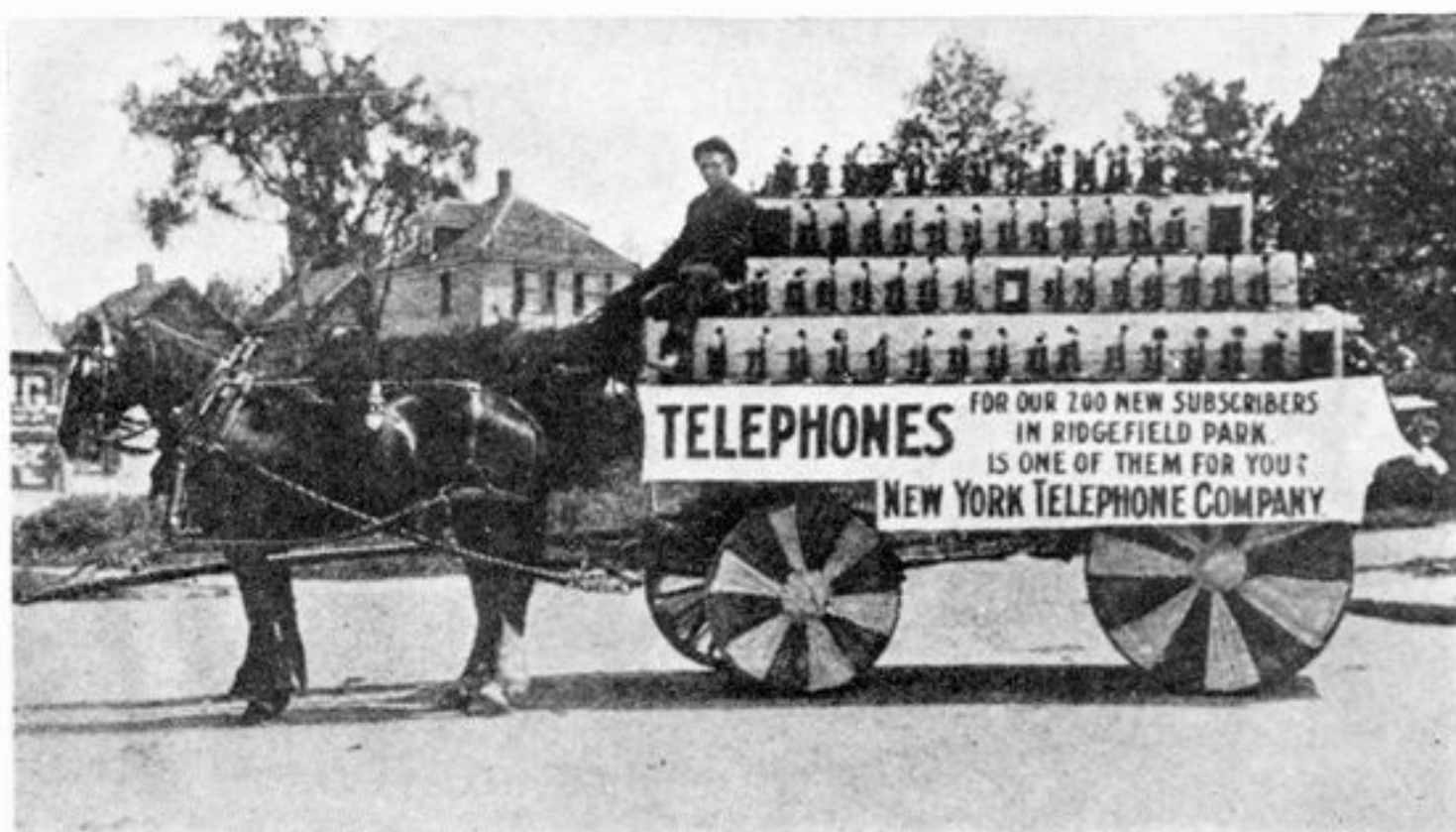
Such changes, then and later, in both transmitters and receivers, well illustrate the phrase, "There is no standing still in the Bell System." Since the invention of the telephone in 1876 there have been 85 or more types of receivers and 127 types of transmitters developed, standardized, and placed in service — all in the interest of furnishing better service.

Switchboards too illustrate this progress. One of the Company's first and most important engineering projects was the conversion of its larger switchboards to the use of common battery, which enabled callers to signal the operator by merely lifting the receiver, thus eliminating the old-style



THEODORE N. VAIL  
President, 1907-1910

*Float used by Company to sell telephones in the early nineteen-hundreds.*







[ *Delivering directories in 1910.* ]

hand crank. This method was first applied in our Company with the conversion of the Harlem central office in November, 1898. With its new switchboards the Company was also adopting small electric lights instead of annunciators for signaling purposes.

#### FIRST YEARS OF THE NEW CENTURY

The 'nineties passed and a new century began. The Company was rapidly gaining telephones and its organization was growing. Other big developments were unfolding too.

For one thing, the "horse-and-buggy age" was waning. The methods and activities of telephone plant departments were undergoing the first of the great changes wrought by the coming of motor-driven vehicles. For another, there was the progressive disappearance of the towering poles, with their numerous crossarm leads, the trend away from overhead wires in populous sections,

and the replacement of many miles of open wire with lead-covered cables, each containing hundreds of wires.

