

Freakish Weather, Bringing Blizzards in the North and Sleet further South, Tests the Bell System's Telephone Plant and Its Recuperative Powers

The Winter's Toll Was Heavy From Texas to the Dakotas

Judson S. Bradley

NATURE laid a heavy hand last winter on much of our country's central West, from the Canadian border almost to the Gulf. Extending from the Rocky Mountains across the high plains to the middle of Nebraska, the blizzards were the severest within the memory of man. Further south, a series of sleet storms cut a wide swath across Texas, Oklahoma, Arkansas, Kansas and Missouri to create one of the major service disasters of Bell System history. And while that is by no means a roster of all the weather that occurred—as Southern California, for example, can testify—it was upon the territories of the Northwestern, the Mountain States, and the Southwestern Bell Telephone Companies that the major and most extensive storms fell.

The winter's storms are here spoken of collectively, which may be misleading. For not only were they different in calendar and geography,

but they were different in kind and hence in effect. And it is a bit of a paradox that in the north, where day after day of dry snow driven by bitter winds brought damage, suffering, and death in a vast area, telephone plant stood up well and telephone service was a carrier of important tidings and a bringer of needed help; while further to the south the ice and sleet caused nothing much more serious than inconvenience to the people in the affected territory and yet laid low telephone plant which it is costing about \$10,000,000 to restore.

Spring follows even the toughest winter, and all repairs were made and service was fully restored long since—thanks to the Bell System's nation-wide resources and the flexibility of its organization. But a good many people are going to think and talk for years to come of the Blizzard of '49 as old-timers do of



Traffic on U. S. Highway 30 was completely blocked, but traffic over the voice highways beside the road flowed freely

the Blizzard of '88; and others further to the south will for years to come make only half-jocular references to the Ice Age of 1949.

THE GRAVITY of the situation in the northern Plains States, and the heroic measures required to meet it, attracted wide attention when, at the



This picture was taken from in front of the Northwestern Bell's business office on the main street in Chadron, Neb.



There is no hill here. These two Northwestern Bell traffic people are standing in front of a snowdrift on level ground

end of January, General Lewis A. Pick, Corps of Engineers, U. S. Army, was assigned to take charge of "Operations Snowbound"—a rescue operation on the grand scale in territory comprising 177,000 square miles. General Pick, then Missouri River division engineer, was builder of the Ledo Road from India into China during World War II, and is now Chief of the Corps, with headquarters in Washington.

But the storms had a long head-start.

The first one had hit the territory of the Northwestern Bell toward the end of last November, and was followed by others early in December and after Christmas. They did more than a million dollars of damage to telephone plant; but they were "nor-

mal" winter occurrences and could be—and were—coped with.

January brought the real trouble. Swept in on mile-a-minute gales, snow swirled and piled up and swirled again over the countryside almost continuously for a month. Record-keepers identify the storms of January 3-6 and January 22-23 and January 27-28; but the wind seldom stopped its mad dance with whirling snow for partner, and the plains for hundreds of miles were overwhelmed. Most of January was, in effect, one continuous blizzard.

The consequences were disastrous. In parts of Nebraska, North and South Dakota, Wyoming, and Colo-



To clear a case of trouble here, this combinationman had to dig down to the wires on top of 20-foot poles

rado, mobility all but ceased. Highways, roads, farm lanes were impassable. People in cars and trucks fled them and found shelter—or missed it and perished. Trains were blocked for days on end. Cattle froze or starved by the thousands. Not only farm homes and ranches were isolated and imperiled, but whole communities. Often a thread of wire—a telephone line—was the only source of comfort and reassurance, the only link with aid or rescue.

By and large, the telephone held up against wind and snow. "The telephone was our life line," said a Nebraska rancher.

