

The Tube Industry Becomes BIG BUSINESS

By William F. Matthews

ALMOST over night the tube-making part of the radio industry has emerged from a state of comparative uncertainty to become one of the most stable and promising divisions of the whole enterprise.

With starting suddenness radio broadcasting swept over the land and set up a constantly growing demand for tubes. With the electric light bulb industry to offer a basis for manufacture, the infant tube industry got away to a flying start. Now catching up with demand, then running ahead of it; beset with innumerable manufacturing difficulties and the pitfalls caused by an impatient public; remedying its faults as it went along and uncovering still more secrets locked in the depths of refinement—these and many other influences presented themselves for the industry to hurdle. From the laboratory in a small bedroom to the mammoth tube manufacturing plants of today with untold millions of capital invested; from nothing at all to sales approaching \$150,000,000 annually with many more millions in sight—that, my friends, constitutes the swift growth of the radio tube business, in but a few years.

There are at present more than fifty manufacturers engaged in making radio tubes. The products of the majority of these manufacturers are really high-grade, although those enjoying the best of re-

search facilities and the capital to put refinements into production naturally are in a better position to turn out better products. And yet some of the most notable advances in tube construction and performance have emanated from the laboratories of manufacturers not so favorably situated. Genius follows no prescribed nor dictated path.

The capitalizations of these tube companies range all the way from a few thousand dollars to many millions. The majority of the companies are closely held, having been financed by a few individuals. Several, however, enjoy listing on various stock exchanges and thus serve as an index of the business. Moreover, a surprisingly large number of the tube companies, both publicly held and otherwise, are making money. The income from tubes constitutes the bulk of the earnings of the Radio Corporation of America, although no definite figures are available. Many of the so-called independents, such as Ceco, Triad, Sonatron, Sylvania, Gold Seal, Marvin, Arcturus, Van Horne and a host of others, derive their sole income from the sale of tubes and many of them are in a flourishing and expanding condition. Conceivably, tube manufacturing may be overdone, and yet it may be several years before retrenchment will set in. That the industry is bound to go through successive corrective stages no one, save possibly an

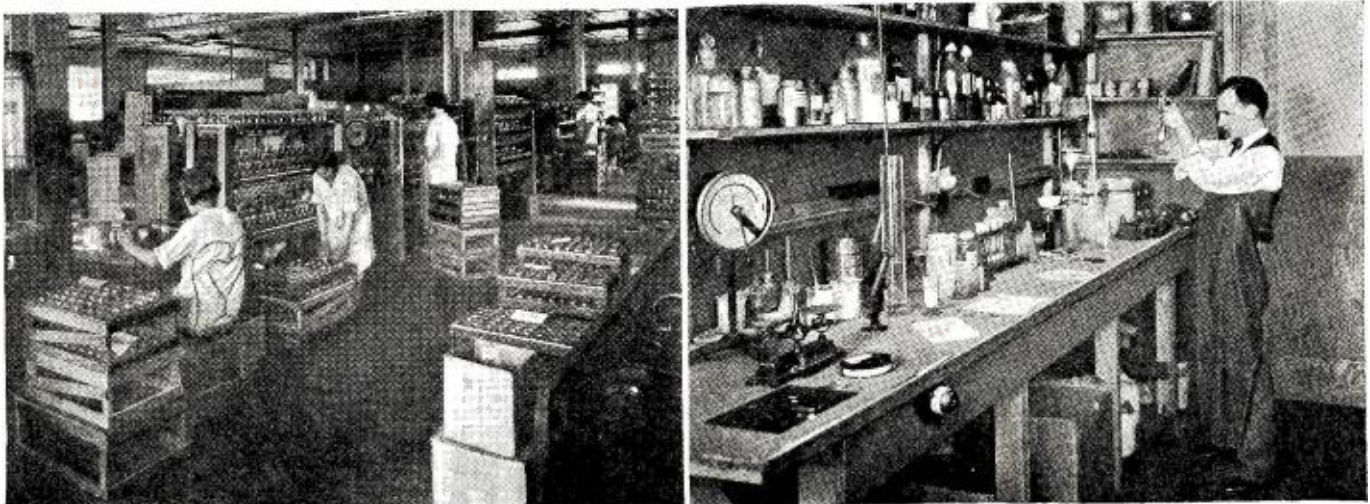
over-enthusiastic manufacturer, will deny; and then he will most likely pay the penalty of his enthusiasm.