When the Company was ten years old, in 1906, it was still serving about the same area in which it began business. Its telephones were now close to 200,000. In the course of the next few years, however, a great expansion of its service territory took place. There had long been a number of Bell companies serving various parts of upstate New York. Among them were the Hudson River Telephone Company, Central New York Telephone and Telegraph Company, Empire State Telephone and Telegraph Company, Bell Telephone Company of Buffalo, and the New York and Pennsylvania Telephone and Telegraph Company. These, along with the company serving Long Island, Staten Island and Northern New Jersey, now were united in the one family of the New York Telephone Company. It was an important step forward in developing an effective organization for meeting the rapidly growing telephone requirements of the following years. With this expansion the Company's telephones in New York State rose to some 500,000 in 1909.

At various times other companies in the State also were merged with the New York Company. The latter continued to operate the telephones in northern New Jersey until 1927, when they were taken over by the newly formed New Jersey Bell Telephone Company.

Out of these changes grew the Company's service territory as it exists today, entirely within the State of New York except for a small neighboring part of Connecticut, including Greenwich. Universal toll service for the State is provided over the interconnecting lines of this Company and those of some 155 independent but connecting companies in various communities and localities.



*Company's local office in Amsterdam, N. Y., in 1911.*

## IMPORTANT PERSONNEL DEVELOPMENTS



U. N. BETHELL  
President, 1910-1919

In the years shortly prior to World War I there were two developments of unusual interest to the men and women of the Company. One was the organization in 1911 of the Telephone Pioneers of America, membership in which is open to telephone men and women of twenty-one years of service. The other was the establishment in 1913 of a comprehensive plan for employees' pensions, disability and death benefits.

The Telephone Pioneers grew out of the desire of many older telephone men and women for an organized way by which they, who had long been associated in their work, could come together both socially and for cooperation in matters affecting the great service traditions and ideals of the industry to which they had devoted their active careers.

In the New York Telephone Company there are today four Pioneer Chapters in as many parts of the State, with a membership of 15,700.

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1914



DESK-STAND  
TELEPHONE

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Theodore N. Vail, one of the great telephone founders and pioneers, once told his fellow-members in the Pioneer organization: "You have made the Bell System, and all that it is, the standard of the world." And he expressed his faith that the vision and energy of the telephone men and women of earlier years would be continued in the



years to come, for the pioneer qualities would be constantly needed if telephone service was to meet its ever-widening opportunities.

#### THE TELEPHONE SPANS THE CONTINENT

One of the most dramatic evidences of the progress brought about by pioneering persistence was the conquest of the continent by telephone.

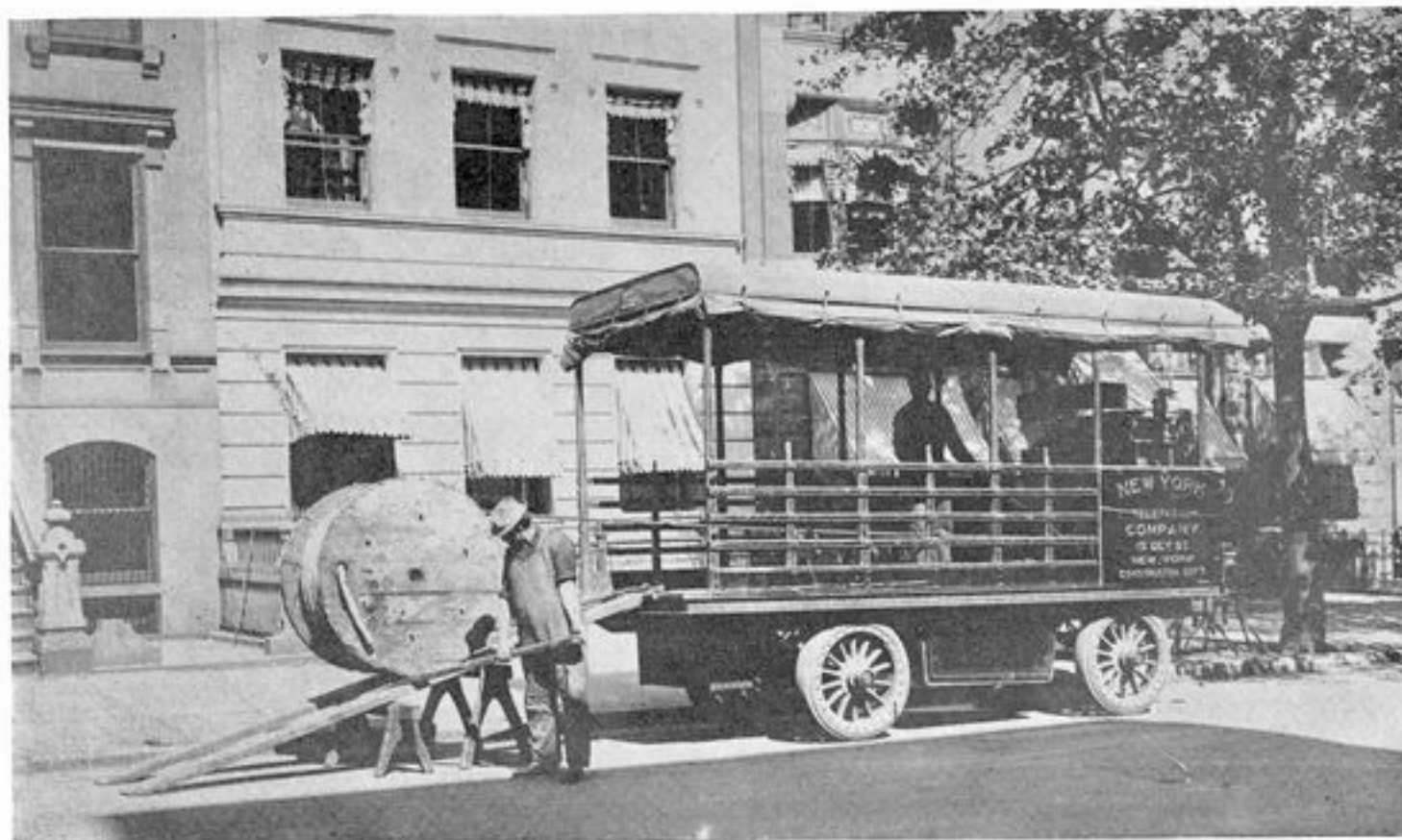
New York City's first long distance line had been to Philadelphia, opened in 1886. By 1889 it was possible to talk over a distance as far as between Boston and Buffalo. The New York City-Chicago line, opened in 1892, made possible the first "thousand-mile talk."

