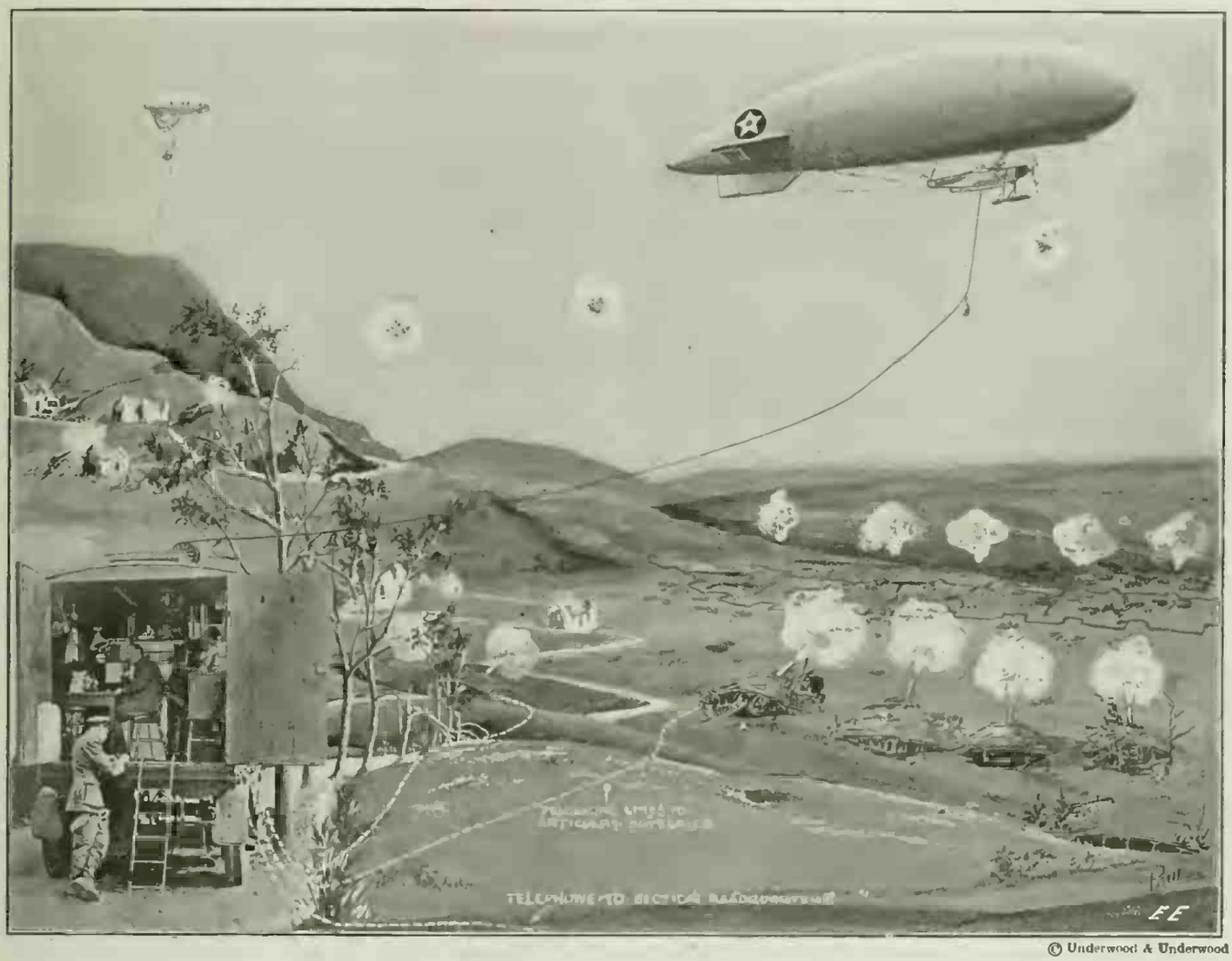
How "Blimps" and Telephone Aid Artillery

THE accompanying illustration shows a Telephone Exchange Lorry of the British Royal Air Force in communication with a dirigible balloon. Many of these balloons are used for observation purposes and the observer has to be ready for almost any emergency, as he is in constant danger of being attacked by enemy shell fire or aircraft. Should the observer be attacked he descends by means of a parachute. The observer is connected to this Lorry by telephone by which he can communicate with headquarters.

The balloons used for the purpose are of several types, some being of the simple gas-filled "blimp" variety, held by a steel cable from the upper end of which they swing about in the breeze, while others are of the dirigible gas-filled design here illustrated. The dirigible carries a gasoline engine power plant and propeller at the front of the nacelle or crew's basket, by which means it can move about in the air and maintain any desired position in a considerable wind. The dirigible balloon does not have to depend on an anchoring cable and winch to pull it down, but can ascend and descend by its own power, suitable rudders and planes being fitted to it for the purpose.

The majority of the balloons used for army observation purposes are plain blimps, anchored by a steel cable to a quick-acting drum or winch on the ground. It is interesting to note that these balloons are often filled with gas (hydrogen) made by electrolytic cells. The U. S. Army balloon school at Ft. Omaha, Neb., has one of the largest electrolytic gas generating plants existant. These generators have a series of large cells fitted with oppositely charged plates which are immersed in water. The passage of the electric current thru the water decomposes it into its constituents—hydrogen and oxygen gas (H_2O). The hydrogen gas is led off thru suitable passageways and pipes and fed into the balloons in their "beds." There are fifteen balloons now in use at Ft. Omaha.

This balloon instruction camp, one of the most efficient and best equipt, has recently installed besides the electrolytic gas generator, the first *silicon* plant in this country. In this new form of balloon gas plant hydrogen is made from caustic soda and ferro silicon. As many as twenty-two steel bottles, each with a capacity of 2,000 cubic feet, under compression of 200 pounds to the square inch, are filled in a single day. In actual war service on the battle-fields of Europe, powerful motor lorries, each loaded with several dozen of these gas bottles are dispatched to the various balloon depots as required. Sometimes the bottles of several trucks are all connected up to a common pipe leading to the balloon "beds."



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What Would the Artillery Officers Do Without the Scout 'Planes and "Blimps?" They Would Be Lost, for the Observers Who Fly About Midst Bursting Shrapnel Are the Men Who "Spot" and Telephone the Exact Ranges and "Shell Hits" to the Artillerists Below. A Dirigible "Blimp" Is Seen in the Foreground In the Act of Ascending. The Telephone Exchange Lorry Is One Belonging to the British Royal Air Force. The U. S. Army Is Training Many Students for Balloon and "Blimp" Observation Work.

To be a balloon observation officer is a real distinction, for besides being fully at the mercy of enemy aeroplanes, who may pump him full of bullets before he can down the attacker with his rifle or Hotchkiss gun, he must be an accomplished map reader and map draftsman—not to mention the knowledge of spotting shell hits instantly, radio operating, telephony and telegraphy, balloon rigging and manenvers, weather forecasting, et cetera. When the balloonist leaves the U. S. Army school he must know all these things and many more, and be able to note and record shell hits at a distance of four miles.

An electrically operated vacuum cleaner for the teeth has been patented. Let's introduce them to our after dinner speakers!