

"TELEPHONE FACTS" MAGAZINE SERIES

Intended apparently as a telephone company customer information bulletin it was first published in January 1910. It is not known when publication ceased. A historical note; the use of the term "number" in some issues is an archaic use meaning issue or item in publication, according to the American Heritage Dictionary:

A single publication of printed matter : edition, impression, issue, number, printing.¹

Some issues (or numbers if you like) were provided by Robert Carter, grandson of Alva J. Carter a Kellogg employee in the 1900's to the early 1920's and later founder of Carter Radio Corp. and the Television Tube Corp. both of Chicago.

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TELEPHONE FACTS

Christmas

1916

*Again may our wishes be that the yuletide spirit bring
you and yours the best things of life the coming year.*



Why Every Independent Telephone Company Should Be an Active Member in the United States Independent Telephone Association

December 5th to 8th, 1916, will long be remembered as "red letter" days in Independent telephony; they being the occasion of the annual convention of the United States Independent Telephone Association. This convention was conceded to be the most largely attended, the most interesting, the most helpful and the most instructive of any convention previously held.

The exhibits of the manufacturers and supply dealers, and the program, were the best that have ever been presented.

The discussions demonstrated that much had been accomplished during the year that is now drawing to a close, but that there was still a great deal to be accomplished, and that there were many problems to face and solve if Independent telephony is to be all that it might be. Some of these problems are as follows:

FIRST: Should the Interstate Commerce Commission have control over carriers (telephone companies) with reference to issuance of securities, rates, service, etc.?

SECOND: If the powers of the federal authorities are to be enlarged, should there be a corresponding diminution of control by state authorities?

THIRD: Should the Bell Company be allowed to continue its policy of buying non-competing telephone properties?

FOURTH: Should we get a toll-line connection under suitable terms and conditions for the Independent telephone companies?

FIFTH: Should we support Independent telephone manufacturers in their protest against the unfair competition of the (Bell) Western Electric Company?

It is conceded by all that the only way these results can be secured is through organization and associated efforts, and it is further recognized that the United States Independent Telephone Association is the official representative of Independent telephony; as a matter of fact, the United States Independent Telephone Association offers more for your money than any other representative organization in the world.

First: The Association offers to represent every telephone company before the Interstate Commerce

Commission at Washington, D. C., without any additional charge other than the membership fee. The Interstate Commerce Act specifically requires that all carriers coming under the jurisdiction of the Interstate Commerce Commission shall have a resident agent at Washington. Fortunately the Association is represented at Washington by one who is thoroughly familiar with the problems of the operating companies in the person of Mr. F. B. MacKinnon, vice-president of our Association.

Second: The Association maintains a Service Department to which all member companies are privileged to address any questions or problems concerning any phase of the telephone business, the Association offering to perform these services so far as they consistently can without any additional charge.

Third: The work that has been done along lines of accounting, valuation, toll line connections, uniform operating rules, operators' schools, etc., will not only be continued but will be made more effective.

Fourth: There are not only many general, direct benefits that come from belonging to a live, aggressive organization such as ours, but such an organization exerts a great moral power and influence which reflects to the benefit of its member companies and as a restraining power and influence to those who are unfriendly in their intentions towards Independent telephony.

Fifth: It is a characteristic of the American people that they pay for what they get; that they are givers rather than objects of charity; that they are willing to do their part; the officers, directors and members of the United States Independent Telephone Association representing upwards of 200 millions of dollars of invested capital believe that the least any company can consistently do is to join the Association. The membership fee is only \$5.00 annually, less than 1 2/5c a day. If your company is not a member, the Association cordially invites you to fill out the application blank on the next page, and mail to the address given at the earliest possible moment.

Your application now with remittance will pay you up to December 31st, 1917.

“Why Should I Belong?”

You would know had you sat in that wonderful assembly hall with those hundreds of men, and listened to the stirring talks on the future of independent telephony; stirring far more, and in every way more emphatic, than the subsequent printed pages of “proceedings” can possibly be.

It is the independent telephone association member who realizes that the future of independent telephony really depends on your understanding how important your membership will be.

You should belong to help organize independent telephony, to help with your active participation, and slight personal financial aid, to defray the cost of organization, and to help advance all that this great association stands for.

With every independent telephone manager in the country a

member, the big LaSalle Hotel Assembly Hall would be packed.

And the great enthusiasm of a united organization would sweep forward the cause of independent telephony, which means better telephony, at an unheard of stride; its strength breaking down the big impediments, the crafty schemes of monopoly, and the petty selfish obstacles that now hold us back.

If you will see why you should belong, and be a part of this great gathering in this wonderful hall next year, not only your cause, but you, will be helped forward in a way far exceeding the slight expense and responsibility entailed by your being there as a new member when the next convention is called to order.

Will you think over again—why you should be there, and sign, and send in the membership blank, at once?

APPLICATION FOR MEMBERSHIP

To W. S. Vivian, Secretary-Treasurer, The United States Independent Telephone Association, 19 South La Salle St., Chicago, Ill.

Date.....191.....

We, the undersigned, hereby make application for membership in the UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION, and declare that we are eligible under Article 4 of the By-Laws of the Association, as follows:

Article IV—Active Members

Section II. Active members shall be bonafide operating and manufacturing Telephone Companies, independent of and not owned or controlled by the American Telephone and Telegraph Company, directly or indirectly, and no Company shall be eligible to membership in this Association in which the American Telephone and Telegraph Company, or any of its associated or allied companies or any person or persons acting for them, directly or indirectly hold a controlling interest, actual or contractual, and in the event that any such interest or control shall be acquired by the American Telephone and Telegraph Company, any of its associated or allied companies, or by any person or persons acting for them directly or indirectly, such membership so affected shall cease. All applications for membership shall be subject to the approval of the Executive Committee.

Associate Membership

Section III. The Board of Directors shall provide for such associate-membership in the Association as it may deem advisable; and shall adopt provisions regulating the privileges and duties of such membership; provided, however, that such members shall not be entitled to vote at the meetings of this Association. NOTE:

Individual Membership

By special action, officers or employees of member companies are authorized to become associate-members of this Association on payment of \$5.00 annual dues; and shall be entitled to all the privileges of this Association, except the right to vote.

Article X

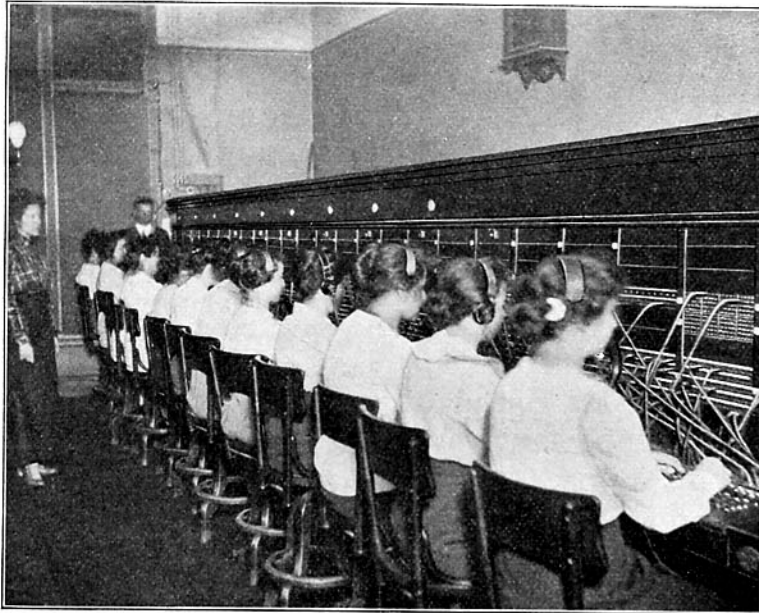
DUES: The annual dues of this Association will be \$5.00 per annum, payable on January 1st of each year.

.....
 (Name of Company) (Address)

Name of General Manager.....Address

Please give gross receipts for year ending Dec. 31 last, \$..... Please give total number Telephones in service.....

Pomona, California, Gives Fine Service

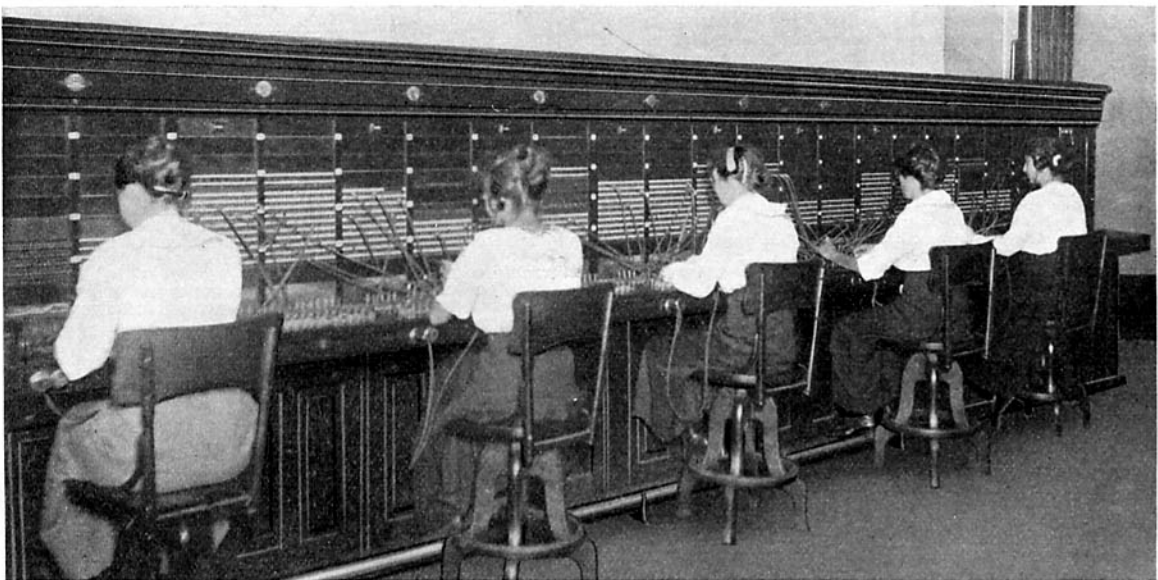


The Old Switchboard—and Operators

The Pomona Valley Telephone & Telegraph Union, Pomona, California, was incorporated in 1903. Mr. D. S. Parker is General Manager and Superintendent, Mr. Carl H. Lorbeer, Assistant Manager and Assistant Superintendent.

