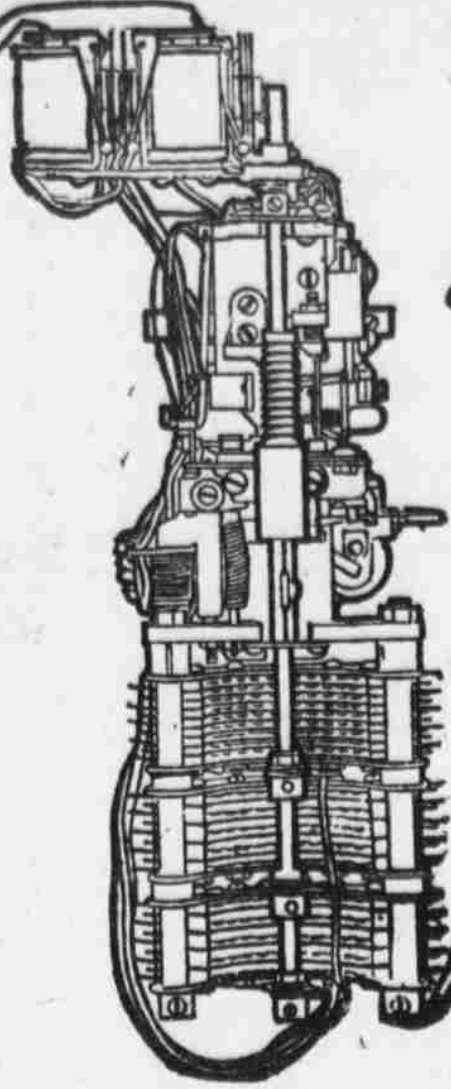


Secret Service



Story Showing How the Automatic Telephone Serves Its Users With Fidelity and Without Annoyance, Securing Accuracy and Secrecy at All Times and Insuring That Only the Person Wanted Will be Called When the Connection is Made by the Machine That Never Makes Mistakes, Never Listens and Never Talks Back—An Interesting Article on the Advantages of a Modern Electric Appliance—Work in Omaha

"HELLO, central, give me Omaha 2-3-7-8. No, that's not the number; 2-3-7-8, Omaha." (Interval.) "Central, will you please give me Omaha 2-3-7-8." (Another interval.) "Give me complaint, please." (Another interval, followed by a lengthy explanation to the clerk.)

We all know what it means—we have had the experience. And it is a relief to many to know that the time is rapidly drawing near when we can discard the "hello" system for the quiet, rapid automatic, which will tell us promptly whether we can talk with our party or whether the line is busy.

There will be no central operator—no waiting for numbers and no misunderstandings. It will be purely a "Yes" or "No" proposition.

In a back room on the second floor of the Conservative building is a small mechanical instrument occupying a space no larger than that of the ordinary wall telephone which we are told will solve the problem. It is a single switchboard of the new automatic telephone company. The history and progress of the telephone is interesting. Some of us can remember when we used to experiment with a long piece of cord attached to a tin can over the end of which was drawn tightly a piece of heavy paper. Only fifteen years ago the basic patent of the telephone expired. Up to that time the Bell Telephone company had enjoyed a complete monopoly. Fifteen years ago the Independent telephone entered the field. For the first two or three years the Bell company merely laughed at its weak competitors. Soon the country began to awake to the fact that the newcomer was furnishing lower rates, better service, and giving, above all things, a square deal to its customers. Then the Independent telephone business began to increase, until today it shows the greatest development, in ratio to its years, of any industry in this country and the percentage of failures in the past fifteen years has been less than those of the First National bank, the exact figures being one-thirteenth of 1 per cent.

At first only small towns adopted the Independent system; they were so universally successful, however, that the investors soon started after the large cities and today, with the exception of four or five of the largest cities, the Independent Telephone companies are firmly established all through the United States. At the present time Independent telephones have, in round numbers, over a million more telephone users in America than the Bell Telephone company.