The telephone served in two major ways. In hundreds upon hundreds of individual instances, it brought



These men of the Mountain States Telephone and Telegraph Company, and others not pictured, used their "snow buggy" to save several lives in the Cheyenne, Wyo., area

help—food or medicine or evacuation or just a snow-ploughing bulldozer—to people whom winter had immobilized. And—the other half of the picture—the telephone directed not only the responses to such appeals but the large-scale operations of local and state authorities, the Army, the Red Cross.

The scene is large and the details are many. There is no full record, for example, of the number of babies who were born in hospitals because the telephone summoned a weasel (light tractor-mounted Army truck) or ski-mounted plane to get the mother there ahead of the stork; nor of the babies who were born "by telephone" so to speak—with the guidance and encouragement of the doctor's voice coming over the wire—be-



Stretcher case. Men of the Fifth Army, the Red Cross, and the State Patrol cooperated to bring this patient to safety with an Army "weasel"

cause no vehicle could get through. Three neighboring towns, all snow-bound, had no doctor, so the Red Cross stationed one at a point central to all three, where a telephone summons could bring him air-borne to a patient's bedside. Just about every individual rescue—and there were thousands—whether by Red Cross, the Army, a community group, or a telephone man in a heavy construction truck, came as the consequence of a telephone call.

The primary mission of General Pick's "Operation Snowbound" was to open roads in an area bigger than all New England and a couple of other states too. His forces unblocked more than 115,000 miles of roads, and thereby gave many families access to food, fuel, cattle feed, and other necessities. His headquarters were established in Omaha, and

two main field offices were opened in Nebraska, two in South Dakota, and one in Wyoming. These were supplemented by more than 30 smaller offices throughout the territory. Thousands of men and hundreds of pieces of heavy equipment were located—most of them by telephone—and dispatched with all possible speed, and the telephone played its vital part in bringing reports and conveying directives throughout the vast area.

Said General Pick, "Operation Snowbound relied constantly upon the telephone and other speedy means of communication. Without the telephone and the fine coöperation of telephone people and switchboard operators, our task would have been much less speedily accomplished and relief longer delayed."



"Operation Snowbound": the general Headquarters office in Omaha



Flying Doctor. A telephone call to the Red Cross brought him to a patient's bedside by helicopter or by plane equipped with skis

THE PRIMARY MISSION of the Red Cross took up where the Army left off. It was to meet all basic human needs of an emergency nature: food, fuel, medicine, evacuation of the elderly and ill and injured. So close was the coordination between the two that Mr. Donald Stout, Assistant Manager of the Red Cross Mid-western area, set up his headquarters in the same Omaha building with General Pick and his staff, and consultation was frequent and effective.

While the scope of the disaster called for the assistance of national Red Cross representatives and national funds, most of the work was performed by Red Cross local chapter volunteers. Canteens fed blockaded travelers, 348 air force and private planes flew innumerable missions of mercy, 644 persons were

evacuated by air and others by various types of land vehicles.

The telephone, said Mr. Stout, "was invaluable in practically everything we did. By telephone we were able to dispatch directives quickly, to route our planes and personnel, order relief supplies, make surveys. . . ."

Many a telephone operator, having reached the central office against a snowy blast, could not venture home again for days, and stayed either at a nearby hotel or on a cot in the telephone building until the fury of the storm abated. In some places they could get out for meals, elsewhere food was sent in, and in still other places where the traffic load was heavy, snowbound Plant and Commercial men cooked meals in the Traffic kitchenettes and even did "KP" afterward.



No traffic moves on this Missouri highway because the glistening ice on its surface is three inches thick and quite unnavigable

Operation Snowbound

The Score

- 115,138 miles of road cleared in four states.
- 243,780 marooned people reached by road clearance operations.
- 4,010,000 head of livestock provided with access to feed.
- 1,559 reconnaissance trips made by air and ground vehicles.
- 14,565 Red Cross services provided by air and ground vehicles.
- 876 ill and aged persons evacuated, two-thirds by air.
- 11,130 families aided through Red Cross services.
- 17,419 meals served in Red Cross canteens.