The Officers and Directors are: Dr. F. W. Thomas, President; A. M. Dole, Secretary; C. E. Walker, Treasurer; J. A. Dole, L. A. Lorbeer, R. K. Pitzer, D. S. Parker, Directors.

The Pomona Company is one of the large prosperous Independent Telephone Companies operating in Southern California. All the stock of the company is owned locally and is strictly independent in every respect. The company operates exchanges at the following points: Pomona (main and largest exchange), Claremont, Chino, Lordsburg and San Dimas.



The New Equipment Giving Superlative Service with Great Economy

The Telephone Company has 4,730 telephones in service, 3,000 of which are working on the Pomona Exchange, which has recently been rehabilitated by the Kellogg Switchboard & Supply Company, to enable them to give their subscribers all the late features given by the Kellogg recall and disconnect cord circuit. This includes automatic ringing, automatic listening, automatic peg count, instantaneous disconnect, instantaneous recall, call distribution, pilot supervision on answering cord, pilot supervision on calling cord and revertive tone test.

For a number of years all of their telephones have been equipped with harmonic ringers. With the added features, it allows them to furnish their subscribers the best telephone service on the Pacific Coast at the present time.

The top photograph shows the switchboard at the busy hour before it was rehabilitated. You will note it required eleven operators to handle the traffic.

The lower photograph shows the same switchboard after the improvements had been made, with five operators handling the traffic at the busiest hour. Since the cut-over, the Telephone Company has made an actual saving of 40 per cent in their operating expenses.

The Pomona Company had the distinction of installing the first automatic recall switchboard on the Pacific Coast. Great credit is due their management in keeping pace with the latest developments in telephony.

Since this installation has been made, six other companies on the Pacific Coast have rehabilitated their exchanges or purchased new recall boards outright.

The Pomona Company is about to commence work on a new modern fireproof exchange building, which will be a credit to the town. These big improvements show the confidence the Telephone Company has in Independent Telephony's future.

The Following is Taken from the Front Page of November, 1915, Pomona Directory.

The Pomona Valley Telephone & Telegraph Union, Pomona, Cal., holds the record for having more telephones for the population than any other community in the United States. The last United States census also reported the Pomona company as having the lowest average rate for telephone service in the United States. Over 4,600 telephones in a district of 17,000 people tell the story.

The Pomona Valley, because of its varied interests, is peculiarly adapted for a steady, prosperous condition of business. The telephone company has four branch exchanges with free trunking service at the following points: Claremont, the seat of Pomona college, one of the leading educational institutions of the west; Chino, with its large sugar beet industry and extensive alfalfa fields; San Dimas and Lordsburg, both centers of large citrus interests.

Even with its low rates the Pomona company has been one of the best and safest financed telephone companies in the state. The state railroad commission, in a recent hearing concerning a bond issue spoke in an unusual way of the splendid financial condition of the company's affairs, and the presiding commissioner stated that it was a pleasure to examine the affairs of an institution with its business carried on in such splendid shape.

The Pomona company has taken a lead in new improvements. It was the first company on the coast to extensively adopt the harmonic system. It converted its entire plant to this system in 1906, making one purchase of 1,200 new instruments. At present the company is engaged in installing all the late features and improvements in the manual switchboard, it being the first company

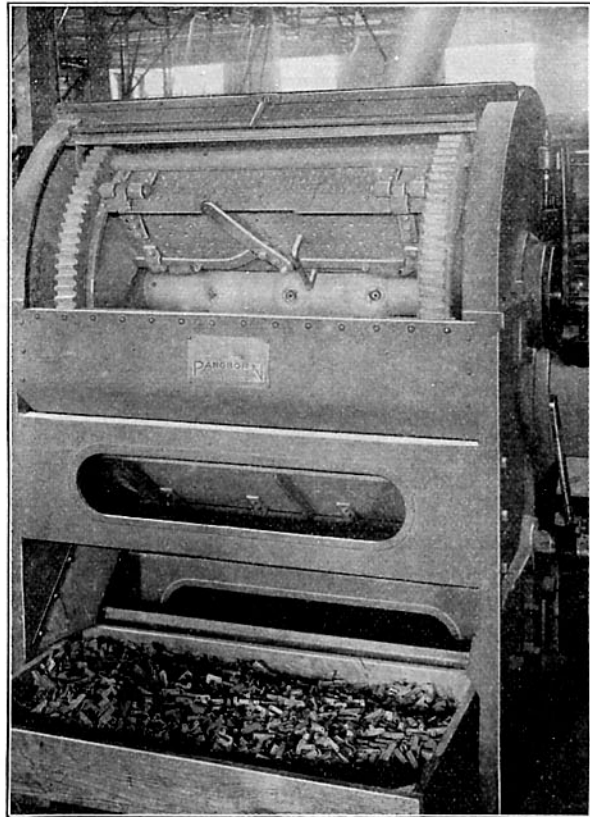
west of the Mississippi to commence the installation of the new Kellogg cord circuit, including the latest improvements in automatic ringing, automatic listening, secret service, automatic disconnect, instantaneous recall and automatic peg count. Along with these features it has just completed changing its entire system of answering and multiple jacks to a multiple lamp-call distributing system.

R. H. Coyne.

A Modern Sand Storm

Herodotus tells us of an ancient army sent out by Cambyses against a people called the Ammonians, which never returned and whose fate was, to their countrymen, never known.

Those against whom they marched, however, related that when about half their journey, which was across the Sahara sands, had been completed, and while eating



their dinner, a great sand storm overtook them and completely covered them.

The accompanying illustrations show a couple of more modern sand storms which make up in intensity what they lack in volume when compared to the one just quoted.

In the smaller cut, the downward pointed nozzle delivers a jet of sand driven out by air at a pressure of seventy-five pounds.

In operation the interior of the box is lighted, the operator inserts his hands and arms, heavily gloved and protected, through the two oval holes.

TELEPHONE FACTS

The nozzle is raised (it has been lowered so as to be seen) and the jet is turned on. Parts of telephone apparatus such as desk stands, etc., which are to receive the famous Kellogg everlasting black enamel are held



and turned beneath this furious, biting, cutting gale. The operator is enabled to watch the progress of the cleansing through a glass protected opening somewhat higher up which the cut does not show. But a few moments suffice to cut and clean the surface of the article to perfection. The minute gashes cut by the grains of sand, form little hand holds for the enamel and that's why it doesn't come off.

The machine shown in the larger cut handles the very small parts which could not, with economy, be done by hand. Two bushels in twenty minutes is its capacity.

The huge drum revolves, and by means of a hollow shaft, four jets of sand are directed downward into the rolling, tumbling mass. Small parts get between larger ones and throughout each crevice and corner, strikes this relentless storm of sand, paving the way for the future coat of that pleasing dead black enamel which makes Kellogg equipment a thing of beauty and a joy forever.

M. E. Young.

Convention Notes

Before a large and enthusiastic audience at the well attended final Convention program Friday afternoon, Hon. Frank G. Odell, Omaha, Editor *Nebraska Farm Magazine*, presented some pertinent thoughts in connection with possible future municipal ownership of plants. Examples of poor efficiency in towns of 200 population with a \$50,000 post office; of 1,000 population with a \$100,000 post office, and so on, in an apparently endless list seemed apt illustrations judging by the speaker's enthusiastic reception by his hearers.

Mr. Fitzgerald in his brief, but well directed talk, told of the really important features of phrenology, or "bumpology" in the language of the street, that have endured to prove their truthfulness. These half dozen plainly marked characteristics of individuals are the kind to remember when considering a man for telephone work, whether it be a prospec-

tive general manager at a salary that usually goes with that title, or a lineman who works for wages.

If you attended any one of the Convention sessions you noticed the five foot desk telephone beside the rostrum. That telephone caused much speculation as to its size, weight and service-giving qualities, but like the standard unbreakable desk telephone it is always on the job. Use is the Test.

The four rooms at the "Sign of the Desk Stand" were filled to overflowing from 9 a. m. to 2 p. m. every day, when they were closed for the afternoon during each session.

The Kellogg Instantaneous Recall switchboard was demonstrated continuously for the benefit of interested visitors. A novelty of the display was a reproduction of a score of telegrams advising of the reliable, efficient, flexible and money saving features of this economical switching apparatus.

Saving Battery

Any remarks alluding to the above subject will gain an audience these days with batteries at about 25 cents each in barrel lots and no relief in sight. Just drop a line to Kellogg and learn of the advantages of the "Battery Saver" which only costs the price of one dry cell and before it wears out will save a score.

Perhaps the most interesting and complete unit of display of the entire convention was the apparatus parts exhibit in eight glass covered and especially illuminated cases. These are well worth careful study. These cases were designed by A. J. Carter and the basic idea is to show the actual value of every part and material necessary in the service of the complete exchange.

To get a real unbiased opinion of anything it is often best to view it from a distance—to comprehend size and efficiency, for instance. With this in mind the Kellogg company exhibited a splendid new "bird's-eye" view of the Adams street plant—the factory behind the phone.

Ghosts are creatures of fancy and often feared, but the Kellogg phantom circuit—No. 17A coil and connecting telephones—were shown, plain as day, in Room 1718, where the immeasurable value of this wonderful advance in telephone operating was clearly and simply demonstrated.