Omaha was one of the last of the large cities to fall in line. In the state of Nebraska it is estimated that there are 102,000 Independent telephones to 44,000 Bell telephones. In Iowa there are 183,000 Independent to 37,000 of the Bell. This great majority were clamoring for Omaha connection. The business men of Omaha knew that thousands of dollars' worth of business was being di-

verted to competitive cities simply because they could not reach Omaha over the Independent lines. It was finally decided to put the matter to vote. On November 6, 1906, the people of Omaha spoke in no uncertain tones in favor of the Independent plant, the vote standing 7,814 for and 3,505 against the Independent.

There were many reasons for this overwhelming vote in favor of the new company. The question of high rates and poor service was one of them. The people of Omaha were anxious to get away from the party line system and this could be accomplished through the automatic telephone.

After the franchise was granted to the local people, they entered into a contract with the Union Telephone Construction company to install and finance the system. The Union Telephone Construction company is the largest and strongest construction company in America and there was no delay in starting work. April 24th saw the gangs in the ditches and now, two months and nine days after, eighty-one miles of underground conduit has been laid; 240 maholes completed; 2,016 poles set in the alleys and gayety. The main exchange building at Twentieth and Harney streets, which is the finest two-story building in the city and absolutely fireproof, is ready for the roof. The first sub-exchange on Twenty-fourth and Cuming streets is up to the second story. Both of these buildings will be ready for the switchboards September 15th.

The company's warehouse and yards are stored full of cables and wires and other necessary fixtures, which are being rapidly installed. The installing of the switchboards will start September 15th and the contract calls that they be completed November 15th, and the company will start giving service in December.

The plant will open with 6,000 subscribers, but will be equipped for 30,000. Every piece of material that is going into this system is the best that money can buy and the company is placing a large percentage of its plant underground. The franchise only demands that the wires be placed underground in the district bounded by Ninth, Jackson, Davenport and Eighteenth streets, but the company desired to help beautify the city and to give the most perfect service and carried its underground trenches out to Twenty-fourth street and Ames avenue on the north; Dodge and Forty-second streets on the west; all the business district from Nicholas to Leavenworth streets, between the river and Twentieth street and to the southwest as far as Hanscom park, which is four times as much underground as any other company in the city and it makes the underground system of the Independent Telephone company the largest of any city in this country, the size of Omaha.

Among the many reasons for preferring to install an automatic rather than a manual plant, are: Its great popularity wherever operated, reasons for which are found in the quickness, reliability and secrecy of the service. The system, as it is being installed in its latest development in this city, is not nearly as complicated as one may be led to believe. Bearing in mind that an automatic plant, having a capacity of more than 9,999 lines and consisting of more than one exchange building, must have numbers containing four figures with a prefix denoting the exchange in which the number is located. The operation of calling any number, for instance, A2343, consists simply of pulling the dial around to A, letting it go back to its natural place, which operations immediately selects a vacant trunk line to the A exchange. It must be borne in mind that the letters merely designate the different trunk lines or exchanges. The main exchange A, will be located at Twentieth and Harney; B exchange will be located at Twenty-fourth and Cuming, and other exchanges will be installed as the service requires. This method of

trunking is one of the finest points of the automatic equipment and is the point that appeals most strongly to the practical telephone man. Connections can be made as quickly with a subscriber in a different exchange, miles away, as with one whose line terminates in the same exchange. Pulling the dial to the figure 2 connects to the second thousand in that exchange. The figure 3 will connect with the third hundred in that thousand and the figure 4 and 3 connects to the forty-third subscriber in that hundred. This puts you in direct connection with the party you are trying to reach. If his line is busy you will receive the busy signal at once; if the line is not busy or if you do not receive the busy signal, you can ring your party direct by merely pushing the button on your instrument.

It does not require over four seconds to make the call. The movements of the dial operate four switches on the switchboard located in the exchange building. The switches all being in duplicate and all performing practically the same operation, complications are cut down to a minimum.

Replacing the receiver on the hook immediately restores the switches to their normal position and either party can take off their receiver and call any party desired. This is one of the big advantages of the automatic where it is desired to call a number of parties in a limited time. And by actual trial, has been found to beat the manual system by an average of three calls to one. Probably the greatest reason for preferring the automatic system from an investor's point of view is the small cost of putting additional equipment to an exchange already large. This operation consists merely in adding new switchboards without disturbing those already installed. While in the manual equipment the whole of the switchboard already installed must be gone over and terminals for each additional line installed in each section to enable each operator to reach any subscriber.

