

New Uses for Electricity in the War

MICROPHONE NOW DETECTS MINE SAPPERS.

Electricity has been utilized to an unimaginable extent in the present titanic struggle across the ocean. In the interesting

building will be located about a half mile back from the shore on the site of the city water works.

The City Commissioners have leased the property to the Marconi company for 10

AGING WINE BY ELECTRICITY.

A method of "aging" raw wines and spirits by electricity has been perfected by Professor Charles Henry of the University of Paris (the Sorbonne), and it is already being successfully used in some of the Burgundy wine districts. The process is said to impart to liquors the same properties which they acquire by being kept for a number of years in cellars. The spirit or wine is placed in a special receptacle fitted with two tubes called "purgers," and the tubes are charged with high tension electricity at from 60,000 to 120,000 volts. The result is that all the bacteria, ferments and impurities collect in the tubes and are removed and all further fermentation is stopped. The process is very rapid, and the cost is less than two cents per hundred gallons. Similar experiments are now being made with beer and essential oils.



How French Mine Sappers Utilize the Microphone to Hear the Germans Counter-Mining by Sound Conduction Through the Earth.

illustration shown herewith we see one of the latest adaptations of this wonderful agent of man and involving the microphone. The microphone, the electrical instrument which will pick up a delicate sound and transmit it in the form of undulating electric currents over a circuit, has solved many an important problem in the past, and especially during the present war.

The two men at the right of the illustration are seen in the act of listening for German mine "sappers," and the men here shown are French. They, as you will note, are wearing shrapnel-proof metal helmets. A small box contains the batteries, etc., and the soldier leaning forward and listening so intently has in his hand a small but delicate watch case telephone receiver which is connected with the wires running along the wall to a supersensitive microphone placed in contact with the earth wall of this underground passageway. The French sappers are running a counter-mine out of the entrance of which one of the men is looking, as perceived at the right of the illustration.

It is indeed remarkable to what distances such sounds as those produced by pickaxes and shovels can be propagated through the soil. The sound conduction is also enhanced wherever rock or mineral formations are present to any extent in the earth. While the opposing sappers may explode their mine and blow up the French soldiers here observed resting so contentedly in the act of writing letters home, there is some consolation in knowing that they have a fair chance to climb out of the underground passage before the German mine has been driven far enough to do any damage, thanks to electricity.

TO BUILD NEW MARCONI TOWER AT CAPE MAY, N. J.

Sherman Sharp, a contractor of Cape May, N. J., has been awarded the contract to build the new building for the Marconi Wireless Telegraph Co. at Cape May. The

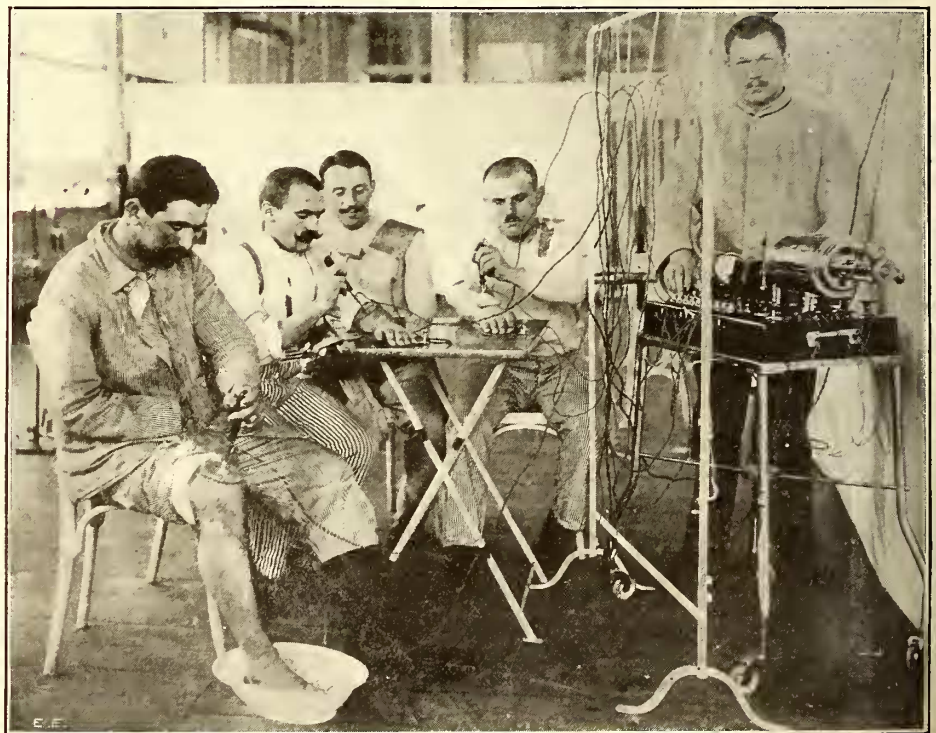
years, and the operation of erecting a tower 140 feet high will be started immediately.

HOW ELECTRICITY AIDS GERMAN SOLDIERS TO GET WELL.

The rigors of a hard winter in the trenches, besides the stiffness and other muscular complications resulting from bul-

with in modern warfare is the tremendous nervous strain under which the men labor during or even before the actual fighting, owing to the heavy cannon and gun fire, as well as that of the machine guns, etc., which results in nervous exhaustion, and indeed in some cases in complete collapse.

In this event the soldiers so affected are invariably sent to the rear or to the nearest field hospital, if properly equipped for treatment of this kind. In the illustration herewith a number of convalescent German soldiers are observed taking treatment from a specially designed electro-therapeutic machine, supplying current of a certain frequency and strength. The current produced by this particular machine may be so regulated, when desired by the operator in charge, that it will have the characteristics of the well-known Faradic current, used extensively in the treatment of rheumatism and like complaints. Again the current may be specially controlled and regulated to the proper frequency and wave form adapted especially for the treatment of nervous exhaustion previously mentioned,



German Soldiers Undergoing Electrical Treatment for Stiffened Muscles Nervousness and Other Ailments. Medem Photo Service

let and shell wounds, are bound to show up in the sturdiest soldier sooner or later. Another important factor to be reckoned

which ailment, by the way, has been more noticeable in the present war than in any previous conflict.