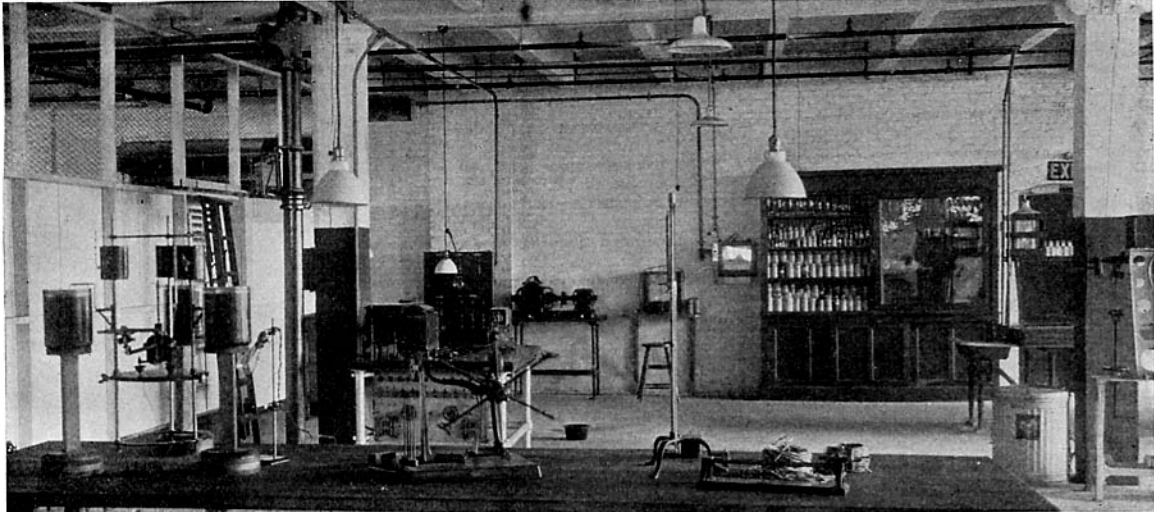
If you are going to need a switchboard of any description from a fifty line magneto to a twelve thousand line multiple full new feature type don't fail to write our sales engineering department.

All the boys are glad to know that J. E. Wilkins is back again at his desk in Kansas City.

Conventions

Kansas, Topeka, Dec. 19-21; Nebraska, Lincoln, Jan. 10-12; South Dakota, Aberdeen, Jan. 16-18; Minnesota, St. Paul, Jan. 23-25; Wisconsin, Madison, Feb. 6-8; Oklahoma, Oklahoma City, Feb. 19-20; Texas, Dallas, Feb. 22-23; Iowa, Des Moines, Mar. 13-15.

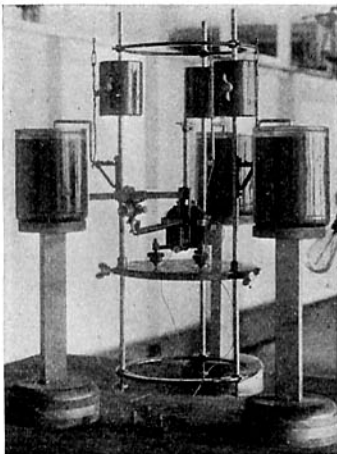
To Make the Best Telephone Equipment



A Section of the Physical Laboratory of the Kellogg Plant.

A year of work in the laboratories of a large industrial company like ours covers considerable ground. In time of crisis; of abnormal production; of feverish anxiety, the requests for scientific investigation grow rapidly from the daily necessities of the production departments.

The scarcity of raw materials is, probably, the chief source of concern at the present time, and one that keeps the laboratories in the highest state of excitement.



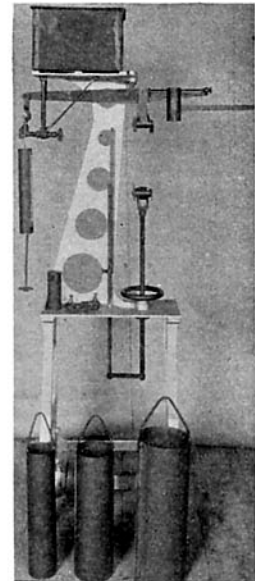
D'Arsonval Galvanometer.

Among the various important investigations undertaken in the past year none had more attention than those conducted on iron and steel of various kinds. It is well known that these materials are the basic elements from which telephone apparatus is built. We could not have receivers, induction coils, repeating coils, relays, ringing generators, etc., if iron and steel were not in existence. These materials, as far as the telephone industry is concerned, cannot be substituted or modified.

Before the war started, and for a short time after, telephone manufacturers were able to purchase the

so-called soft Norway iron. This quality of iron is peculiarly adapted to the manufacture of telephone apparatus on account of its superior magnetic qualities. A time came when the supply of this quality of iron became exhausted, a fact which caused very great concern to the telephone manufacturing companies. But happily we live in an age of progress; the old saying that necessity is the mother of invention, held true in this case. The American chemical engineers and the American refiners or iron got together and produced, not a substitute for Norway iron, but a quality of iron which, is its equal.

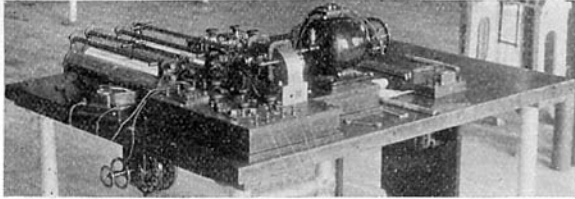
Of course we could not write about this achievement with such deep faith, if our convictions were not based on very solid ground. In fact they are the result of a long series of experiments conducted in our laboratories and which conclusively prove the real superior magnetic qualities of the American electrical iron. Here is where a laboratory is of inestimable value to a manufacturing company. Tests had to be made with the greatest degree of accuracy to determine whether this domestic iron could take the place left vacant by the vanished Norway iron.



Tensile Strength Testing Machine.

TELEPHONE FACTS

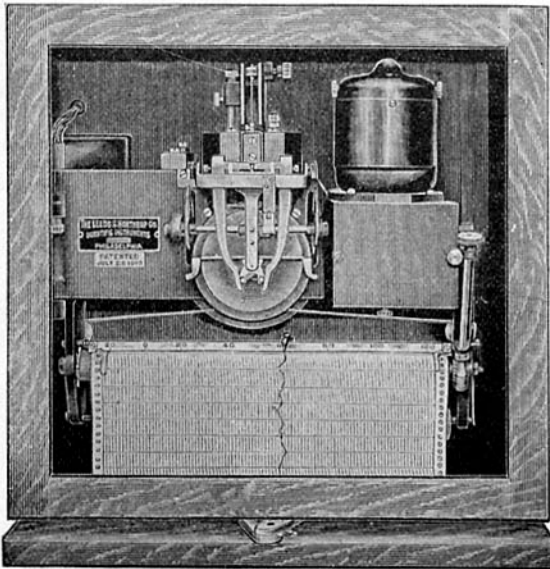
The tests extended over a number of months. They were painstaking and thorough. They attacked the problem from every angle, analytical and technical. The chemical nature of the material was studied in relation to constancy. Then a study of the technical handling of the material was made, such



Esterline Permeameter for Magnetic Testing of Iron and Steel.

as the heat treatment and the mechanical treatment; so that at the end the laboratory was able to report on established facts and not merely promulgate an evanescent theory.

A parallel case may be found in magnet steel. Previous to the war a permanent magnet used to be made of tungsten steel, but by courtesy of the European belligerents, ferro-tungsten was declared a contraband of war, an embargo was placed on its exportation, and supplies of it were utterly prevented from reaching our peaceful shores. Curiously enough, this country holds within its domain a plentiful supply of tungsten, but none of it is available



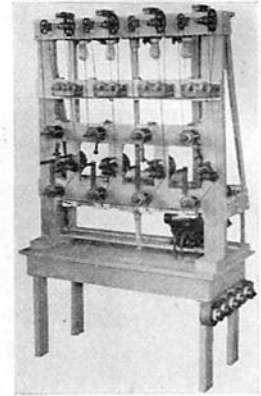
Temperature Recorder for the Proper Control of Annealing and Hardening Furnaces.

for steel making. It was another case where American manufacturers had to use their ingenuity. It was suggested that probably a chrome steel might save the situation; this suggestion was purely a matter of trial. Chrome steel, during these strained

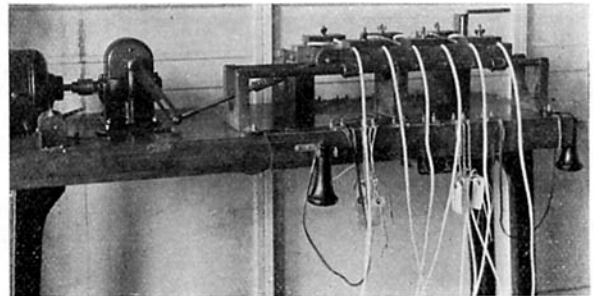
market conditions is not what might be normally called plentiful, still enough of it might be had to supply the domestic needs. However, chrome steel had never been used for permanent magnets and nobody knew just what heat treatment to give it in order to get the best results. The first attempts were really discouraging. In treating this chrome steel in the same manner that tungsten steel had been treated it was found that it would not retain the magnetism for the necessary length of time.

The study of the proper heat treatment of chrome steel was an extremely interesting laboratory investigation. It took almost a full month to get the desired results, but in the end we could well afford to smile, thinking about the embargo on ferro-tungsten.

The conditions explained above, only slightly modified, also prevail in the supply of other raw materials. Copper and its alloys, on account of their extensive use in the manufacture of electrical apparatus are receiving, at present, particular attention from the laboratories of industrial companies. Not that a scarcity of them is feared to such an extent as of the materials given above, but in critical times there is always danger that materials of inferior quality may be imposed upon unsuspecting parties. In this connection our raw material testing labora-



Machine for Testing Enameled Wire.



Testing Switchboard Cords.

tory is doing its share in protecting both the company and its customers from such danger.