Also in new the sections terminals must be installed so that connections from the new lines installed may be made with the old ones. This causes a great deal of splicing of cables, causing trouble and annoyance on the switchboard during the time of installing.

The additional equipment for each line in a large exchange makes the cost per line very high and puts a prohibitive price on adding to a large exchange.

As the demand for operators by the manual system is always far in excess of the supply, particularly for evening duty, this feature has also given the automatic system great preference. As it is always on duty every hour in the day and every day in the year. The only operators required being those on the long distance switchboard. Here the number required is again cut in half, because the long distance operator is immediately secured by one movement of the calling dial. And the calling party is notified from the long distance board without the intervention of any other operator.

On the automatic dial there is one space devoted entirely to long distance calls. If you wish to talk with a party over the long distance line, all that is necessary is to pull the dial down to the place marked "Long Distance," which puts you in direct communication with the long distance operator, who is supplied with telephone directories which enable her to get your party direct. You are not disturbed at all until the proper party has been reached, when the operator calls your telephone.

All the familiar applications of the telephone to private branch exchanges, inter-communicating systems, etc., are handled by the automatic system at a lower cost on account of the greater celerity with which connections are made released, requiring fewer number of lines to be paid for by the year.

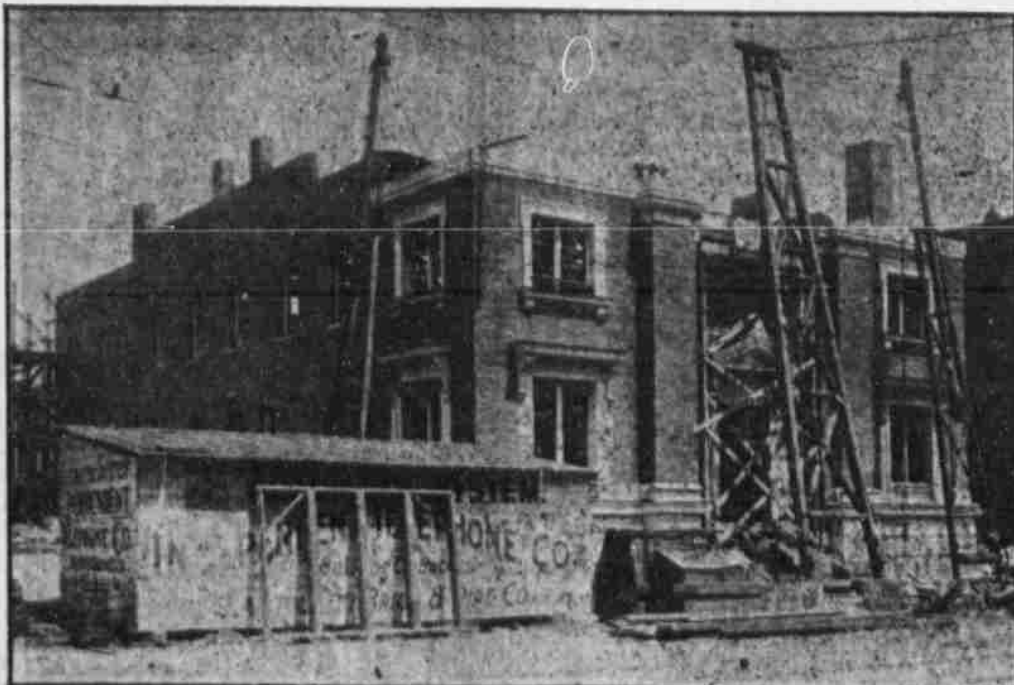
The automatic telephone is about the size of the ordinary day and is as far ahead of all other telephones as the present manual telephone is ahead of the old tin can and string. It is quick, secret, never gets mad or goes on strikes, is just as fast at midnight as at noon, and never lays off Sundays, Saturdays or any other day.

The automatic telephone is about the size of the ordinary telephone and the only additional equipment that the subscriber sees is the small dial on the face of the instrument. This dial has ten numbers on it, and when a subscriber desires to call up another subscriber, he pulls down the numbers desired on the dial, and his connection is made without the assistance of an operator. In case the telephone called is busy, the calling party is notified by what is commonly termed "the busy buzz," which is all done mechanically and can be relied upon to be absolutely accurate, as machinery never says the line is busy unless it is.