Telephone men took on extra duty in getting operators to and from work in company cars and heavy trucks; and in Colorado and Wyoming, men of the Mountain States Company, which has specially equipped snowmobiles for traveling off the roads, responded to urgent summons and saved the lives of several men, women and children.

One operator spoke for all these blizzard-beleaguered telephone people when, after battling her way to the central office, she said, "Sure it was tough getting down here. But if there is any romance in the telephone business, it is in times like these when everyone is trying to make a call of some kind and you never know how much that particular conversation will mean to the customer."



What the sleet did to this Dallas-St. Louis line near the Texas-Oklahoma border is typical of the destruction over a wide area

FARTHER to the south, Kansas and Oklahoma had likewise been plagued by November storms. They were just curtain-raisers, however, for what the New Year brought.

What it brought was storms in series: wind, rain, floods, sleet—mostly sleet. For the last three weeks of January, a good part of the territory of the Southwestern Bell Telephone Company was subject to a succession of sleet storms which added up to the costliest and most extensive catastrophe in that company's experience. From the western border of Texas in a wide band to the north and eastward for 1500 miles, clear to the upper edge of Missouri,

and including a large share of Oklahoma and corners of Kansas and Arkansas, trees went down, poles went down, wires went down.

Before the sleet of the January 10 assault had melted, forces were rallied to the pressing task of restoration. But it was a Sisyphean undertaking; for a crew which rebuilt and



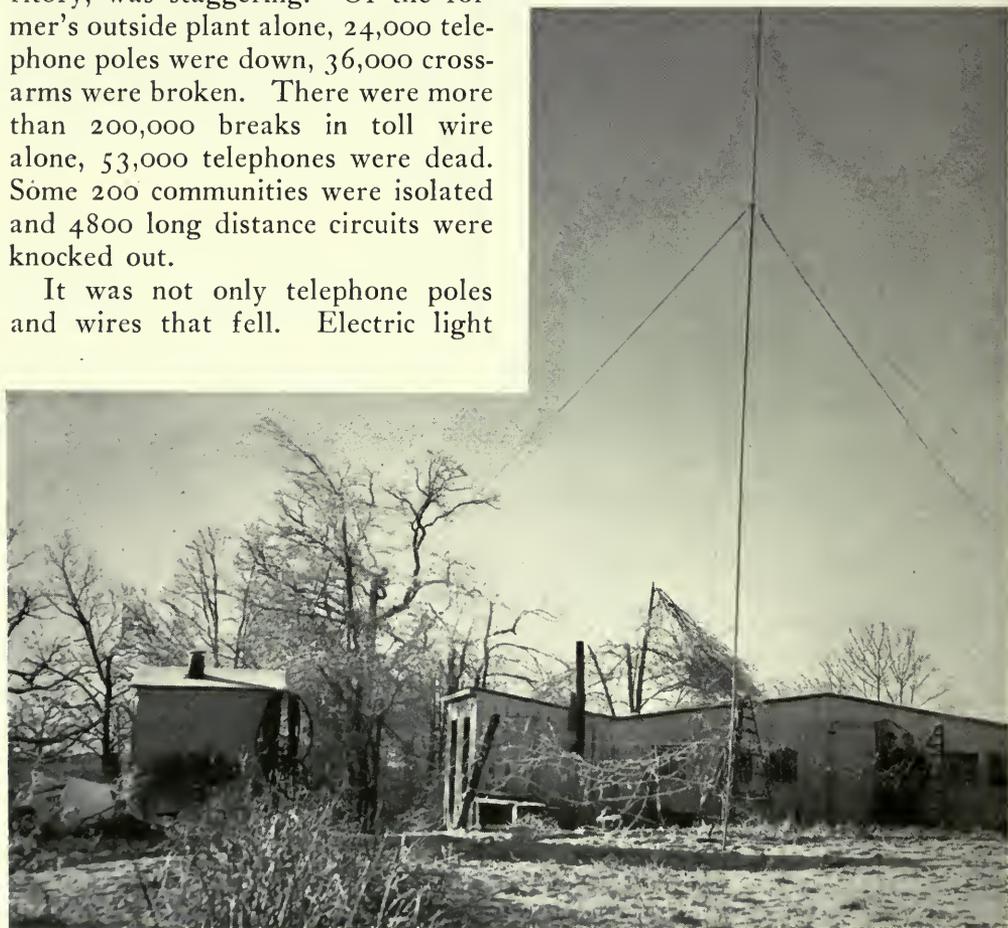
Some icicles were as much as six inches long