It is probable that nobody ever thought that a manufacturing company like ours would ever worry about dyes and dyestuffs. Still we do use dyed materials in large quantities like cotton, linen, silk, etc. It was important for us to know whether the scarcity of imported dyestuffs was going to affect us in any way. Fortunately, in this respect we found that we had nothing to worry about. Domestic dyes had always been used in dyeing our materials with complete satisfaction of all concerned. Still, the laboratory is constantly testing dyed materials, as new shipments

come in, for fear that someone might try to "put something over on us."

In the same manner that the laboratory is keeping a constant watch on raw materials, so do manufactured articles come in for a share of its attention.

Enamel wire, on account of its ever increasing use, has received for some time and is yet receiving careful attention. Some time back it was thought that it would be a good idea to standardize our production of enameled wire. It was thought that the Kellogg Company, at least, should emerge from the delicate position in which many companies which manufacture enamel wire find themselves, of trying to keep clouded in mystery, something about which the public wants to know.

The process of wire enameling has been a pet secret these many years. The public was buying something of which he knew nothing, and nobody, not even the manufacturers themselves, could or would tell him anything. This standardization has been undertaken by the laboratory and is now well under way.

Switchboard cords are another item that it now receiving careful attention. Switchboard cords are so important in the operation of a telephone exchange that their efficiency is a matter of very deep concern. In order that we may see wherein improvements may be made, a perpetual test of switchboard cords has been undertaken, in which cords are put under as nearly working conditions as it is possible to obtain with mechanical means. In this investigation we are trying to establish a criterion by which the value of switchboards cords will be determined in the future.



Vincent Pagliarullo.

In recent years a new industry has taken its place in the sun. Starting from very small beginnings it has now attained a magnificent development. The Kellogg Co. has at present a well equipped and well organized bakelite department in which hundreds of different pieces of molded insulation are manufactured. In order to keep the production of bakelite piece parts up to standard tests are frequently made, on molded pieces, to ascertain whether the basic materials are what they should be.

From the foregoing it may be seen that the duties which devolve upon the personnel of a laboratory cannot all be enumerated in a brief article like this. It is our lot that we should work in silence and concentrate our efforts on the solution of important problems.

The activities of a laboratory are manifold. They are analytical, constructive, preventive and curative. A laboratory protects, at once, the manufacturer and the consumer from many impending dangers.

Vincent Pagliarullo.

The Kellogg Grabaphone. The Most Convenient, and the Equal in Efficiency, of Any Other Type Telephone



From any position whether standing, sitting or reclining, the subscriber can

"Grabaphone."

Some people in expressing their thoughts not only can see in their mind's eye the people to whom they are speaking, but they feel that the man at the other end of the wire can see them, for they emphasize every remark with an appropriate gesture—not to mention facial contortion.

Handicapped indeed, is such a man with a desk stand. In fact, he is the very explanation to a thousand instances of poor service!

No transmitter can transmit three or four feet, more or less, from the source of a voice wave.

To such, we say, try a Kellogg grabaphone.

Convention Side Lights

Every one liked the way Chicago said "Hello"—also the man delegated to say it—Hon. Wm. R. Moss.

In responding, Mr. Fortune said he was reminded of Bill Nye introducing the late James Whitcomb Riley and would be governed accordingly. Nye arose and said: "I will now talk to you until I am tired, whereupon Mr. Riley will talk until you are tired." No one, however, seemed weary when he finished.

President McVey apologized for having to read his speech. No apology seemed necessary from the way it was both delivered and accepted.

"Sixty-nine years young today" was the way President McVey introduced Hon. E. B. Fisher, who promptly proceeded to demonstrate that it was true. A handsome bouquet of roses was presented him in honor of his birthday.

Mr. McKinnon's interpretation of the vast powers and responsibilities of an association was very well accepted.

Enthusiasm took a definite and tangible form under the able handling of Mr. Dellwyn Stratton. One could see that he is surcharged with the subject he discussed, and that it is not necessary for him to stop, like the river steamboat, every time he whistles.

"Pin your faith on Woodrow Wilson for advancing the Independent cause" roused hearty applause for Mr. Fortune.

In membership of the United States Independent Telephone Association Missouri leads, with Kansas second, and both states are to be commended for their splendid attendance at the present Convention.

On every hand were heard remarks of appreciation for the earnest and self-effacing efforts of Mr. W. S. Vivian to make larger and better the United States Association. Not only does he most successfully discharge his duty as secretary, but his influence is felt and seen everywhere.



HIS MASTER'S CALL!

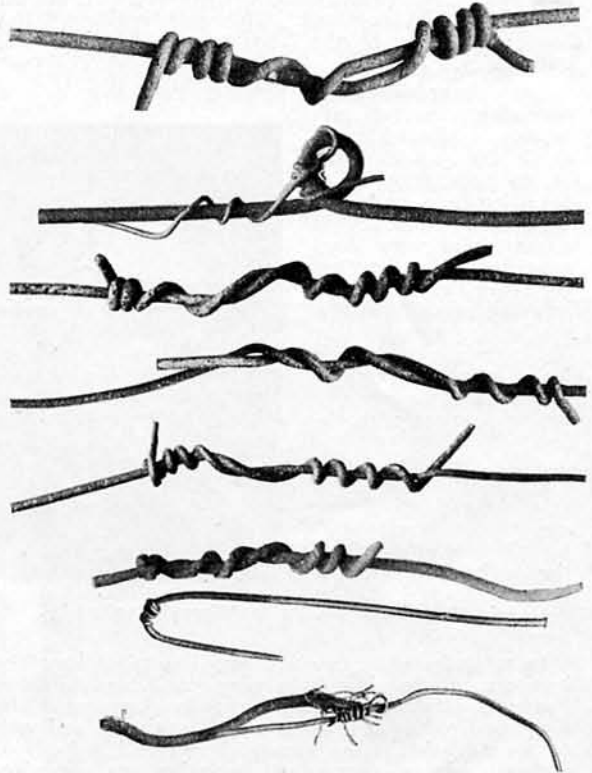
Have you received your copy of the new Kellogg apparatus catalogue? This is a brief, but comprehensive, illustrated, listing of all Kellogg apparatus parts.

Write to the Kellogg company today and ask for the Magneto Switchboard Circuit Prints which show the entire apparatus layout in its correct position with all wiring colored exactly as the wires themselves are colored.

Don't fail to get on the list for a set of these. We designed and got them out especially for you and you merely need to ask.

Reason for Complaint

One of our friends, Mr. Kirk, a practical telephone man, recently installed two brand new Kellogg



phones. There were complaints—an investigation followed and above is a photographic reproduction of the trouble!

HOW IS THIS FOR SERVICE?

How is this for service?
 Letter received August 20.
 Answered August 21.
 Board ordered August 22.
 Shipped August 23.
 It's Kellogg Service.
 And an actual example.

Independent Telephony?

Today when the American Telephone & Telegraph Company is making greater efforts than ever before to eliminate competition from the operating, manufacturing and supply fields, it does not seem amiss to recall some circumstances surrounding the beginnings of Independent telephony.

Prior to 1897 the telephone was a curiosity outside of the larger centers of population, and in them it was a luxury in the home and a high-priced necessity in business. The utility of the service was limited both by the talking radius of the Blake transmitter, which was still a prominent feature of the Bell service, and by the scarcity of subscribers.

Neither of these limitations, however, were necessary. The White solid back transmitter was available, and in some localities was furnished for an extra rental of five dollars per year. For the limited number of subscribers, the growth of the telephone directories with the introduction of reasonably priced service speaks for itself.

In Chicago and its suburbs there were less than 17,000 instruments in service, and practically all were magneto signalling, equipped with Blake transmitters. Conversations could be carried on with almost any other subscriber in the territory covered by the Chicago Telephone Company, if toll charges could be paid.

A man with a telephone in his office or store was entitled to more or less respect, and his next-door neighbor rather liked to be heard calling him by his first name. Our neighbor with a telephone in his residence was entitled to even more respect.

Bear in mind that these conditions were not due to any apathy of the public to the merits and desirability of telephone service, but were entirely due to the attitude of the Bell Telephone Company. The public wanted service, and plenty of it, and were willing to pay a reasonable price, but the policy of the Bell company may be expressed as a "policy of the least service for the most money."

With the expiration of Mr. Bell's patents, Independent telephone companies sprang up all over the United States and in a few years, in spite of cut-throat competition, etc., were dividing the business pretty equally with the Bell.

In many instances the longer pocketbook of the Bell company enabled it to give free service and so eliminate competition. As soon as the locally-owned company ceased giving service the old Bell rates were re-established, and even raised, to make the public pay for the free service given during the period of competition.

This condition, however, was not general, as the public usually remembered the abuses of the times prior to Independent service long enough to support the local company through the cut-throat competition period.

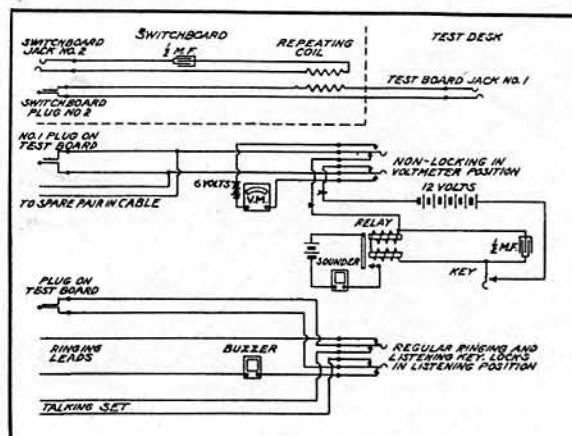
This attitude of the Bell company with respect to making the public pay in cash for expenses incurred in unlawfully wiping out competition is still a feature of its attitude, as is evidenced by several admissions of its officers in connection with the attempted purchase of the Chicago Automatic Telephone Company, and by its efforts to capitalize the proposed purchase price.

In no business is the power to produce competition a more valuable asset to the public than in the telephone business, and it is the duty of the public and the Independent companies to maintain this power by all honorable means. The tactics employed by the Bell companies in obliterating competition, if permitted to continue, spell ruin to the investors in Independent telephone securities and high-priced inferior service to the public.