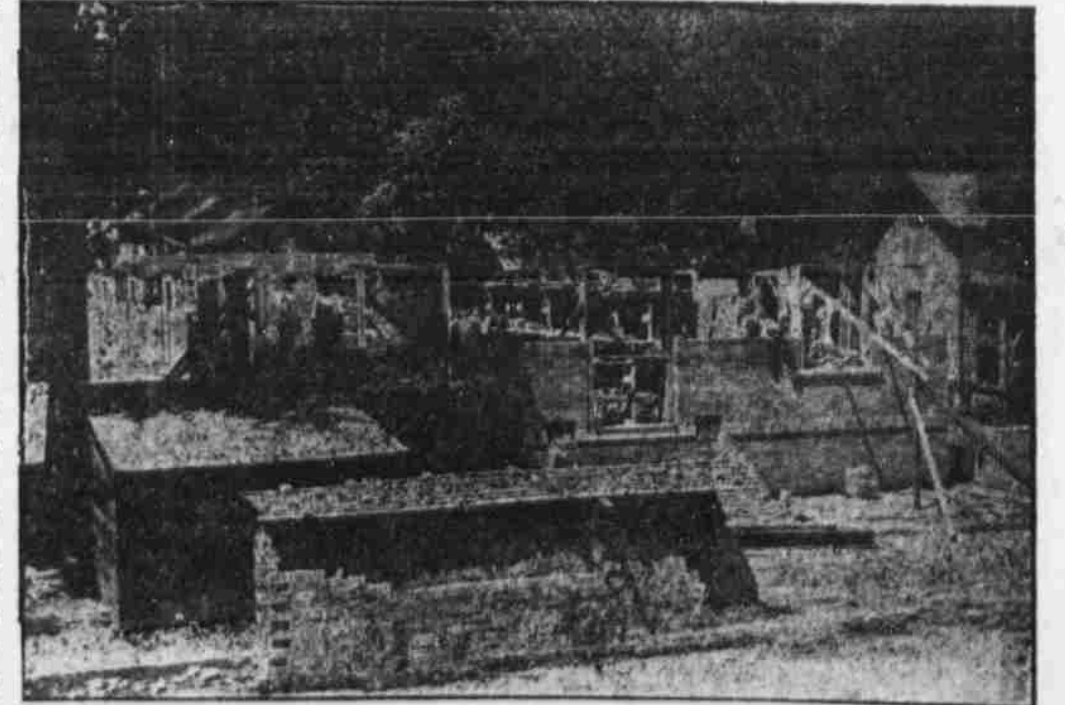
The soliciting department of the Independent Telephone company is meeting with wonderful success, and it is predicted by those in a position to know that Omaha will have at least 30,000 telephones within the next two years.

It is interesting to know just how the location for a telephone exchange is determined. This is really one of the most important problems which confront a new company. How important to secure the right location will be best understood when we state that it would cost the Independent Telephone company of Omaha \$18,000 for extra cables to have moved the main exchange one block in any direction from its present location. To secure the most central location, a list of present users of telephones was first secured. These locations are accurately located on a map; a line is drawn from north to south, so that half of the subscribers are located on each side; then another line is drawn from east to west, dividing the subscribers into four sections. The point where the two lines intersect is considered to be the exact point where the exchange ought to be located. The heavy expense of the telephone is in the cable; if the exchange is located in the exact center of distribution it will require less wire to reach the subscribers than from any other location. This method of locating the exchange may be slightly modified by the fact that the exact distance from each subscriber is measured, so that, before starting the plant, the exact number of feet of wire necessary to be used is accurately determined. This will explain why it is not always necessary, or advisable to locate a telephone exchange in the center of the business district.

The construction work of the Independent Telephone company of Omaha has exceeded all records. Omaha labor has been favored in every way possible, with the exception of a few experts, which it was necessary to bring in to oversee the work.



STATION "A", TWENTIETH AND HARNEY STREETS



STATION "B", TWENTY-FOURTH AND CUMING STREETS