Many advances in telephone science were necessary before service could be extended beyond the Middle West. It was 1911 before New York could talk to Denver. Then in 1915 came the historic day when the first transcontinental route was opened.



*Early gas-powered vehicle used by Commercial Department.*

*Electric-powered telephone construction truck used in Manhattan in era bridging horse-drawn and gas-powered vehicles.*





*At opening of first transcontinental telephone line, between New York City and San Francisco, January 25, 1915, Dr. Alexander Graham Bell (center), inventor of the telephone, made the first call.*

Alexander Graham Bell, inventor of the telephone, participated at the inauguration of this coast-to-coast line. From a telephone in New York City he talked with Thomas A. Watson in San Francisco — the man who had been his assistant many years before, and to whom on March 10, 1876, over a line between two rooms, he had spoken the first complete sentence ever transmitted electrically.

This first transcontinental line was 3,390 miles long, required 130,000 telephone poles, and passed through thirteen states. Each circuit mile used 870 pounds of copper wire. As there were two circuits the total copper wire in them weighed upwards of 6 million pounds. Moreover in the loading coils for each of the two circuits were 13,600 miles of fine insulated wire.

Including the research and engineering work required, the plant that had to be manufactured,

the rights of way that had to be obtained, and the construction task over plains, mountains, rivers and deserts, the money cost and importance of this great enterprise placed it among the greatest projects of that time.

Already, in 1912, Bell System engineers had begun the adaptation and development of the De Forest vacuum tube as a long distance amplifier or repeater. The use of such repeaters helped greatly in improving transmission over long distance circuits and in extending them across the continent. In 1915, the same year that coast-to-coast service was opened, the first successful demonstration of radiotelephony, employing vacuum tubes, took place. Speech was transmitted by radio from Montauk Point, Long Island, to Wilmington, Delaware.

Experimental transoceanic telephony by radio was also first achieved in 1915, between Washington, D. C., and Paris. Although World War I interrupted overseas experimentation, it was vigorously resumed in the early 'twenties.

#### THE COMPANY AND WORLD WAR I

When in 1917 the United States entered the first Great War, the New York Telephone Company and other Bell companies throughout the country had already prepared to take their full part in the national emergency. Telephone service had become nationwide and was operating at a high level of efficiency. And months before the declaration of war, engineers from all parts of the Bell System had met to plan for the fullest cooperation with the Government and the Armed Forces.

As in the second Great War, many telephone men and women and vast amounts of equipment were required to meet the increased communication needs of a nation at war. Telephone con-



*Stringing wires in "bad lands" of the West for the first coast-to-coast telephone line.*





*In 1917, during World War I, Theodore N. Vail, then President of the American Telephone and Telegraph Company, says "good-bye" to men of the 407th Telegraph Battalion, made up of members of the New York Telephone Company, who were to distinguish themselves during twenty-one months of service in France.*

struction for civilian communication uses was under embargo for about two years.

Among the telephone people who entered war service were some 2,100 from the New York Telephone Company. Fifty-two of these gave their lives. Those who remained at home also served the cause effectively, for with reduced numbers theirs was the task of maintaining service under more difficult conditions.

With the end of World War I, the telephone organization had the formidable task of overcoming the effects of suspended development, replacing plant reserves used up during the war, recruiting and training large numbers of additional employees, and building to meet what up to that time was the greatest demand for service in telephone history. Applications to the New York Telephone Company for telephones accumulated to a total of some 95,000.

When the Company reached its twenty-fifth anniversary in 1921, its telephones in New York State totaled more than 1,400,000.

#### A PERIOD OF VAST CONSTRUCTION

The whole period between World War I and the economic depression which began in 1929-1930 was one of vast telephone plant construction. Throughout the State unusual building activity for both residential and business purposes was going on. Cities and towns were growing, new industries were springing up, many undeveloped sections were being transformed into communities, the population was increasing.

To meet the telephone needs of our customers called for many new or larger telephone buildings, for new or larger switchboards, more cable routes, and many thousands of miles of new lines.

The plant construction program during this period was the largest in the Company's history up to that time. The expenditures for new construction from 1920 through 1930 averaged some \$75,000,000 a year. To handle this great program effectively, the Company in 1925 divided its territory into four areas, with a vice-president as general manager of each.

The buildings erected by the Company during this period not only increased our opportunities for furnishing efficient service but added to the attractiveness and value of the neighborhoods in which they were located. Care was taken to plan these buildings both to serve their purposes effectively and to conform to the architectural characteristics of their localities.

Representative of the public appreciation of such buildings were the awards in the case of the new headquarters building of the Company at 140 West Street, in New York City, completed in



H. F. THURBER  
President, 1919-1924

*Upstate headquarters building in Albany, for years a familiar landmark on Capitol Hill. Part of this structure was opened in 1915.*



*Western Division headquarters building in Buffalo. When opened in 1913 it was that city's largest office structure. Since then it has had substantial additions.*



*Central Division headquarters building in Syracuse, opened in 1925.*





1926. A medal of honor was given by the Architectural League of New York in recognition of its architectural beauty, and the Broadway Association placed a tablet in its main corridor in honor of its contribution to civic advancement.