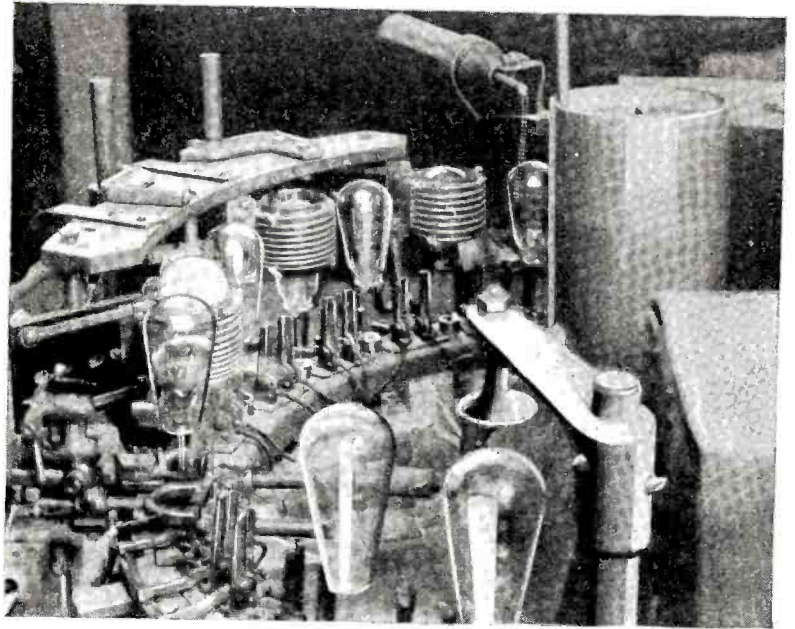
Where Is the Saturation Point?

According to figures compiled by the Department of Commerce, the saturation point in radio is far, far away. It has been estimated that only one-third of the homes throughout the United States possess radio receiving equipment, and throughout the world the percentage is exceptionally small. Add to this the fact that the world never yet has caught up to the mythical saturation point on any product that is good.