Testing Set for Magneto Exchange

I am enclosing a description and diagram of testing set which I use on a wire chief's desk. Most of the apparatus can be found in any repair shop, and what cannot, can be bought cheaply. Any exchange from 100 subscribers up can use it to good advantage.

Our distributing frame is of a standard type, using heat coils and carbons. A test plug, having four connections, is used for testing in or out. The test plug



terminates in two combined drops and jacks. By taking out the heat coils and inserting the test plug, the drop and switchboard cable can be tested on the line and subscriber's instrument.

When a line or telephone is reported in trouble, the test can be made to see if the trouble is in the office or out on the line. If in the office, it can be cleared at once and the subscriber notified. If out on the line, a voltmeter test will show a high resistance splice, an open, a ground, or "choppy connection." Then by putting plug No. 1 on test board in jack No. 1 on test board and plug No. 2 in the line in trouble, we have 12-volt battery feeding out on the line.

The lineman has for his test set a hand set with receiver and transmitter in series, with a six-foot cord having two strong spring clips for connection. By going to the cable box, the lineman can signal the operator and she, by plugging into jack No. 2, can talk to him, using the 12-volt battery for talking purposes.

Should the subscriber ring while battery is on the line, he operates the relay and the operator can, by plugging into jack No. 2, answer and connect him to the party desired, at the same time leaving battery on the line.

By following the line, and testing occasionally, the trouble can be easily found.

I cannot too highly recommend to the small exchange the use of a moderate priced voltmeter. The one we use cost about \$17 and I feel sure that we have saved many times its cost in the four years we have had it.

When you can't hear your subscriber, it is the most natural thing to send out a man with a pair of batteries to put in the set. Nine times out of ten he puts them in, and if that does not help the trouble he throws the old ones away and then goes over the line looking for something else. With a voltmeter, a test shows the condition of the line, and if the voltmeter shows a high resistance, batteries will do no good.

I have used the set as outlined for the last four years, and during that time have made several changes. Would be glad to hear from anyone who may improve or have any trouble with it.

Our system is magneto, and before we used this we had a test set weighing eight or ten pounds.

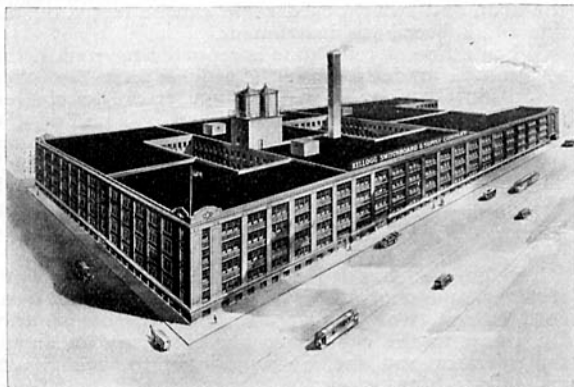
Salem, Mo.

Chas. B. Jeffries.

THE TOWN IS ALRIGHT! ARE YOU?

If you want to live in the kind of a town
Like the kind of a town you like,
You needn't slip your clothes in a grip
And start on a long, long hike.
You'll only find what you left behind,
For there's nothing that's really new.
It's a knock at yourself when you knock your town,
It isn't the town—it's YOU.

Real towns are not made by men afraid
Lest somebody else get ahead.
When everyone works and nobody shirks
You can raise a town from the dead.
And if, while you make your personal stake,
Your neighbor can make one, too,
Your town will be what you want to see;
It isn't the town—it's YOU.
—The Commonwealther.



The Kellogg plant—The foundation stone of Independent Telephony.

Kellogg made large Independent plants possible and this company is the backbone of the industry.

A Telephone Man on the Firing Line

Los Angeles, Cal., Nov. 11, 1916.

K. S. & S. Co., Chicago, Ill.

I am giving below an account of an event which happened along the border of Mexico during the present Mexican rebellion. As it deals with advertising; showing how quick some business men are to capitalize some important event.

A small band of insurrectos attacked the town of Naco, Arizona, by opening fire with an old cannon placed on a hill just across the border. The "shooting iron" had evidently seen better days. It was without sights, but a string stretched along the barrel answered the purpose. Shells were scarce so they used rocks, horse shoes and odd scraps of metal. It was sighted at the U. S. Government building, but the "shells" fell on and around the hotel, doing very little, if any, damage. The hotel proprietor took advantage of the situation, as he evidently saw the advertising value of the event, and within a couple of days had a large sign posted across from the depot which read:

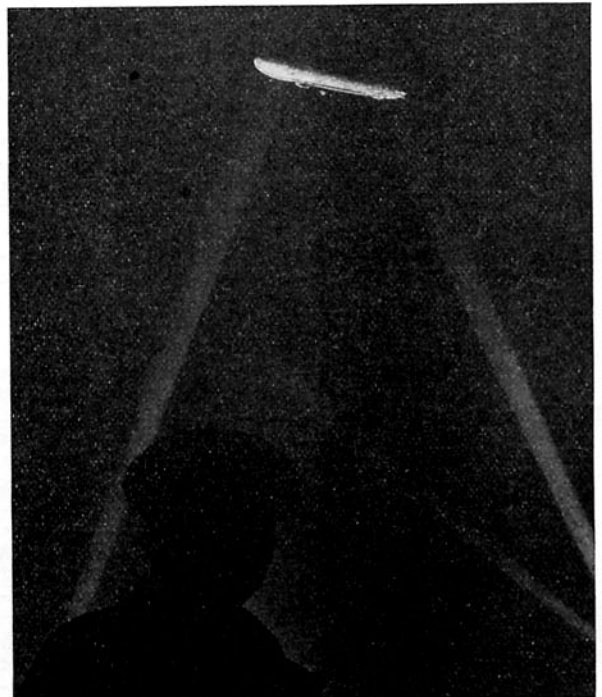
Hotel Naco.

Headquarters for Commercial Men.

BULLET PROOF ROOMS.

P. S.—I passed thru Naco on my trip thru Arizona territory a few weeks ago.

C. F. Fairly.

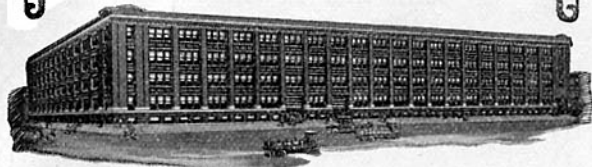


A remarkable reproduction of a rather common sight in some parts of the world. When we can ship telephones to you more promptly by this means, we'll be glad to see them here.

TELEPHONE FACTS

PUBLISHED BY

Kellogg Switchboard & Supply Company



J. B. Edwards, President and General Manager.
 L. D. Kellogg, Chairman Board of Directors.
 J. G. Kellogg, Vice-President.
 Seymour Guthrie, Secretary and Treasurer.
 A. J. Carter, General Sales Manager.
 H. D. Currier, Chief Engineer.
 A. H. Weiss, General Superintendent.
 E. A. Bohlman, Shop Superintendent.

Telephone Facts is published by the Kellogg Switchboard & Supply Company, to aid our customers in bettering service conditions and to emphasize the economy of the best apparatus.

Edw. I. Pratt, Managing Editor.
 O. F. Cassaday, Technical Editor.
 C. D. Boyd, Technical Editor.
 H. H. Ido, Traffic Engineer.
 H. N. Faris, Sales Manager, Kansas City Office.
 R. H. Coyne, Sales Manager San Francisco Office.
 Ben Woodbury, Columbus Office

KANSAS CITY, MO. CHICAGO SAN FRANCISCO, CALIF

Vol. 6

December, 1916

No. 11

We are very happy to publish in this number of Telephone Facts an application blank for membership in the United States Independent Telephone Association, together with a very able statement of reasons why such a membership is desirable for each and every Independent telephone organization.

The recent convention held in Chicago has offered the most convincing proof that the Association is cognizant of the requirements of the Independent field, and is going to help to secure them.

Like all other activities the Association needs support, both moral and financial, to enable it to meet the problems now before it. The more money available, the more effective can be made the work.

At the present time the Association is supported financially by a comparatively few people, and the directors spend a great deal of valuable time to further the interest of the business for which they receive no direct compensation.

The numerous activities require your support, and we urge you to furnish it willingly and enthusiastically.

Stop, Look and Read

The aggressive steps taken by the American Telephone & Telegraph Company towards eliminating competition are wonderful and varied, but the most dangerous to the entire Independent movement is the elimination of the manufacturer.

This striking at the source of supply can prove an extremely hard blow to the operating companies if they do not appreciate their danger and, speaking in military terms, defend their base. It would certainly be considered insane tactics for a general to accept ammunition from the enemy at a price less than his own forces can produce it and dismantle his own sources of supply. This is a condition into which the Bell organization is endeavoring to place the Independent operating companies.

As long as the Bell Telephone company believed that it could eliminate competition by direct assault, the Independent manufacturers were only attacked through patent litigation; when this, like Zeppelin raids, were found to be distressing but not vital, it was gradually given up.

The next step was brutal, submarine-like aggression in the form of trying to secretly purchase the larger manufacturing companies. When, however, the activity of the late Milo G. Kellogg in the litigation over the ownership of the Kellogg stock forced the issue and brought the matter into the limelight, this method of attack was dropped.

After the failure of its first attempts to eliminate competition, the attack settled down to a state comparable to trench warfare. The Western Electric Company entered the field and sought the business of the Independent operator. Prices were slaughtered, indirect and subtle influences from unexpected sources were brought to bear on prospects large or small. A sale to an Independent company was a triumph. For years the Western Electric Company lost money in its campaign to secure the Independent trade. The manufacturers who refused to stampede and meet cut-throat competition are in business today; the others are not.

Hunt up an old trade journal of ten years ago and count the advertisements of the manufacturers and then count those in a current issue of Telephony. You may smile as you recollect some of the apparatus turned out by those extinct organizations, but each and every one had possibilities of developing new and useful apparatus. You have left at your service those that sat tight and obtained a fair price for their product.