#### AN ERA OF WIDE DEVELOPMENTS

The vast building activities of the 'twenties were representative of an outpouring of energies which, throughout the nation, were producing new developments and far-reaching changes.

A new art called "radio" was thrilling the public. It had begun in 1921 with programs broadcast direct from a radio station studio. In 1922 WEAF in New York was opened by the American Telephone and Telegraph Company as an experimental station. In 1923 it participated in a program that was the beginning of network broadcasting. Today thousands of miles of special telephone circuits link radio stations for broadcasting programs over any general area or the country as a whole. In 1926, after experimental work with WEAF, the American Telephone and Telegraph Company sold the station to the newly formed National Broadcasting Company.

In this same period automobiles were in rapidly increasing demand in practically every walk of life, and were stimulating a new era in road building and improvement, and the construction of great vehicular bridges and tunnels. To speed motor traffic across the Hudson River alone, the Holland Tunnel between Manhattan and Jersey City, and the George Washington, Bear Mountain and Mid-Hudson bridges were being built. More bridges and tunnels at many other points were to come in the 'thirties.

Aviation progress was making almost daily headlines with reports of longer distances spanned,



*Telephoto version of famous "Voice With a Smile," one of earliest photos sent over telephone wires, in 1924.*

Long Island Area headquarters building in Brooklyn, completed in 1931.



Hempstead headquarters building for Suburban Long Island, opened in 1931.



Kings Park, L. I., central office building, typical of many designed to conform to residential surroundings.



longer hours of sustained flights, and new altitudes attained. Flying the mails had been undertaken by the Government in 1918 over comparatively short distances, but by 1925 a private company had been granted a contract for transporting mail by plane across the continent. Air passenger service was also advancing, stimulated by plane improvements and the establishment of airfields.

1920



DIAL  
DESK-STAND  
TELEPHONE

Along with these great developments, what has been described as "the greatest single improvement" in the telephone business was being undertaken. It was an engineering project of extraordinary magnitude — the conversion of many telephone exchanges from manual to dial service, begun in the early 'twenties.

In New York State, dial switching equipment had heretofore been in use in only a few communities. In the larger centers, particularly New York City, whose first dial office, "Pennsylvania," was opened October 14, 1922, the task was extremely complex. Yet the far-reaching changes it entailed in plant and operating methods, and in the telephone habits of millions of telephone users, were carried forward without interference with day-to-day service. By 1946 more than three-fourths of all the Company's telephones in the State and nearly 95 per cent of those in New York City were served from dial central offices.