restrung an open-wire pole line and left it firm and secure might be called back a few days later to pick it up out of the road where it had been flung by a second crushing load of ice. In some places such heartbreaking occurrence actually happened three times in a row before the storms left off bedeviling that part of the world.

By that time, the score for Southwestern Bell, and for the Long Lines Department of A. T. & T., which of course operates through the same territory, was staggering. Of the former's outside plant alone, 24,000 telephone poles were down, 36,000 cross-arms were broken. There were more than 200,000 breaks in toll wire alone, 53,000 telephones were dead. Some 200 communities were isolated and 4800 long distance circuits were knocked out.

It was not only telephone poles and wires that fell. Electric light

and power lines suffered too. The stoppage of light and heat and power brought floods of emergency telephone calls, yet many could not be completed over broken wires. Emergency generators were pressed into use, operators in scores of central offices worked by candlelight, and in some places they had to resort to hand ringers. More than one chief operator looks back on that combination of heavy calling and limited facilities as the most trying period of her career.



This chicken house provided shelter for one half of a pair of portable radio telephone units which gave temporary service between Eldon and Jefferson City, Mo.

The great needs were, of course, two: materials—supplies and equipment—to replace what was destroyed or useless; and men, to build the materials back into the plant and restore the service. Both were forthcoming—fast.

All Southwestern Bell's own crews were summoned and assigned to storm repair, naturally. But because the Bell System operates as just one unit when exigencies require, help came from neighboring Associated Companies not so storm-stricken—Illinois Bell, Southern Bell, Mountain States Tel. & Tel. And Long Lines sent in crews from 18 states. To see telephone trucks from Florida and Colorado and Pennsylvania and Michigan and many another state all concentrated on the one task, and to know that the men can work efficiently, no matter where their home base, because methods and materials are the same everywhere, is to get some concept of what the Bell System is and what its single aim means for the nation's telephone service.

So the outside crews came a-running. They were most welcome, and preparations had been made to welcome them. For men need places to sleep and food to eat; and when many men suddenly descend upon sparsely settled areas, with commu-



Men, trucks, and supplies combine to bring about this swift restoration near Durant, Okla.

nities small and perhaps many miles apart, they pose a problem to which an answer must be found with no delay.

Southwestern Bell plant men found many answers. They practically took over such hotels and motor courts as met the need. They obtained rooms in private homes, they found temporary accommodations in Veterans' Hospital, National Guard Armory, school dormitory, other unusual quarters. Many a hotel chef got up earlier, many a dining-room proprietor called in more waitresses, many a lunch-room operator doubled and tripled his orders for supplies to care for the appetite of the new-



Temporary restoration near Abilene, Tex.: a broken pole reset to get the toll lead back into service

comers. But all were housed and fed, so that they could and did go at their tasks with energy.

Soon after the sleet-fall, in some places the ice under foot was a hazard. At times the trucks could not be used because they could not be controlled on the sheer glaze, and when men attempted to walk or to carry materials they could scarcely stand and could make no forward progress.

On some days chilly rain fell. The men were clad against it, but it was disagreeable, and as they worked they prayed that it would not freeze.

The greatest villain—after the sleet—was mud: sticky, heavy gumbo, the kind that won't come off. Even four-wheel-drive trucks with

chains on all four wheels bogged down, and when a driver gave full power to wheels that the mud gripped fast, an axle was likely to snap. More than one crew, loaded with crossarms or wire or hardware, had to walk miles through mud which grew heavier with every step because no truck could negotiate the mire which halted direct access to the line.