Today the Western Electric Company, in spite of the fact that the associated companies are in need of apparatus, is making every sacrifice to fill orders from the competitive field. If the Independent manufacturer can be eliminated, the Independent operator must surrender.

The manufacturers in business today have backed up the operating companies, supported the associations, national and state, and offer you the best apparatus in the world at honest prices. They have shown you that they will stick to their machines under fire and furnish you your supplies as long as the Independent shield swings on its bracket.

Convention Side Lights

Mr. Hurtz's paper on Transmission Line Interference was, we believe, the most comprehensive treatment of that phase of telephone operation which has yet been presented and showed distinctly that it represented a vast amount of thought and research.

A point worthy of the notice of State Association officials was Mr. Hurtz's description of the Nebraska law which compels all transmission companies to present their plans and routes to the Railway Commission, who then notify the telephone companies to be affected and allow them to present their views previous to the construction of the line.

Mr. Hurtz's paper caused a lively discussion participated in by Mr. C. C. Deering of Des Moines, Mr. Cadby of the Wisconsin State Railway Commission, Mr. W. H. Hay of Pittsburgh, and Mr. Hirsch of Ohio.

Nothing could have fitted better than Mr. H. L. Beyer's splendid paper on The Legal Phases of Transmission Line Interference coming as it did immediately after the thorough presentation and discussion of the interference proposition as a menace to small companies and his vast assortment of court decisions covered almost every point that had been brought out.

The attendance Wednesday was probably four times the number present Tuesday, and Thursday was a record-breaker.

Heretofore practically unknown to telephone operators, the work and efforts of the National Bureau of Standards in establishing a National Electrical Code covering all classes of electrical work, was revealed as a mighty undertaking and to them is due more credit than we can at once realize. Mr. Canada of the Bureau described most graphically the history and compilation of this work and shows profound knowledge of the subject.

The following directors were elected:

THREE-YEAR TERM—A. F. Adams, Kansas City, Mo.; F. L. Beam, Mt. Vernon, Ohio; J. B. Earle, Waco, Texas; E. B. Fisher, Grand Rapids, Mich.; G. R. Fuller, Rochester, N. Y.; W. F. Goodrich, La Crosse, Wis.; S. G. McMeen, Columbus, Ohio; C. Y. McVey, Cleveland, Ohio; H. Linton Reber, St. Louis, Mo.; G. W. Robinson, St. Paul, Minn.; E. D. Schade, Johnstown, Pa.

TWO-YEAR TERM—W. H. Bryant, Mobile, Ala.; P. C. Burns, Chicago, Ill.; J. C. Casler, Dallas, Texas; H. D. Critchfield, Chicago, Ill.; J. B. Edwards, Chicago, Ill.; H. L. Gary, Kansas City, Mo.; S. M. Heller, Louisville, Ky.; W. Roy McCanne, Rochester, N. Y.; C. E. Tarte, Grand Rapids, Mich.; Hart F. Farwell, Terre Haute, Ind.

ONE-YEAR TERM—Terry W. Allen, Jackson, Tenn.; H. L. Beyer, Grinnell, Ia.; E. D. Glandon, Pittsfield, Ill.; F. B. MacKinnon, Washington, D. C.; D. S. Parker, Panama, Cal.; Albert Parlett, Bristol, Tenn.-Va.; W. J. Uhl, Logansport, Ind.; W. S. Vivian, Chicago, Ill.; F. H. Woods, Lincoln, Neb.; W. H. Trinn, Ft. Dodge, Iowa.

Our Own Feature Serial

Reel 1—

A score and fifteen years ago the telephone was born, and in swaddling clothes, cast upon the world.

Reel 2—

Bold feudal lords, looking for easy coin, put the child to work—at a price.

Reel 3—

That night.
Enter the Independent manufacturer.

Reel 4—

The gathering of the clans—the Independent telephone men.

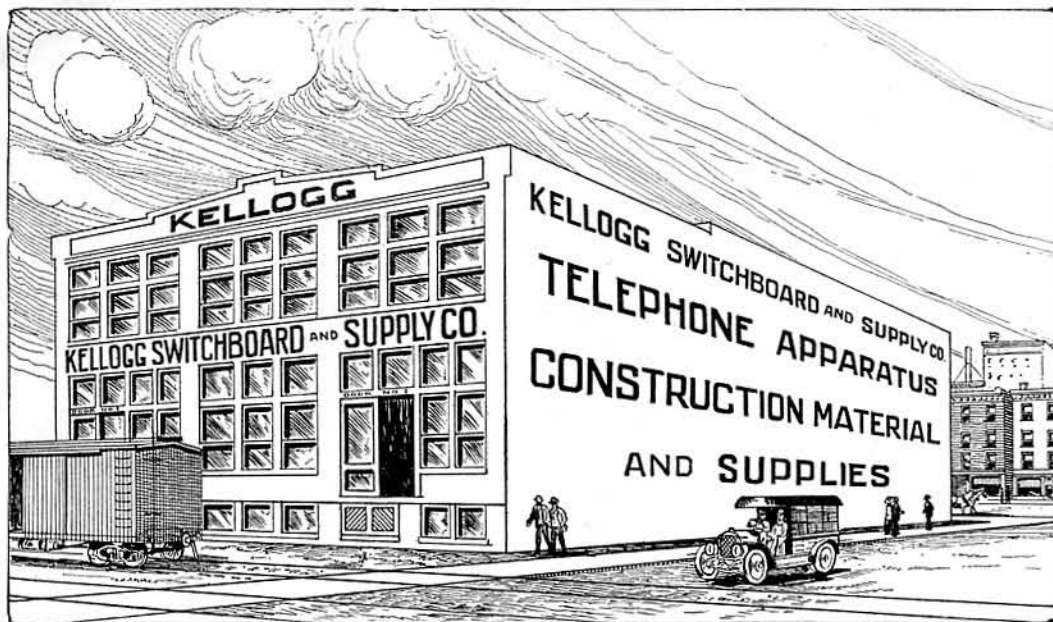
Reel 5—

The rescue.
The telephone given a fair chance at a living wage pleases the people, who clamor for its service.

Reel 6—

At last the Independent telephone, a mighty force for better service, and growing in strength by every meeting of this Indep. Tel. Association.

Tenth Anniversary of Kansas City Branch

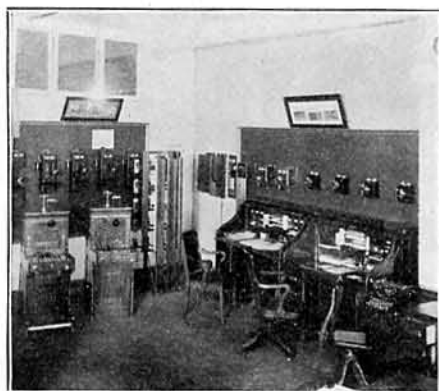


Our Kansas City Branch Office, Where Large Stocks of Telephone Exchange Equipment and Telephone Construction Material Are Kept Constantly Ready for Prompt Shipping. Kellogg Sales Service is Unequaled.

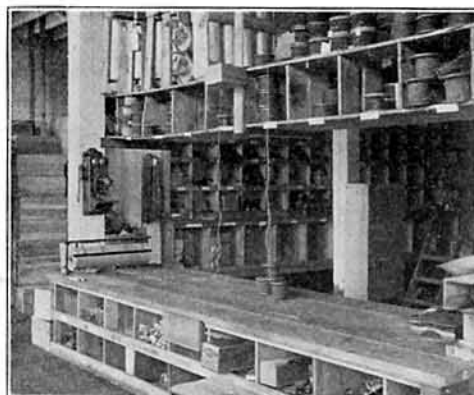
October 1st, 1916, the Kellogg Kansas Branch entered into its eleventh year, and while thanking the Telephone Companies of the "Great Southwest" for the patronage which has enabled this

some information as to what the Kellogg Company really has and does at this point.

This Branch occupies a 2-story and basement brick building, with 10,000 square feet of floor space,



Display Room



One Corner of Stock Room

branch to build up such a handsome business, it occurs to us that hundreds of our friends and patrons in that territory who have not had an opportunity to visit the Kansas City Branch might appreciate

built for its especial needs in 1911 from plans prepared by Mr. Faris. It is the only Telephone and Supply house in Kansas City situated on track which saves the teaming of approximately 60 car-

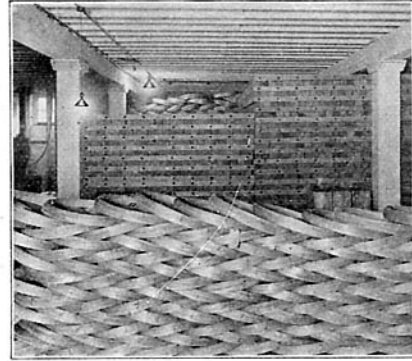
TELEPHONE FACTS

loads of inbound freight each year. Outbound freight is teamed direct to the several freight depots for the saving in time of delivery that can be so effected. Practically all of this outbound hauling expense could be avoided by holding orders a couple of days, as any of the roads will send a car without expense for competitive local shipments totaling three tons, but more than 90 per cent of all orders received at Kansas City actually go out the same day, which is their idea of service.

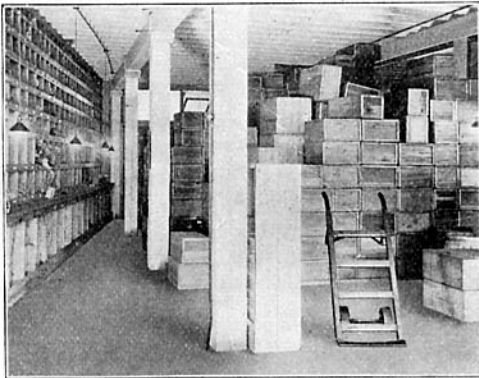
On coming into the Kellogg Kansas City Branch one finds an institution in which there is efficiency everywhere. Exclusively wholesale and containing everything likely to be needed by the most progressive company, are fundamentals making such efficiency possible.