In planning these changes, telephone engineers



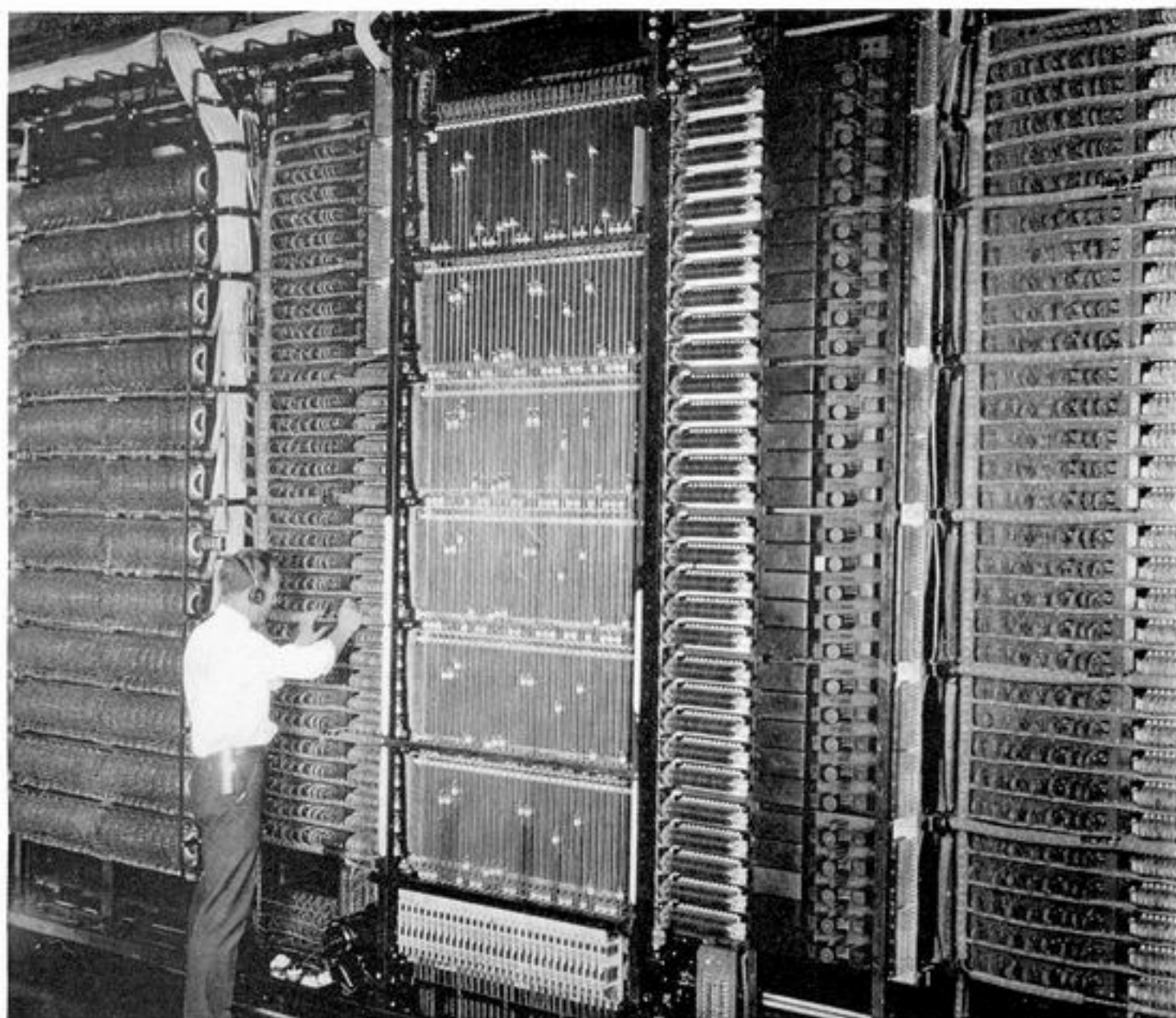
J. S. McCULLOH  
President, 1924-1933



had foreseen that in many centers, with the continued growth in telephones, manual service alone would soon be unable to cope with the heavier traffic requirements. Large numbers of operators would continue to be needed, however, especially for toll and other assistance calls.

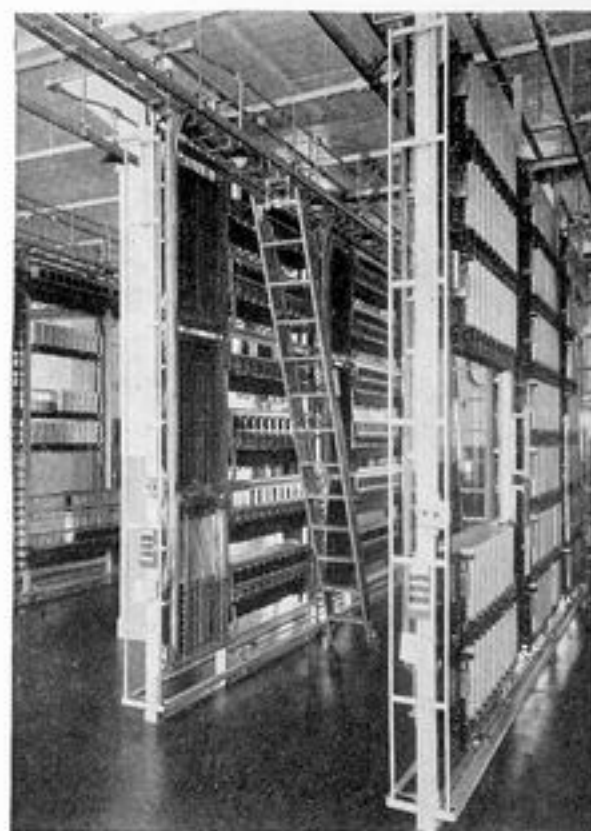
This period of progress was marked too by the opening of new Bell System services, such as commercial telephotography service in 1925, transatlantic radiotelephone service in 1927, and commercial ship-to-shore service in 1929. Soon to follow, in 1931, was teletypewriter exchange service, which heretofore had been available only on a private-wire basis.

*Typical equipment in a panel type dial central office.*



In these, as in many other advances, our Company and its customers share in the benefits available to us as a part of the Bell System. The American Telephone and Telegraph Company, which is the headquarters organization of this System, provides valuable assistance in engineering, financial, and other matters. The Bell Telephone Laboratories, the largest industrial research organization in the world, pursue a continuous and vigorous program of fundamental research and technical development. The scientists and technicians in these Laboratories have been pioneers in developing the arts of communication on a broad front. Physicists, chemists and engineers study the basic materials used in the telephone plant and devise new means of transmission of speech, by wire and radio. The work of the Laboratories is directed toward continually improving telephone service.

We look to the Bell System supply unit — the Western Electric Company, an organization with more than three quarters of a century of experience in precision electrical manufacture — to provide the vast amounts of equipment necessary for



*Interior of step-by-step type dial central office in Syracuse.*

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1930



HAND-SET  
TELEPHONE

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telephone service. We depend on Western Electric to fulfill four main functions: — the manufacture of telephones and telephone equipment, the purchase of supplies for telephone company



[ Section of giant telephone cable subway being lowered for placement under Harlem River during early 'thirties. ]

operations, the distribution of this equipment and these supplies through a chain of strategically located warehouses, and finally, the installation of intricate equipment in our central offices.

Thus, in the Bell System our accomplishments represent the cooperative work of the System as a whole, and it is this teamwork which enables us to provide "the most service and the best at the least cost."

#### PROGRESS DURING DEPRESSION YEARS

Conditions prevailing during the depression years of the early 'thirties were sharply reflected in the Company's business. It had reached the 2,000,000-mark in its telephones in New York State in 1926. Now in January, 1930, it was serving a new



Cable splicer at work in manhole.



record total of 2,697,000 telephones. The daily average of originating calls in the previous twelve months had been 12,450,000. But within a few years the number of telephones declined by substantially more than 400,000, and the daily volume of calls by about 2,000,000.

Although in 1936, when the Company was forty years old, telephone installations and usage were again making annual gains, it was not until the end of 1940 that the number of telephones had regained and passed the peak of nearly eleven years before. In that year the daily average total of calls also overcame the previous declines.

The years of depression were not, however, years of standing still in any department of the service. Men and women in all departments joined in the Company's program to reduce cancellations of service, obtain new business, and stimulate a larger and more varied use of the service. There was progress also in technical development and in the variety and scope of the service. Two-way radio telephone service for watercraft was introduced in 1936. Many magneto central offices in small communities were converted to common battery manual or to dial operation. The quality of telephone service generally reached new high levels.