The point is, of course, that despite many handicaps the men got to where they were needed. Once there, they pitched right in, and by virtue of long days, expert skill, and capable direction, got the job done. The circuits were quickly back on an emergency basis, while more permanent restoration followed where necessary.

Even before the wires could be put back, Bell System emergency radio telephone equipment brought stop-gap service to break many towns' isolation. To supplement Southwestern Bell's three two-way sets, others were quickly obtained from the Wisconsin, Illinois, Mountain States, and Southern Bell companies, and Long Lines, and between the middle of January and early February almost 1300 toll calls were handled by these portable sets. Over one of them the average was 100 calls a day for four days.

Urgent as was the need for restoration, safety of every man was the first consideration. Falls and power lines were the big hazards, and against these the Plant Department took special precautions. Standing poles, no matter how firm they seemed, were pike-tested before men climbed them; and lines were pre-checked for contact with dangerous

power lines before the men were permitted a near approach.

Coöperation between telephone men and power company men was cordial and effective. The foremen gave priority to power company dispatching circuits, so that the power companies could send emergency crews to repair dangerous line breaks, and those crews made it their first business to free telephone wires of "power crosses."

EVEN AS telephone men poured in from more than a score of states to meet the crisis, so did telephone supplies—thanks to the scope, the organization, and the emergency experience of the Western Electric Company, the manufacturing and supply unit of the Bell System.

As the extent of the damage in Southwestern Bell territory became apparent, Western Electric went into action, following the pattern which experience has proved so effective in Bell System emergencies over a period of many years. Emergency or-

ganizations, set up *before* the winter storm season commenced, were alerted. Within hours of the first damage reports, badly needed supplies were rolling into the storm areas by plane, truck, and train.

Key personnel of Western's Distributing Houses, Merchandise and Supplies Service organizations, and Traffic Division remained on the alert 24 hours a day, seven days a week, to expedite shipments of materials. The demands for supplies to restore service presented the severest test of Western Electric's emergency resources since the New England hurricane of 1938. From January 12 until storm requirements were fulfilled, shipments of copper line wire alone amounted to 2,100,000 pounds. Among other items delivered in very large quantities during this period were 9,800,000 feet of drop wire, 241,000 pounds of copper tie wire, 108,000 pounds of steel line wire, 720,000 feet of strand, 1,771,000 copper tie splints, 1,469,000 sleeves,



Texas mud greatly complicated the progress of restoration

No Wonder We Won a War

Durant, Oklahoma

February 1, 1949

The Telephone Hour
N. B. C., Radio City
New York, N. Y.

To Whom It Will Be of Most Interest:

This is the right time to tell the Bell Telephone Company some of the nice things we know about them.

Last week we were without a telephone, due to the ice-storm that enveloped this district, a continuation of one that developed in west and north Texas early in January. Unless one witnessed it, it is impossible to believe! The tops of tall trees lay on the ground, under tons of sheet-ice—the telephone and electric lines were as large around as a man's forearm and of course were eventually a mass of tangled wreckage. For sixty hours the noise of falling wires and timber was like a barrage in battle—in fact, one facetious fellow's last call before his phone went out, was to the newspaper and the single word "T-i-m-b-e-r!" Our telephone went out Tuesday—by Saturday hundreds of men from this and surrounding states—telephone crews—were working feverishly to restore service. In the block behind my home it took hours to *beat* the ice off the fallen wires, put up new poles and cross-beams.

I did not see one man (and I had a good observation post) hesitate or waste time in this work of restoration—al tho the temperature stood for hours at 3 degrees to 10 degrees above zero. Those men climbed the poles and worked as if it were a pleasure—singing and joking and laughing—not a gripe!

At dark last night when I could no longer see, two men were still on top of a telephone pole just back of my house. I don't know if they "observe hours"—but *service* was certainly the *first* objective with them, I can assure you! (No wonder we won a war.)