The personnel of the Branch is as follows: Harry N. Faris, Sales Manager, with K. S. & S. Co. 15 years; J. E. Wilkins, Order Clerk, with K. S. & S. Co., 14 years; Ralph Feasel, Shipping Clerk, in present position 7 years; Miss Essie Stucker, Rec-

bankers in Kansas City advises this record for efficiency and low expense is without a parallel and his only regret is that concerns operated and managed in this efficient fashion are not borrowers. In these days of short hours and high costs as compared with the individual's production of a



Wire and Cross Arm Stock



Boxed Telephones Ready for Shipment

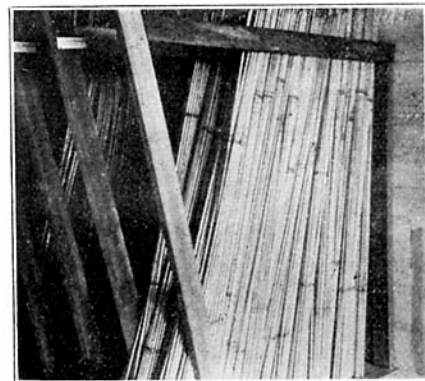
decade ago—especially as regards factory branches—it is indeed refreshing to run across an institution conducted along the most efficient lines and showing the results which the Kansas City Branch has produced.

Ministering to the needs of telephone companies only, and representing a factory which has no entangling alliances with large operating companies but is free to give customers the highest class apparatus and service, this branch certainly deserves the

ord Clerk, in present position 5 years; Miss J. Moran and Miss E. Riddle, Stenographers; "Si" Alport, Assistant Shipping Clerk, and James Johnson (better known as "Shine"), Janitor and Porter.

Traveling Salesmen, who need no introduction to the telephone people of their respective territories, are as follows: Herbert J. Clark, Hutchinson, Kans., Western Oklahoma, Western Kansas and New Mexico. H. A. White, Kansas City, Mo., Eastern Kansas and Northwest Missouri. L. R. Foote, Kansas City, Mo., Nebraska and the Northwest. John A. Stratton, Dallas, Texas.

Everybody works here, including "The Boss," and while no golf records have been piled up, this Branch has a record of several years' standing. Considering the 9,000 to 12,000 shipments handled each year, one of the oldest and most practical



Ground Rod Stock.

patronage of all Independent Companies in the Southwest and those who have not heretofore taken advantage of the service afforded by Kellogg at Kansas City will find it greatly to their advantage to become better acquainted.

TELEPHONE FACTS

A Successful Telephone Company

The Clarke County Mutual Telephone Company, of Osceola, Iowa, was organized by the citizens of Clarke County, and after considerable opposition on the part of the Iowa (Bell) Telephone Co., who had and now have an exchange in Osceola, opened up for business on May 14, 1914, equipped with a modern Kellogg 3-position Common Battery switchboard.

The outside construction was built by Mr. E. W. Touet (pronounced as if spelled "Tway") one of the board of directors. Mr. Touet put in 3,200 feet of under-ground cable, and where he crossed under brick paved streets, he bored under without taking up the paving, not only making a saving in cost, but pleased the citizens of Osceola.

The Clarke county Mutual Telephone Company at the present time have four hundred and eighty subscribers in Osceola (a town of 2,500), and have six hundred farm telephones connected to their switchboard, making a total of one thousand and eighty subscribers.

They are also operating an exchange at the town of Jamison, Iowa, using a Kellogg Switchboard & Supply Co.'s No. 100 magneto switchboard.

This company was successful from the time it opened up and furnished service, and this was due to the fact, that the officers and the board of directors worked as if one man.

Below find list of officers and directors of the Clarke County Mutual Telephone Company:

- President, D. M. Gibson.
- Vice-President, C. B. Eggleston.
- Secretary and Manager, O. R. Shaw.
- Treasurer, C. H. McKeever.
- Wire Chief, E. S. Allen.
- Directors: C. B. Eggleston, E. W. Touet, C. T. Ayres, C. H. Simpson, F. J. Emery, J. H. Piper, C. C. Henderson, A. F. Williams, H. K. Fortney, Earl Paul, J. J. Shaffer.

Clarke County Mutual Telephone Company's slogan: "STRICTLY A HOME INSTITUTION."

The Increased Cost of Supplies

Of vital importance to telephone operating companies is the increased cost of supplies.

The waste of supplies is a habit that grows unnoticed, for an insulator, a crossarm brace or a dry battery does not always appear to the telephone employe as a money value which is greater at this time than in the history of the telephone business. When materials and supplies were less costly than they are today the line foreman and perhaps the manager were liable to overlook small wastes that mean so much today. By the proper use of supplies large sums can be saved both by avoidance of wastes and the accumulation of excess supplies. A percentage of increase of the present cost as compared with the cost of a year ago brings us to realize that all materials should be handled carefully and a copy of this percentage posted where employes who handle the various supplies cannot fail to notice them and will open their eyes to the value of economy.

Percentage of increase of present cost as compared with that of one year ago:

Arms	25	Paraffine	25
Blocks	25	Pins	50

Batteries, dry	58	Solder	30
Bolts	40	Shovels	25
Brooms	25	Rope	50
Braces	50	Staples, Poles	50
Chairs	10	Ties,	
Clamps, Guys	40	Iron	30
Cheese Cloth	12½	Copper	40
Coppers	30	Vitriol	100
Cord & Twine	40	Waste	50
Hatchets	15	Wires,	
Insulators	5	Iron	90
Instrument	25	Copper	100
Keys	30	Insulated	25
Locks, Cable	10	Weather	
Marline	60	Proof	20
Nails	55	Strand	40
		Zincs	100

Election Service Liked

The Saginaw Valley Telephone Company, under the direction of Mr. W. B. Serviss, General Manager, on election night, Tuesday, November 7th, gave reports of the election in bulletin form to some twenty-five (25) towns where the Saginaw Valley Company operate, using Kellogg equipment.

This service was appreciated very much by the subscribers and the public who congregated in the City Hall of the respective towns to where the reports were sent. The bulletins were given every five or ten minutes by the Postal Telegraph Company to the Saginaw Valley Company and they were then repeated to the various towns until about 2:30 in the morning.

C. D. Boyd.

Edgar Judson Mock, editor of Telephone Engineer, died at his home, 9345 Pleasant Avenue, city, Sunday morning. Mr. Mock will be remembered to many of the old time telephone men as the pioneer in Independent Telephone Journalism. The Independent industry as a whole owe to Mr. Mock a great deal for his persistent effort in keeping the Independent cause before the public. Mr. Mock has been identified with every Independent Telephone publication that has ever been produced, with the exception of the local state publications. In 1909 he took the initial steps to start what is known as "Telephone Engineer," which was the first paper to publish technical details of international importance. It was also under Mr. Mock's direction that Mr. D. S. Hulfish wrote the volume known as "How to Read Telephone Circuit Diagrams," which has been of material assistance to many telephone men.

The Kellogg organization extends to Mr. Mock's family their sincere sympathy.

Classified Advertising

**Situations Wanted, Miscellaneous Help
Wanted, Business Chances**

Address replies to Chicago office

This classified column is especially for the use of telephone men, and we want you to use it. Write and let us know if you are looking for a position, if you have an exchange for sale, or want to buy one, or possibly, you have some equipment you would like to sell. This service is free of charge. We will run the advertisement two months, unless ordered out before that time. All advertisements will be lettered and replies forwarded promptly. In answering several advertisements, kindly send a separate letter for each, being sure to give the number of the advertisement, so there will be no delay in forwarding the replies to the advertisers.

Telephone Manager in Michigan wants position with a large company having extensive properties that use Kellogg equipment. Have a thorough and general knowledge of equipment and the management of plants along commercial lines. Can furnish A-No. 1 references. Address P-98. K. S. & S. Co.

WANTED POSITION—As manager and repair man on magneto telephone exchange from 300 to 1,000 subscribers; 7 years' experience; married, sober and industrious. Can offer the best of references. Address P-99. K. S. & S. Co.

POSITION WANTED—As manager or superintendent of telephone company by practical man with six years' experience as manager of Independent company. References. Address P-100. K. S. & S. Co.

WANTED POSITION—A good telephone man with general experience of four years in all branches. A good mechanic. Will go anywhere. Common or local battery. Write full particulars in first letter and state wages. Address P-101. K. S. & S. Co.

WANTED—A position as manager, plant chief or wire chief. Would buy an interest in the right kind of property. Thoroughly understand all branches of the telephone business. Best of references furnished. Address P-102. K. S. & S. Co.

WANTED—Position as wire chief or manager; 11 years' experience on common battery and magneto exchange installation and maintenance, line work, etc. Four years with present company. Married man of 32 years. Would prefer Montana, Idaho or Washington. Address P-103. K. S. & S. Co.

WANTED—First-class men in common battery exchanges of 5,000 telephones; a first-class wire chief; a first-class man at installing and maintaining apparatus and equipment; an experienced man for Commercial Department; a competent Plant Department clerk, and also a combination trouble man. Applicants should state age, experience, whether married or single, also the last or present position and wages received. Address P-104. K. S. & S. Co.

FOR SALE—Telephone exchange in West Virginia of about 350 subscribers. A good paying proposition. Reason for selling, haven't time to devote to the business. Address B-67. K. S. & S. Co.

FOR SALE—Telephone Magneto Plant in Alabama; 125 stations located in new town of 1,500 people. Rates \$1.50 and \$3.00; 97 miles of toll line. Will pay 50 per cent on the investment. Reason for selling, owner must change location on account of other business January 1st. Made 30 per cent increase in stations within the past twelve months. Address B-63. K. S. & S. Co.

FOR SALE—Exchange of 220 phones in Kansas. A man that has the backing to build it up could raise that to three or four hundred subscribers. Price is \$4,250 net and there is a mortgage of \$1,500. Would be willing to trade for house or land if location is suitable. Address B-64. K. S. & S. Co.