#### VITAL ELEMENTS OF GOOD SERVICE

Progress in our Company has never been confined to purely technical advances. Within our business a spirit of friendliness and cooperation prevails, which manifests itself in our dealings with the public. In an organization as large as ours had become in the early 'thirties there could have been a tendency toward impersonal treatment of our customers. It was recognized, however, that ours must continue to be a friendly serv-



J. L. KILPATRICK  
President, 1933-1941



*Construction men from other Bell companies came, in trucks fully equipped, to help restore service following 1938 hurricane.*



*Following 1938 hurricane, photographer's flashlight catches a few of many telephone men who worked day and night to restore service on Long Island.*

ice and that no machine or routine could be a substitute for "The Voice With a Smile."

Thus, during these years, as at present, great importance was attached to courtesy. Operators as they completed calls, plant men as they worked in the homes of our customers, and commercial representatives as they talked to the public, all had two thoughts in mind. They, as well as all other employees, wanted to provide dependable, high-quality telephone service and do it in a friendly manner. Success in this objective is one of our greatest accomplishments.

Another important step in good relationships with the public was a series of "open house" events in telephone buildings in many parts of the State. Thousands of persons visited these buildings in their own communities where they met telephone men and women at their regular duties and saw the equipment and apparatus used in rendering their service.

#### MEETING THE GREAT EMERGENCIES

Three times within a period of a few years the most destructive storms in the Company's history ravaged wide areas of its service territory. Two of them, in 1938 and 1944, were tropical hurricanes which roared in from southern latitudes in the autumn, loosing tidal waves, floods and fire as well as furious torrents of wind and rain. These battered the metropolitan, coastal and certain more northerly sections of New York State. The other was an ice and snow storm which late in December, 1942, struck viciously at a large part of upstate New York.

All three disasters interrupted service on thousands of telephones, isolated many central offices, impaired toll and long distance services, and caused extensive damage to the telephone plant.



*In late 1942, when upstate New York was hit by a destructive ice storm, telephone plant men from other areas and states helped restore the service.*

Of highest significance, however, was the demonstration given in each case of the effective methods and facilities of this Company and its Bell System associates for mobilizing human and mechanical forces to speed the work of restoration.

Even before these storms had struck, knowledge of impending disaster had been obtained through contact with the Weather Bureau and preparations were under way to meet the emergencies. Construction and repair forces were on standby orders, with trucks and tools ready. Distributing depots of the Bell System service of supply, the Western Electric Company, were alerted so that plans could be made for bringing in as quickly as possible large quantities of wire, cables, poles, and other essential materials.

As reports flowed in of increasing destruction, calls for help were sent not only to unaffected





[ *In Company's public business office at Yonkers, typical of numerous other offices in State-wide organization.* ]

sections of the State, including those served by independent telephone companies, but to Bell companies in many other states. Soon, by truck and rail and even by air, telephone men and supplies were converging into the stricken areas from many directions. In the course of the three great storms, this Company shared in such aid from as far west as Nebraska and Arkansas and from as far south as Virginia.

Thus, working together in times of great emergency, are groups among which one may hear not only the swift and crisp speech of New York but the salty twang of New England, the rolling r's of the West, and the soft accents of the South. All work effectively together not only because of their skill and experience in telephone service, but also because Bell System men everywhere use the same kinds of equipment and tools and follow the same practices and methods.

The basic fact, however, is the deeper one that

telephone men and women, wherever their places of duty, rise under test to meet any crisis. During these emergencies our people worked in driving storms and sub-zero temperatures. They labored in communities completely devastated by nature's onslaught and they worked on pole lines which, in many instances, had disappeared under huge piles of ice, snow or fallen debris. Operators stuck to their posts for long weary hours, under trying conditions of flood, power failure and isolation from other communities, and former operators voluntarily reported to serve again at busy switchboards. It was an outstanding illustration of the tradition that "the message must get through."

#### THE COMPANY IN WORLD WAR II

World War II began for the telephone companies of the United States long before the Pearl Harbor attack. As war clouds spread across the world they brought many new telephone problems in the way of preparation for the needs and con-



J. W. HUBBELL  
President, 1941-1944

[ *In revenue accounting offices trained workers sort toll tickets preparatory to making out subscribers' bills.* ]





[ A telephone center for members of the Armed Forces, typical of many installed and operated by the Company during World War II. ]

tingencies of a nation at war. These problems were in some respects more numerous and complicated for this Company because of the importance of the City and Port of New York and its exposed position strategically; and also because of the populous centers, industrial areas, and military locations scattered throughout the State of New York.

After Pearl Harbor, telephone materials went into the "shooting side" of the war. The manufacturing capacity of the Western Electric Company, the research and engineering skill of the Bell Telephone Laboratories, and the manpower and energies of all the Bell System operating companies combined to meet the emergency needs of the



Armed Forces and the nation. To expedite the production of the vast quantities of war communications equipment, the U. S. War Production Board placed increasing restrictions on the manufacture of telephones, switchboards, cable and other equipment for civilian use. Telephone installations were in effect rationed.

With actual war, a major task of the Company was to supply and install in record time adequate telephone facilities to serve a growing number of Army and Navy establishments in its territory. Some of the telephone systems thus set up equaled in size those serving small cities.

At the Service hospitals, bedside telephones, booths accommodating wheel chairs, and other special conveniences enabled — and continue to enable — many sick and disabled men to talk with their families and friends.