When night came we tuned in to "The Telephone Hours" as we always do—I hoped some reference would be made to the loyalty and efforts of these men (but we are *so* small and so far away from Radio City) but I was *not* disappointed, only the half was not told: Nor could it be! Like this reference I must make to a youngster, not more than twenty years old, I'm sure, who lifted and attached our personal service wire. The pole with the saw on it was heavy, a heavy limb was across the wire and the long line was heavy and the boy *cold*—so—he lost control of the pole and it fell, striking him across the face and head, staggering him, and knocking his cap to the ground. I felt like saying a bad word for him, as *he didn't*, but without hesitation he grasped that instrument again with an air of "I'll show you who is boss," and finished his job. Then when he came in to check my 'phone, he observed that my cord was worn so he volunteered "I'm going to report your cord in bad condition and you'll get a new one soon." (Just that extra ounce of service.)

Yes, your program and music is wonderful and your organization a miracle but a miracle brought about by the loyalty and interest of men like that boy—Thank you for both.

Sincerely,

MRS. W. C. RIDDLE

81,700 crossarms, and over 15,000 poles.

All told, a total of 52 different classes of items were shipped from Western Electric Distributing Houses, factories, and suppliers in 72 cities and towns in 24 states and delivered to the Southwestern Bell Telephone Company at point of need. Despite the magnitude of this emergency job, there was no sacrifice of quality in the materials supplied. Western Electric supplies inspectors saw to it that the same high standards were maintained in the emergency shipments that apply in everyday operation.

Focal points for the distribution of

these large quantities of materials to the affected areas were Western Electric's St. Louis Distributing House and the Houses located at Dallas, Kansas City, and Houston. Supplies were sped from these Distributing Houses and direct from suppliers to the telephone company repair crews in the field as fast as needed. Distributing House stocks were immediately replenished from Merchandise stock at Western's Works locations and at suppliers' plants or from material specially manufactured by Western Electric and its suppliers. Shipments were also made to the Houses in the affected area from Western Electric Distributing Houses in Min-



Day and night, the supplies were loaded aboard trucks at Western Electric distribution houses for the storm area. This picture was taken at the Houston House

neapolis, Denver, New Orleans, and Atlanta.

At factory locations, normal shipments of critical items were diverted to the storm areas until emergency requirements were filled. Many items were manufactured on a highly accelerated basis. One such emergency assignment was an order for some eight miles of toll cable to replace cable destroyed by an overload of ice on the main pole route between Dallas and Oklahoma City. By giving the job the highest priority, Western Electric's Point Breeze Works made and delivered the cable in one week. A short time later, four miles of toll cable for emergency replacement near Denison, Texas, was turned out by Point Breeze in four days.

At one point, to keep pace with the demand for copper sleeves, Western Electric had the raw materials shipped by air express from Rome, N. Y., to Chicago. The shipment arrived at 7 p.m. on a Saturday and was taken to Western's Clearing and 47th Street Plants for processing. Finished sleeves were on their way to the St. Louis Distributing House by noon next day.

Many times, storm orders came through late at night. For just such situations, Western Electric maintains an emergency directory of Western Electric personnel, suppliers, and transportation companies, which gives the home telephone num-

bers of individuals delegated to handle emergencies. Suppliers' representatives were frequently located at their homes—one was even called out of a barber's chair while being shaved—by members of Western Electric's Supplies Service organization and requested to get material ready for shipment. Meanwhile, members of Western's Traffic Division telephoned trucking companies, airlines, railroads to arrange for the routing of the cargo to the storm areas by the fastest means possible.

Delivery of such large quantities of materials in such quick time is possible because Western Electric's long experience with the needs and problems of the Bell companies permits advance planning, because Western Electric's nation-wide facilities may be called upon at a moment's notice night or day, and because Western Electric and telephone company people are accustomed to working together in emergencies and in day-to-day operations as a closely integrated team.

