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Synthetic Scent

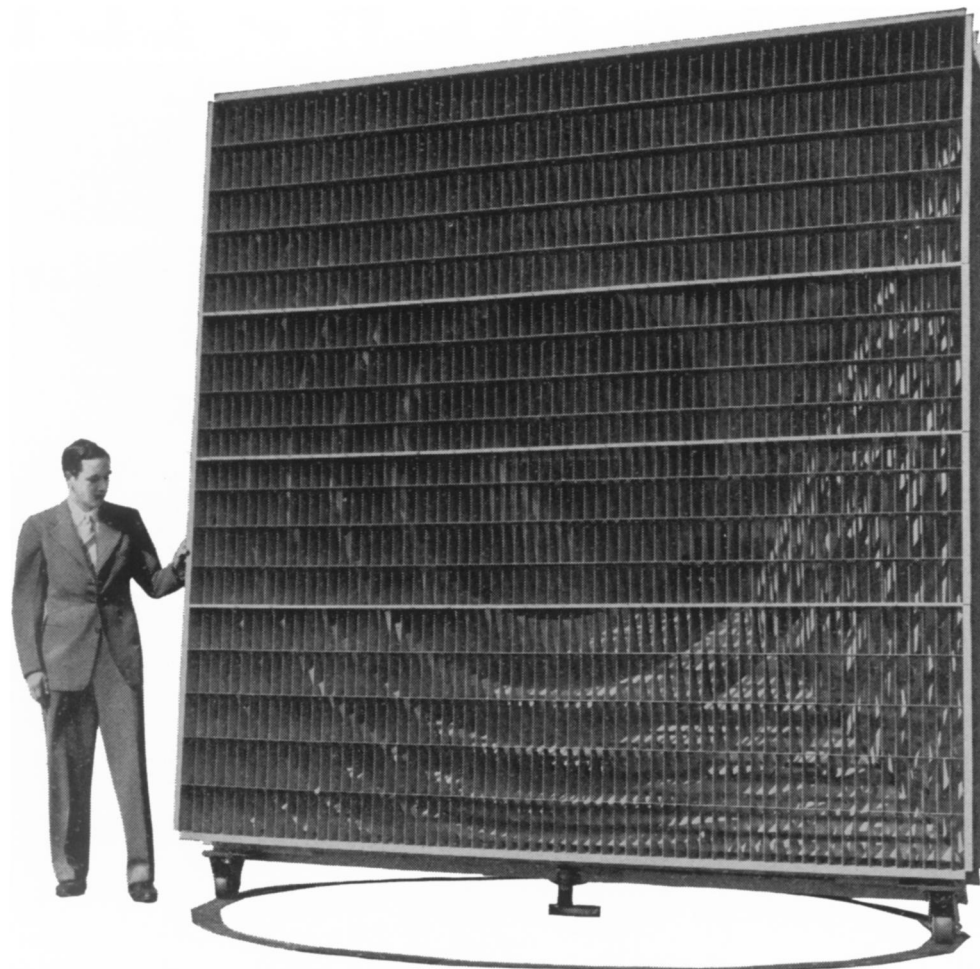
See Page 298

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● **A "SEARCHLIGHT" TO FOCUS RADIO WAVES**

In the new microwave radio relay system between New York and Boston, which Bell Laboratories are developing for the Bell System, giant lenses will shape and aim the wave energy as a searchlight aims a light beam.

This unique lens — an array of metal plates — receives divergent

waves through a waveguide in the rear. As they pass between the metal plates their direction of motion is bent inward so that the energy travels out as a nearly parallel beam. At the next relay point a similar combination of lens and waveguide, working in reverse, funnels the energy back into a repeater for amplification and retransmission.

A product of fundamental research on waveguides, metallic

lenses were first developed by the Laboratories during the war to produce precise radio beams.

But how to focus waves is only one of many problems that Bell Telephone Laboratories are working on to speed microwave transmission. The goal of this and all Bell Laboratories research for the Bell System is the same — to keep on making American telephone service better and better.



BELL TELEPHONE LABORATORIES

EXPLORING AND INVENTING, DEVISING AND PERFECTING FOR CONTINUED IMPROVEMENTS AND ECONOMIES IN TELEPHONE SERVICE