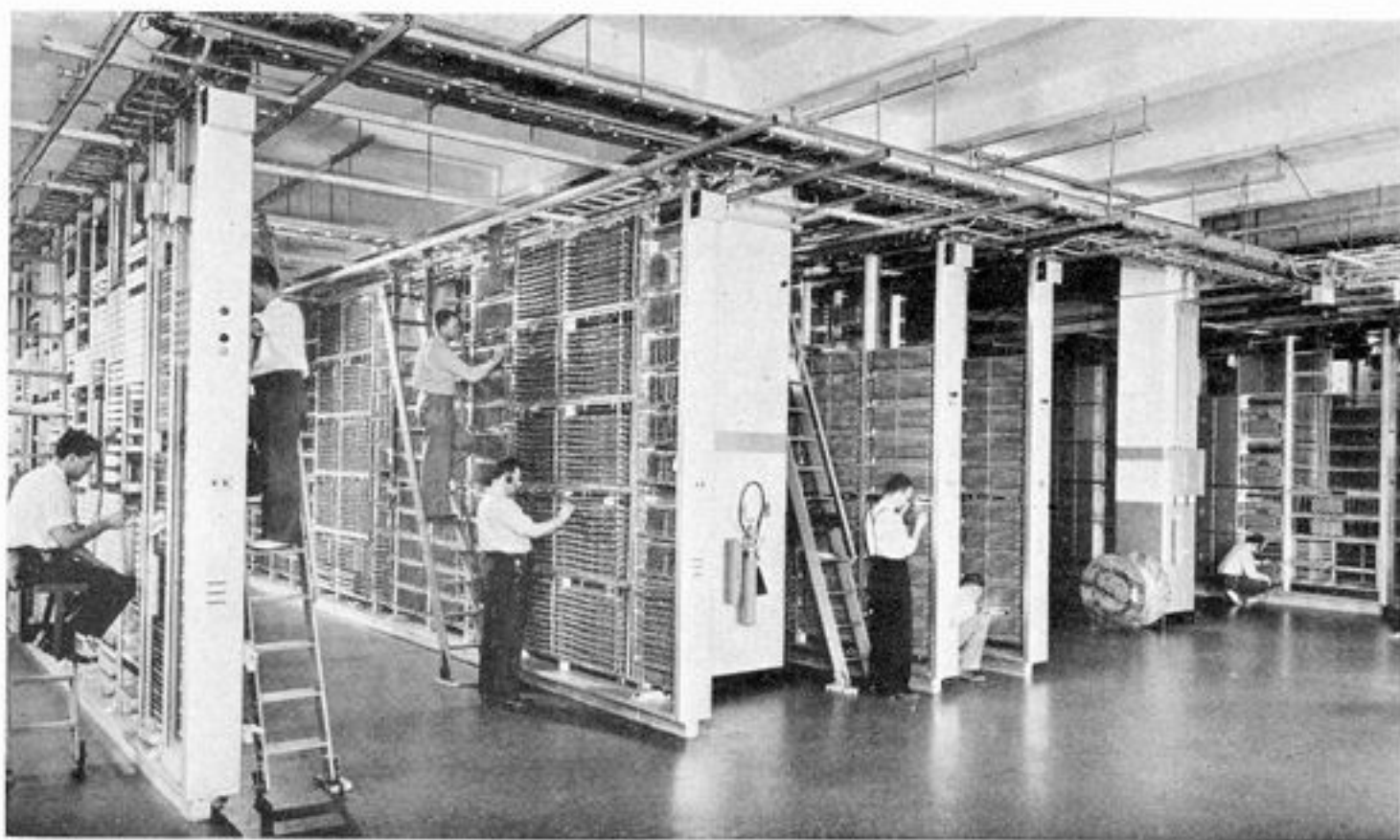
During the war the volume of telephone calls originating from this Company's telephones rose to peaks far beyond those of peace-time years. The average daily total in 1940 had been 12,990,000 calls. In 1945 it was 15,450,000.

Nearly 3,200 employees of this Company served in the Armed Forces during World War II. Thirty-two gave their lives. Decorations for conspicuous bravery and other outstanding services were received by about 200. Twenty-eight received medals for wounds in action. Many others shared in citations awarded to their units.

Throughout the war years, when so many of their associates were absent, the Company's employees on the home front maintained and furnished the kind of telephone service most vitally needed. This called for greater skill, patience, teamwork and "staying-power" than in normal times. The record of the Company in the war years shows how important their contribution was to the ultimate victory.



"Telecart," a miniature switchboard on wheels, invented by Company engineers, enables hospitalized Service men to make calls.



[ *Inside a modern crossbar type of dial office.* ]

#### SHORTAGES IN FACILITIES

The end of the war meant no lessening but, in the main, changes in the service problems facing the Company. During more than three and one-half years, because of the requirements of war, the Company had served its civilian customers as best it could with the telephone plant in much the same condition as in 1941. The Company had spread the service to as many as possible by connecting applicants on party lines. Old instruments long retired had been reconditioned and returned to service. Thousands of old coin-box telephones had been converted to wall telephones for residence use. Thousands of business subscribers had cooperated, in response to a canvass by the Company, by giving up extension telephones not absolutely essential to their needs.

During the war the waiting applications for new service had accumulated in great numbers. The increase was especially rapid after the war



*A medium-size construction and maintenance truck used by telephone line gangs in New York State.*

ended. By June 30, 1946, it had reached a total of 366,000. Telephone traffic also increased, growing to even greater volumes than during the height of the war effort. Calls flooded facilities already inadequate because of the equipment shortages caused by the war, and now overloaded by the enormous demands for new service.