POSITION WANTED—By married man, 29 years of age, with three years' experience in construction work and five years' experience in clearing trouble on magneto switchboards and telephones. Would like to locate in some town in southern Illinois or Indiana. Address P-105. K. S. & S. Co.

WANTED—Position as manager and trouble man on small magneto exchange. Am married, 32 years of age, and not afraid of work. Address P-106. K. S. & S. Co.

TELEPHONE COMPANY FOR SALE—In a fast growing town in Florida, twenty miles from Jacksonville. Will sacrifice at a bargain for cash. Address B-65. K. S. & S. Co.

WANTED—Steady position by married man; 11 years' experience with Western Union Telegraph Co. and American Telephone & Telegraph Co. Have had switchboard experience; can handle men on rebuilding or repair work. Would like management and the repairing end of small telephone exchange. Can furnish references. Address P-107. K. S. & S. Co.

POSITION WANTED—As outside repair man and installer in private exchange. Have had 8 years' experience and can furnish A-1 references. Address P-108. K. S. & S. Co.

FOR SALE—Telephone exchange in the northern part of good old Iowa, in a thriving town of about 450. A dandy magneto plant; 25 miles of metallic toll lines. Income close to \$6,000 per year. Good reason for selling. Address B-66. K. S. & S. Co.

SITUATION WANTED—As local manager, "bug hunter," installer, etc. Can handle any work of this kind that comes up on an exchange of 600 stations or smaller. Prefer Iowa, Missouri or Illinois. Have had 15 years' experience, am 39 years of age, and married. Address P-109. K. S. & S. Co.

A-No. 1 telephone man, ten years' experience on magneto exchange, would like position managing some small exchange from three to five hundred. Am married and strictly sober. Can give any references required. Address P-110. K. S. & S. Co.

FOR SALE—Three Magneto Telephone Exchanges in the Ozarks of Missouri. Will be sold separate or together to a practical man on a small cash payment of good faith and remainder to be paid monthly and 7 per cent interest out of earnings. Address B-68. K. S. & S. Co.

WANTED—A position as manager or superintendent of some live telephone company. Have had twenty years' experience in the telephone business. Am thoroughly familiar with all branches of the telephone game. Am married and have no bad habits. Can furnish best of references. Prefer Independent company. Address P-111. K. S. & S. Co.

WANTED POSITION—As manager or wire chief with some up-to-date telephone company in Illinois or central west; 15 years' experience. Married, sober and industrious. Can offer the best of references. Address P-112. K. S. & S. Co.

POSITION WANTED—As wire chief or lineman; 23 years of age. Five years' experience. Prefer to locate in the southern states with some live company. Kellogg board preferred. Address P-113. K. S. & S. Co.

POSITION WANTED—By thoroughly competent telephone man; 12 years' practical experience in all lines of common battery and magneto exchanges. Capable of management, superintendent or wire chief. No boozier. Address P-114. K. S. & S. Co.

WANTED—Permanent position as manager or wire chief of an exchange from 500 to 2,000 phones, common battery preferred. Can do all kinds of testing, cable splicing, switchboard work, handle any kind of trouble or construction. Best of references furnished if desired. Address P-115. K. S. & S. Co.

Capable and well qualified telephone man, Electrical Engineer with eighteen years' experience in operating, construction and maintenance on large properties, located at present as general manager, for adequate reasons contemplates a change. Position as general manager or general superintendent with progressive company will be considered. Correspondence with company desiring services of a high-class telephone man is invited. Address P-116. K. S. & S. Co.

WANTED POSITION—As trouble and repair man in magneto exchange. Have had seven years' experience in construction and maintenance. Prefer a place with Kellogg equipment. Address P-117. K. S. & S. Co.

WANTED TO SELL—Exchange in Wilsall, Montana, a rapid-growing town of Shields river valley; 150 subscribers, good rates. Toll connection with Bell Telephone Company. Good opportunity for extensive growth. Also 7-room house with 4 lots within 3 blocks of the bank. Price, \$8,500.00 Address B-69. K. S. & S. Co.

WANTED—Position as manager and troubleman for independent Magneto Exchange. Northern Iowa or southern Minnesota preferred; 8 years' experience. References exchanged. Address P-118. K. S. & S. Co.

Young man of twenty-two, with two years' experience with telephone and electrical work, desires steady employment with some good telephone company. Can leave January first. Very best references. Address P-119. K. S. & S. Co.

WANTED TO BUY—Telephone plant of from 400 to 600 telephones in middle west. Give price, rates, income from rentals and description of territory. Address Box No. 172, Keosauqua, Iowa.

WANTED—Position as manager by practical telephone man. Will also buy interest in plant. Have been successful in the operation of plants, up-to-date method of bookkeeping, operation of branch exchanges. Address P-120. K. S. & S. Co.

WANTED POSITION—As manager. First class, thoroughly reliable, experienced, practical telephone man. Has splendid record of 13 years in the business. Young, married. Address P-121. K. S. & S. Co.

"To Make the Best Telephone Equipment"
Some Department Head Conferences and Departments



A. J. Carter, General Sales Manager; R. I. Utter, "Duke" Cassaday, Sales Engineers; W. O. Collins, Sales Office; W. J. Unfried, Chief Clerk.



Supply Department: W. R. Brewer, Manager.



Seymour Guthrie, Secretary and Treasurer; C. M. Reynolds, Auditor; H. P. Parker, Accountant; W. J. Unfried, Chief Clerk.



Export Department: Stanley A. Duvall, Manager; D. J. Gillespie, Assistant.

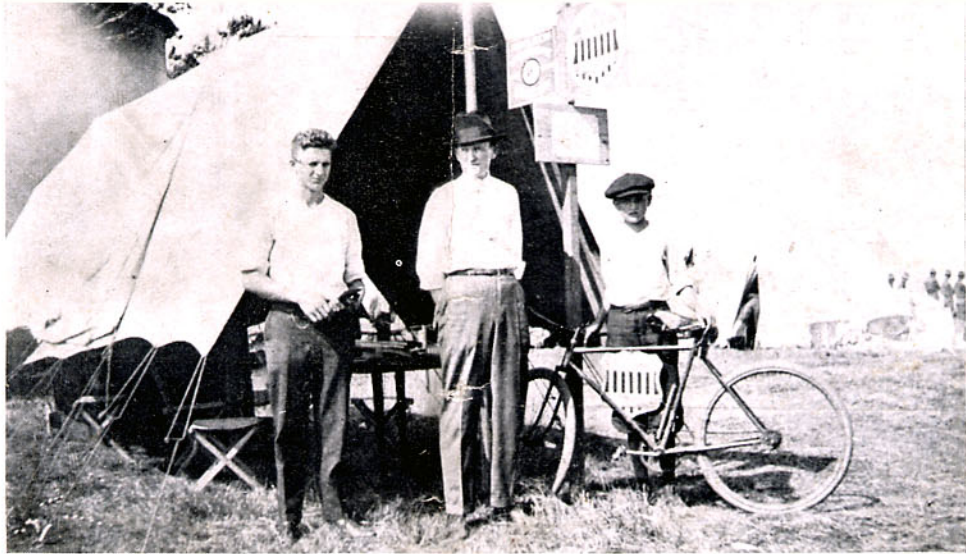


A. H. Weiss, General Superintendent; E. A. Bohlman, Shop Superintendent; John Geiger, Purchasing Agent; A. M. Knudsen, Manager Production Department.



H. D. Currier, Chief Engineer; H. P. Schmidt, George Wolf, George Fisher, of Engineering Department; Charles Cooley, Order Department; Miss Esther Stark.

Kellogg at the Front



TELEPHONE HEADQUARTERS AT CAMP CLARK

H. A. White, care Kellogg S. & S. Co.,
Kansas City, Mo.

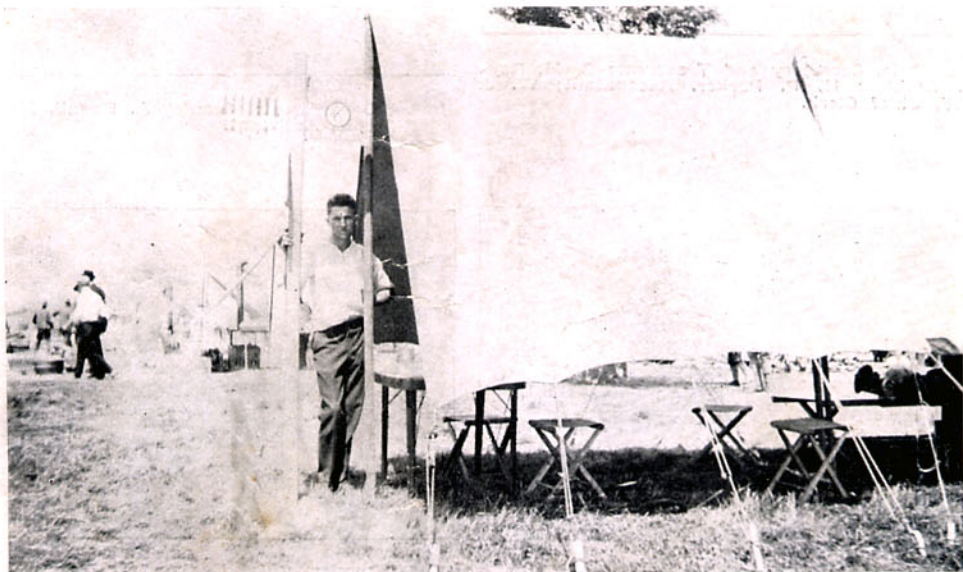
My Dear Jack:—I just came across these snap shots taken at Camp Clark, Missouri, National Guard, Mobilization Camp, Nevada, Mo.

The point I thought would be of interest to you was that all equipment on the camp was Kellogg.

The instruments used by us and the P. B. X. switch-board were in the Commissary Building.

The business, as you know, was extremely heavy and we gave excellent service and it became very popular with officers and privates.

Sincerely,
Shields Smith.



ALL TELEPHONE EQUIPMENT IN THIS BIG CAMP—KELLOGG