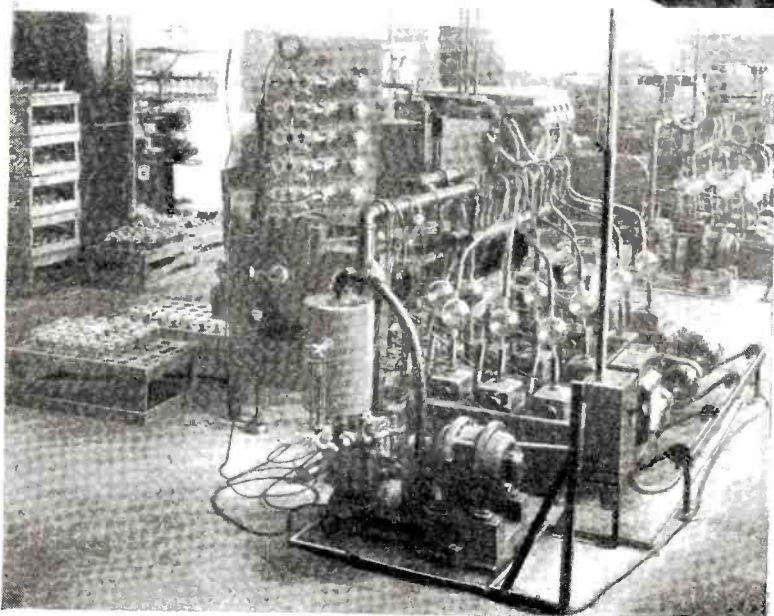
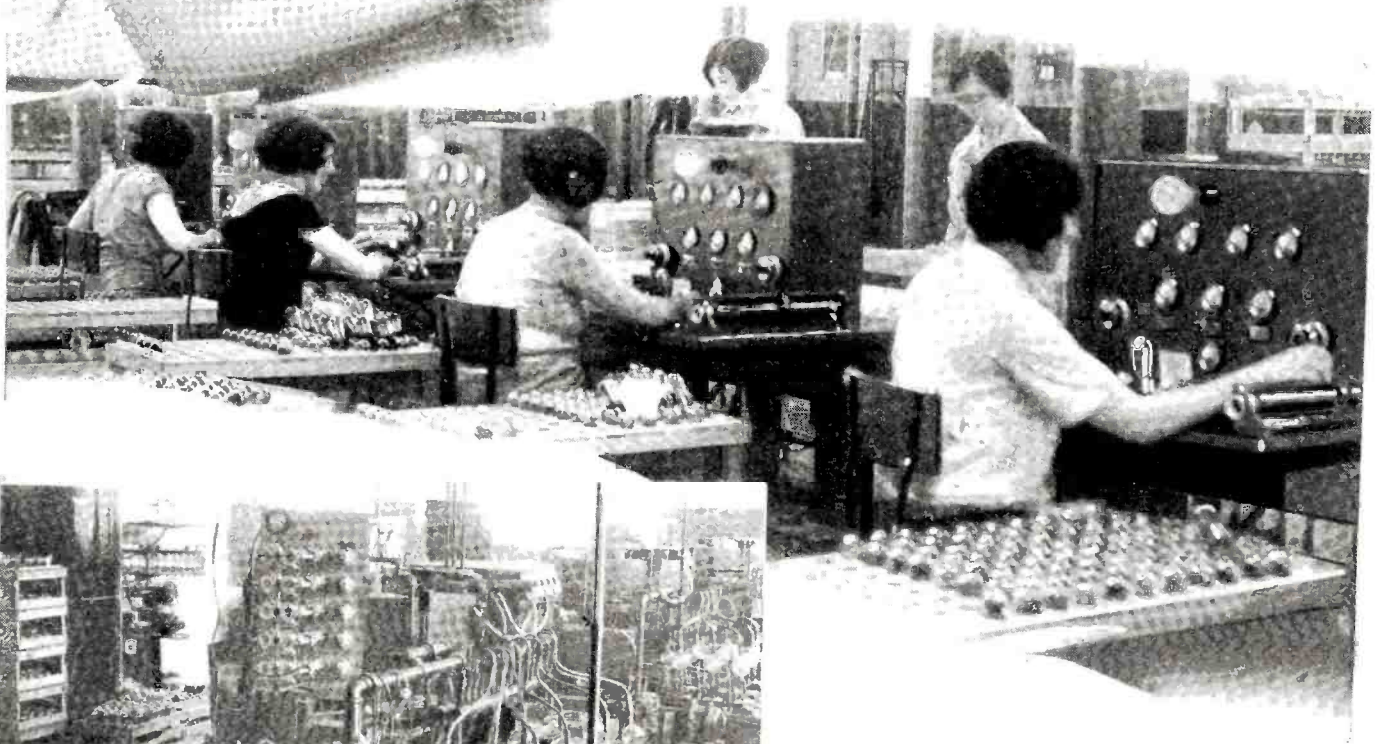
To begin with, we had a radio tube. Now we have radio tubes. In the early days of the radio novelty era, any screech or howl that came through the loud "squeaker" sufficed. Then began the quest for quality coupled with sensitivity. Tubes influenced radio design and quality of condensers, transformers and such like influenced the output of tubes, and the whole was dependent on what the loud speaker was willing or able to interpret. Radio reception was faced with a whole array of handicaps, the principal one of which was the inflexibility or the inability of the radio tube to work satisfactorily as a radio frequency, intermediate frequency or audio frequency amplifier and rectify the incoming signals as well. And so the problems of designing suitable tubes for