CALL THEM one storm or many, they presented a challenge to the Bell System. And in both areas, north and south, the System's men and women—and, yes, organizations—have again shown their capabilities. They may properly be proud of the special service which they have rendered to many people over large sections of our country.

It Was a Tough Winter

IT *was* a tough winter for a large part of the Bell System.

From the Great Plains to the Atlantic, beginning last November and continuing well into March, storm followed storm: little storm or big, snow or sleet or even tornado, some doing no damage to telephone plant and some doing a great deal.

Take just two of them by way of illustration.

In New York and a section of the eastern seaboard, the snowfall which began the day after Christmas deposited a greater depth of snow there than ever before within the memory of living man or the local weather bureau. It snarled and practically halted transportation for a while, and it brought unusual traffic peaks to the central offices, but it did little real harm telephone-wise.

Covering a vastly greater area, the sleet storm which started on New Year's Eve in the Texas Panhandle and swept north- and east-ward to the Great Lakes and lower New England created more havoc than in many a year from that cause. The great weight of ice on the wires, in places accompanied by strong winds, leveled 15,000 poles, put 6,000 toll circuits out of order for a time, and silenced 125,000 telephones.

To repair the damage inflicted by the season's wintry storms, the West-

ern Electric Company supplied in a hurry such items as 30,000 miles of wire in cable, 15,000 miles of other wire, and 300,000 pounds of miscellaneous hardware—in addition to supplies drawn from regular stock piles. The men of the Associated Companies and the Long Lines Department carried out restoration on a night-and-day schedule, often in the face of rough weather and bitter cold.

They carried out the restoration even while the Bell System's service and construction program continued forward at driving pace.

Consider these indicative figures:

In those five storm-ridden months, the Bell System installed more than 3,000,000 telephones, with a net gain—after changes and removals—of more than 1,300,000 telephones for the period. And during the winter months just passed the System handled an average of 165,500,000 telephone calls a day—which is 14,500,000 calls a day more than the average for the preceding winter.

Old Man Winter didn't succeed in slowing up seriously the System's efforts to build and install the equipment to bring service to the many who have been waiting for it and to provide for the requirements of the coming years. But the pictures on the next eight pages show how hard he tried.

This New Hampshire toll line, in the territory of the New England Telephone and Telegraph Company, was temporarily out of service



Snow-shoe weather is unusual in Connecticut, where the Southern New England Telephone Company operates



Trees often had to be removed before repairs could begin—as in this scene from the New York Telephone Company

In New Jersey, sleet brought down electric power wires too, and kerosene heaters had to be brought into some central offices

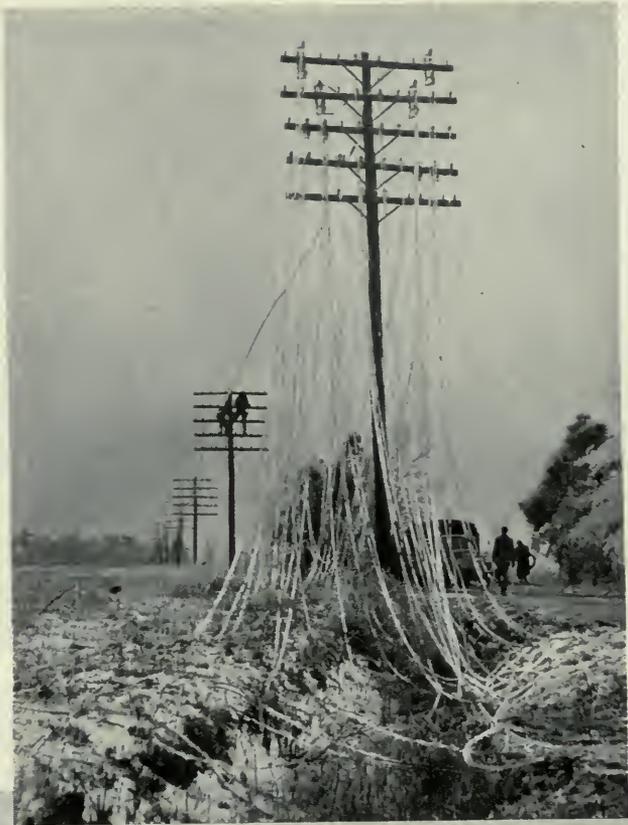
The New Jersey Bell Telephone Company's outside plant was hard hit by the New Year's Day storm



