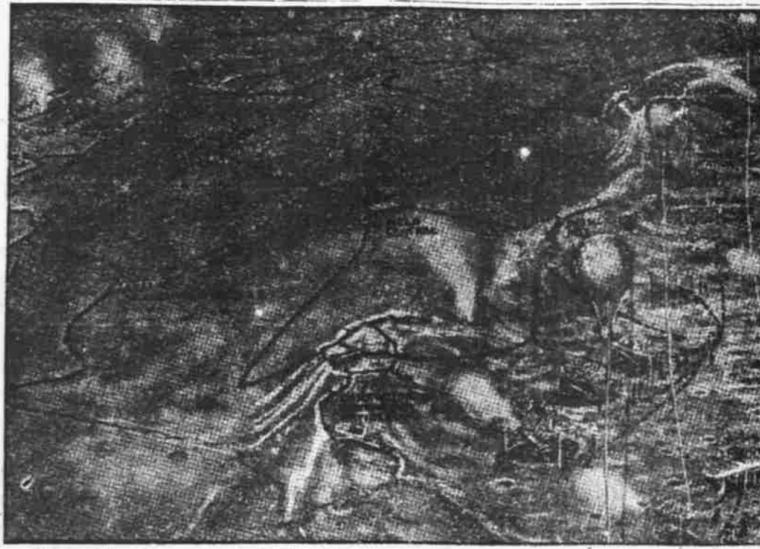


# Telephone and Telegraph Are Keenest Ears For Army in Modern Warfare

**DICTAGRAPHING  
FOE IN TRENCH  
MADE POSSIBLE  
BY TELEPHONES**



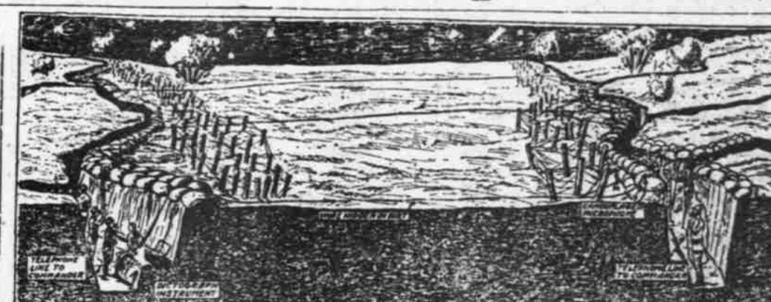
Birdseye view of a modern battlefield, with the various telegraph and telephone lines linking the advanced trenches with the artillery in the rear, also enabling the post commanders to communicate at once with any section of trench line for combined assaults. Note the large number of shell craters, reproduced from actual photograph.

War trenches are today offering a testing ground to more scientific inventions and discoveries than any other spot on earth, and like many another game, it has settled down to a game of wits where that side having the most brains and the most ingenuity is likely to win in the end. The principles of the telephone and telegraph have played almost as important a part in the present war as actual instruments of war. They have been applied on land and sea and in the air, and in the latter field of operations science is now at work on what are expected shortly to be startling improvements. One of the most effective uses yet found for the telephone has been in "dictagraphing" the Germans—detecting their trench movements and knowing in advance just what their plans were.

rather ticklish business, but is not impossible. The sensitive microphones must first be innocuous appearance. In other words, they could be made up as cob-

stones, pieces of log, or any other object that would not arouse the suspicion of the enemy. The next step would be to have them taken up to the very edge of the trench of the enemy.

Needless to say in doing so, it is necessary for the party who lays the microphones to clear the barbed wire entanglements. Although these wire entanglements are often provided with com-



...to the doings in the enemy's trenches by means of supersensitive microphones is a recent idea. It shows a new way how to get advance information, as, for instance, just when the enemy intends to attack or retreat, etc.

made from time to time. But not alone is information such as this of high import, but our commanders need very much more certain information, as for instance, when the men in the first trench line are to be relieved. In trench warfare the men, of course, cannot stay in the trenches all of the time, and they are usually relieved during the night time, which means more or less confusion, "choke" trenches, etc. If our attack can be timed at such a period, it is naturally more easy to win a trench than when the regular forces are in charge. The noise and the talk of the relieving party should usually be loud enough to give such information away over the sensitive microphone.

How the telephone and telegraph are used by the signal corps of the modern army is also discussed by the Electrical Experimenter. In no war in the past have the electric signaling systems covered so

many square miles or such a great diversity of requirements. The commanding general wants to know how a certain division is progressing; an artillery captain wants to ascertain just where his shells are dropping; these and a million other facts must be transmitted every hour of the day along the hundreds of miles of battle front. Often during a bombardment the wires are broken, and telephone engineers are forced to follow the lines closely, installing new stations at the first possible moment, so as to keep in touch with the rear and the center of command. If driven back, this corps has to pick up all material so that it will not fall into the hands of the enemy.

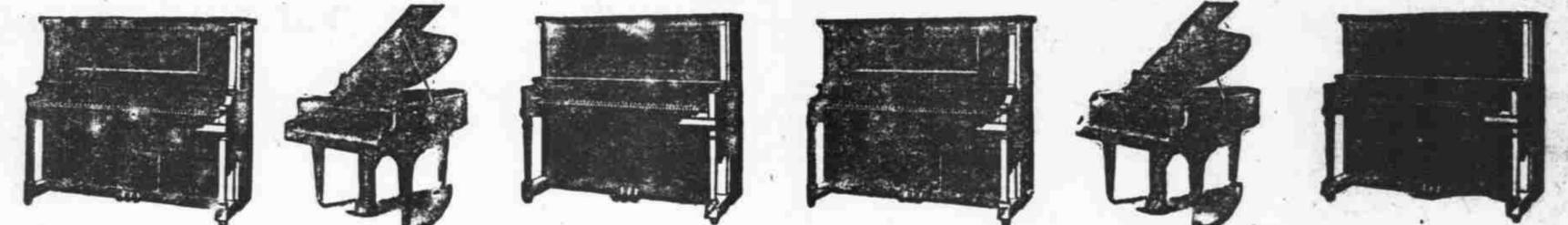
follow each other in obedience to orders from their leaders. These orders are long since decided upon, and in the midst of this tumult all is directed by a general plan. Meanwhile, further to the rear, the generalissimo, the general commanders, the chiefs of the army corps, of divisions and brigades, with detail maps spread out before them, follow the movements and give their orders. All of this has to be done along the wires of the telephone.

**Stationed in House!**  
The generalissimo is stationed in a house where many lines meet, so that he can be in constant communication with all the rear and the advance. Every chief of service in turn, as well as every commander of a unit, of one or more lines, is ready with a report, awaiting orders. The development of the telephonic communication between headquarters and all parts of the forces has been so perfected that it works without delay. Each army is connected with general headquarters by a line at the end of which an officer receives all useful information, making it possible for him to follow the least movement of his troops. Near this officer another insures his connection with the sides of the generalissimo, especially charged with conveying orders from the chief of the army. These orders are called "directives."

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