Guiding Airships With the "Radio Barrage"

Invisible Walls of the Ether

By DR. LEE de FOREST

JUST at this time, when our army and navy officials, and many airplane builders, are taking steps for the commercial development of the airplane and dirigible, along industrial and governmental lines, is it not practicable, as well as advisable for radio inventors and engineers, as well as others concerned, to give thought to those essential safety devices which come within the scope of radio-communication and control?

I venture to say that if there was any one device used in the European war which contributed to the success of the Allies in their supremacy of the air, it was radio-communication, both telephone and telegraph. By means of it the fighters in the air were at all times able to talk and signal with their commanding officers at headquarters, and after a personal examination of the various kinds of apparatus used by the different countries, all of which pay high tribute to American genius, I feel I am fully justified in predicting an even greater use of radio control and communication for peace purposes.

One of the first questions to be taken up, it seems to me, when we have reached the point of regular passenger and freight traffic by air, is that of proper warning to pilots in case of fog, cloud or other interferences. Will it not be necessary, for example, to establish a regular "traffic squad of the air," for those cities in the principal lines of communication? The use of the human voice in sounding a warning, without wires, is already an accomplished fact; at Point Judith Light, where the *Radiophore*, at regular intervals, calls out to the ship operator: "Point Judith Light," and then in a weaker voice: "You are getting closer—Keep off."

By means of a number of wireless stations placed around any given city, why cannot we do likewise in the matter of our radio traffic squad of the air? So that when a pilot comes within range, he would receive a message such as the following:

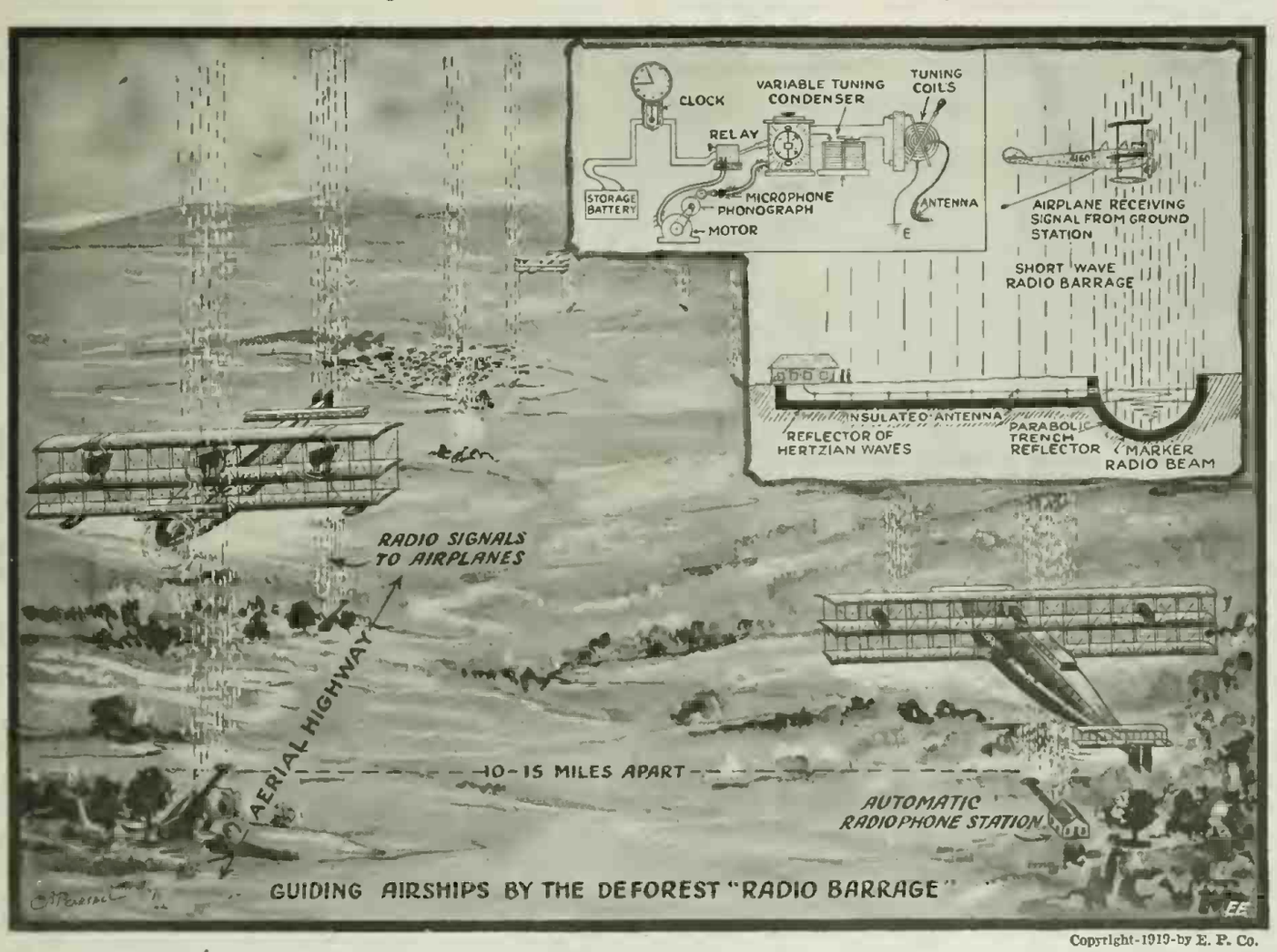
"Buffalo Office—Turn West by South, and Pick up Cleveland," or again such warnings as, for example, it will be necessary to inform the pilot of weather changes: "Weather Warning—Your are nearing a storm area—Cyclone Ahead," etc., etc.

There should be, no doubt, a continual "radio barrage," or zone of automatic warnings thru which airplanes must pass in approaching regions where air traffic is dense; namely, around landing stations, and especially so near steep mountain ranges and peaks, or cities like New York, with extraordinarily tall buildings with consequent air pockets.

By arrangement of antenna or reflectors not unlike those used behind large searchlights, a beam, or narrow zone of wireless waves, invisible to the eye of course, could be set up. This would necessitate the use of very short wave lengths, of only a few meters, far shorter than the wave lengths used today in radio-communication. This feature would also have the advantage that these short wave lengths would not interfere at all with existing radio-communication. All this short wave vertical radiation would be controlled by the automatically repeating phonograph, similar to the *Radiophore* arrangement at Point Judith Light.

The pilot of the airplane, his 'phone clamped to his head in the helmet, would hear these safety signals as he flies thru these invisible walls of etheric warning, in ample time to govern his course accordingly.

With the mastery of the air for governmental, and for commercial purposes, already at hand, certainly the question of radio control, and of traffic regulation, is of prime importance, worthy of the immediate interest, and of the best thought in the radio world.



The Airships of Tomorrow Will be Guided by Wireless Telephone Signals, Possibly Arranged in "Barrages" or Walls, as Here Illustrated. This is the Only Feasible Way of Signaling Location and Weather Data to Aërial Craft in Stormy and Especially Foggy Weather. Prof. Walter I. Schlichter, of Columbia University, Has Also Recently Advocated the Use of Powerful Wireless Signaling Stations for Guiding Trans-Atlantic Seaplanes in Their Proposed Trips Across the Ocean.