Plant employees of the Bell Telephone Company of Pennsylvania push ahead with service restoration



This open-wire toll line is in North Carolina, in the territory of the Southern Bell Telephone and Telegraph Company



Half a tree had to be hauled up by winch line before the Michigan Bell Telephone Company's men could undertake repairs here



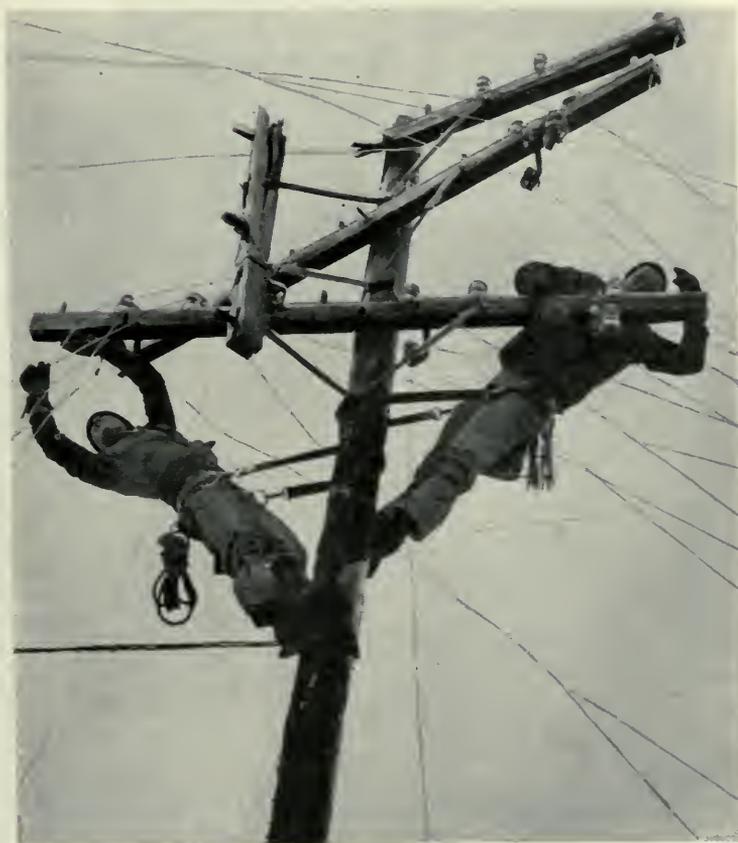


Lines of the Indiana Bell Telephone Company (above) and the Illinois Bell Telephone Company were victims of the New Year's sleet





It was bleak in Iowa as this crew of the Northwestern Bell Telephone Company went about setting a pole here after one of December's storms



Two men of the Southwestern Bell Telephone Company tackle wrecked cross-arm and tangled wires on a pole in Arkansas



The ski-mounted sno-mobile on the trailer can carry two men over dry snow at 60 m.p.h. with their repair and testing equipment, emergency rations, snow shoes, and other winter necessities. It is part of the winter preparations of the Mountain States Telephone and Telegraph Company in Wyoming, whose Teton Mountains form the back drop for this picture



The January 1 sleet storm invaded the territory of the Bell Telephone Company of Canada to fell a pole line on the outskirts of Windsor

This Long Lines Department pole, with its glistening burden, typifies many another of its fellows from Texas to the Atlantic which stood firm under such weight of sleet



Throughout the storm area, the Western Electric Company's distributing houses were on the alert to speed the supplies on which restoration of service depends