#### THE COMPANY'S NUMBER ONE JOB

Between the firing of heavy artillery during the war and the ring of a telephone today there is, as telephone people know, a pretty close connection. For example, carloads of artillery shell casings, salvaged from war, have been melted down and made over into many kinds of telephone equipment — gongs, armatures, electrical contacts for central office switchboards.

This, of course, was only one of many things done to speed construction and to catch up with the needs for telephone service. The Western Electric Company speeded the reconversion of its manufacturing facilities, an undertaking comparable in size to setting up their wartime assembly lines in the first place. Soon the plants that had turned out such a huge volume of radar, radio and telephone equipment for the Armed Forces were smashing peacetime production records for the manufacture of civilian telephone equipment. To the output of its existing manufacturing locations, Western Electric added the production from a number of newly acquired plants. Meanwhile, surplus war equipment that could be adapted for telephone construction use was bought from the Government. Temporary rearrangements were made in central office switchboards to provide room for as many waiting applicants as possible. Construction of new buildings and additions was expedited to accommodate more switchboard



*Draftsman drawing the engineering details of a new design in telephone equipment.*



*Telephone installation truck — a familiar vehicle in communities and rural sections served by the Company.*





*Expansion of telephone service in rural areas provides increasing number of voiceways for New York farmers.*

equipment. Throughout our Company and the Bell System generally work has been going forward at top speed to provide as quickly as possible all the service that the public wants and to improve its quality.

Between January 1 and June 1, 1946, the Company added 187,000 telephones, bringing its total to 3,422,000. But to install service for the still large number of remaining applicants awaits further substantial expansion of facilities, especially switchboards. Though this is going forward at many points in the Company's territory, many months are required to construct new buildings and engineer, manufacture and install all the switchboards required. Each one involves many thousands of handmade connections, the bigger ones hundreds of thousands, many as delicate as those in your watch.

The Company's post-war program includes many projects, but the foremost one is to catch up with all waiting applications for new service. The next objective is to build up a reserve plant so that, as in pre-war years, when anyone wants new or additional service, he can have it installed without delay. Along with these purposes is the constant one of improving the quality of the service, and to furnish it always at reasonable cost to the public.

#### OUR FUTURE PROGRAM

Telephone service — the kind of service known to the people of New York State and the nation generally — didn't just happen. It is the product of the character, energy, imagination and vision of the people who make up the telephone organization. Planning ahead — years ahead — has always contributed to our progress, and important plans for the future are now being made.

A great construction program lies ahead esti-



*Apparatus used in demonstration of two-way voice transmission by micro-wave radio.*

mated at approximately \$350,000,000 for the five years through 1950. This program will expand and improve our service in many directions. Dial service will be extended so that telephone users may dial calls over wider areas, such as between a city and its neighboring communities. New switching equipment will be installed which will enable operators to dial calls straight through to called telephones at distant points, eventually across the continent.



MODERN COMBINED HAND-SET TELEPHONE  
WHICH INCLUDES BELL IN ITS BASE

We will make use of radio to bring quick communication to users of motor vehicles, and will employ both radio and coaxial cable to multiply the number of long distance channels for wire messages and television programs. To make our service more useful and more widespread, we will continue to expand and improve our rural telephone service.

#### PROGRESS AND "THE SPIRIT OF SERVICE"

The Company's fifty years have spanned the most amazing period of modern progress. The "horse-and-buggy age" now seems far-away and long ago, yet it is within the memory of millions still living.

During this half-century, we have grown from



*In dial central office, completed local calls are counted automatically by message registers, which are photographed monthly to help clerks in preparing bills.*



*Long distance operators, at whose finger tips are millions of telephones in the United States and other lands.*










a company of 1,600 to 56,600 employees. We now serve 3,422,000 telephones throughout our great State instead of the original 16,000. No longer can pole lines with 20 crossarms be seen in our city streets. Instead cables containing several thousand wires run under our thoroughfares, and in the newest type of cable — called “coaxial” — two copper tubes carry 480 simultaneous conversations. The crank on the magneto telephone has given way to the dial and as our customers turn this dial thousands of electrical connections are established in our great central offices. The telephone instrument of today bears little resemblance to its ancestor of 1896 and the great change in this symbol of our business typifies the progress made in all phases of our work.

Today man ranges the skies and sees through clouds and darkness. He talks and hears across vast distances, and over continents and oceans. He turns to the telephone as confidently as he picks up a pencil to jot down a note. Almost instantly he is connected with any one of millions of telephones, anywhere in thousands of communities. He is the heir of a service built by countless thousands of men and women. Many have carried on their work in inconspicuous places, but their part has been none the less important.

For ours is an enterprise requiring practically every kind of skill. It is one of immense detail, in which every part is essential to every other. It is one in which personal interest in the task, teamwork and a friendly approach are ever essential. This is “The Spirit of Service.” It is this spirit which makes of telephone progress a never-ending process, and points the way clearly to future opportunities. The extent to which it animates our Company’s men and women of today, individually and as an organization, will be the measure of our future service and success.



# Our Company—**THEN** and NOW

		1896	1946
	EMPLOYEES	1,600	56,600
	PAY ROLL (ANNUAL RATE)	\$725,000	\$150,500,000
	CAPITAL STOCK	\$16,000,000	\$421,300,000
	TELEPHONE PLANT INVESTMENT	\$6,847,000	\$890,520,000
	OWNED BUILDINGS	6	396
	CENTRAL OFFICES	22	634
	MILES OF TELEPHONE WIRE	48,500	14,805,000
	NUMBER OF TELEPHONES	16,000	3,422,000
	AVERAGE DAILY ORIGINATING CALLS	160,000	18,035,000

Figures as of June 1, 1946