Courtesy Cable Radio Tube Corporation



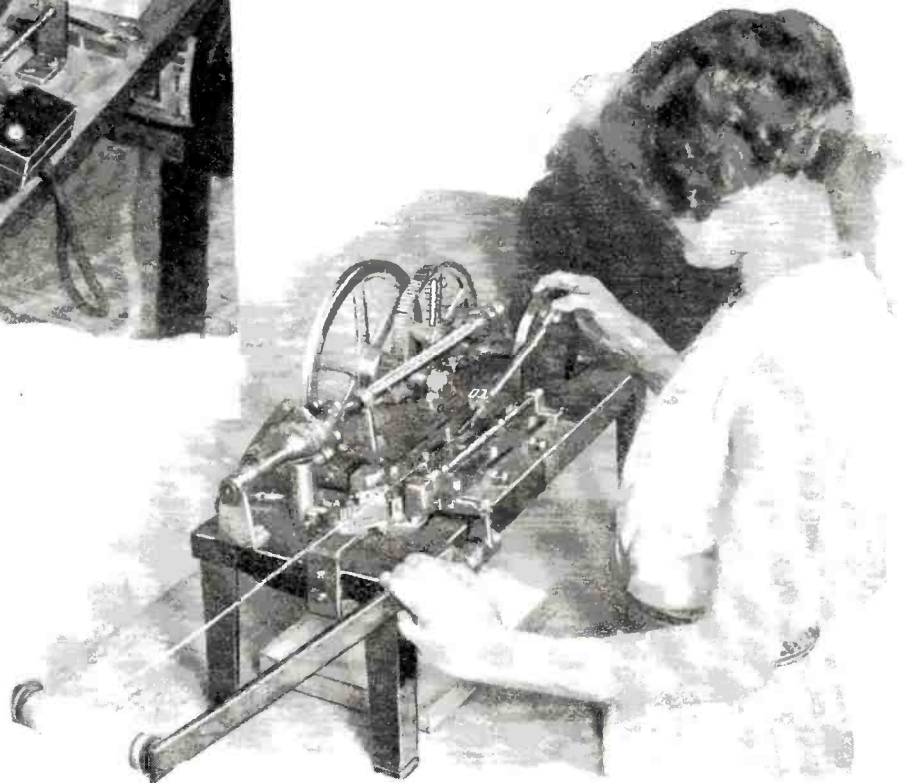
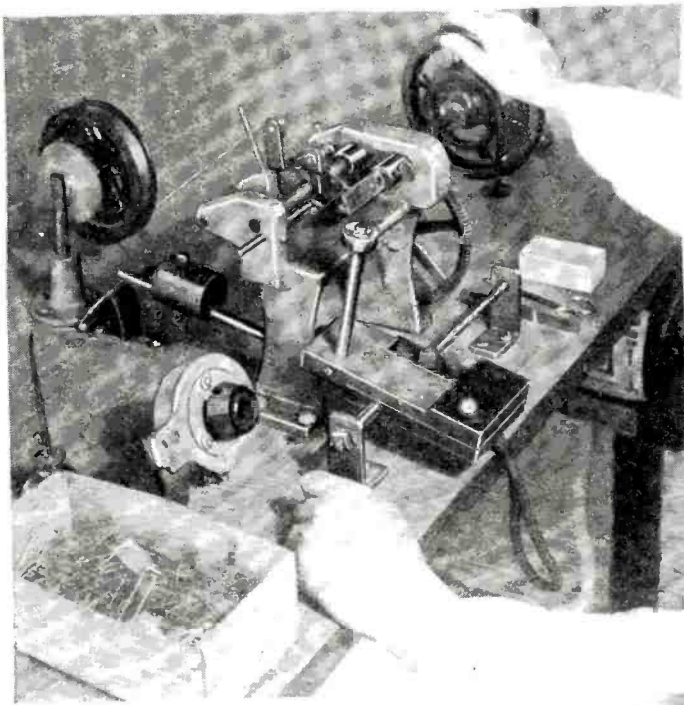
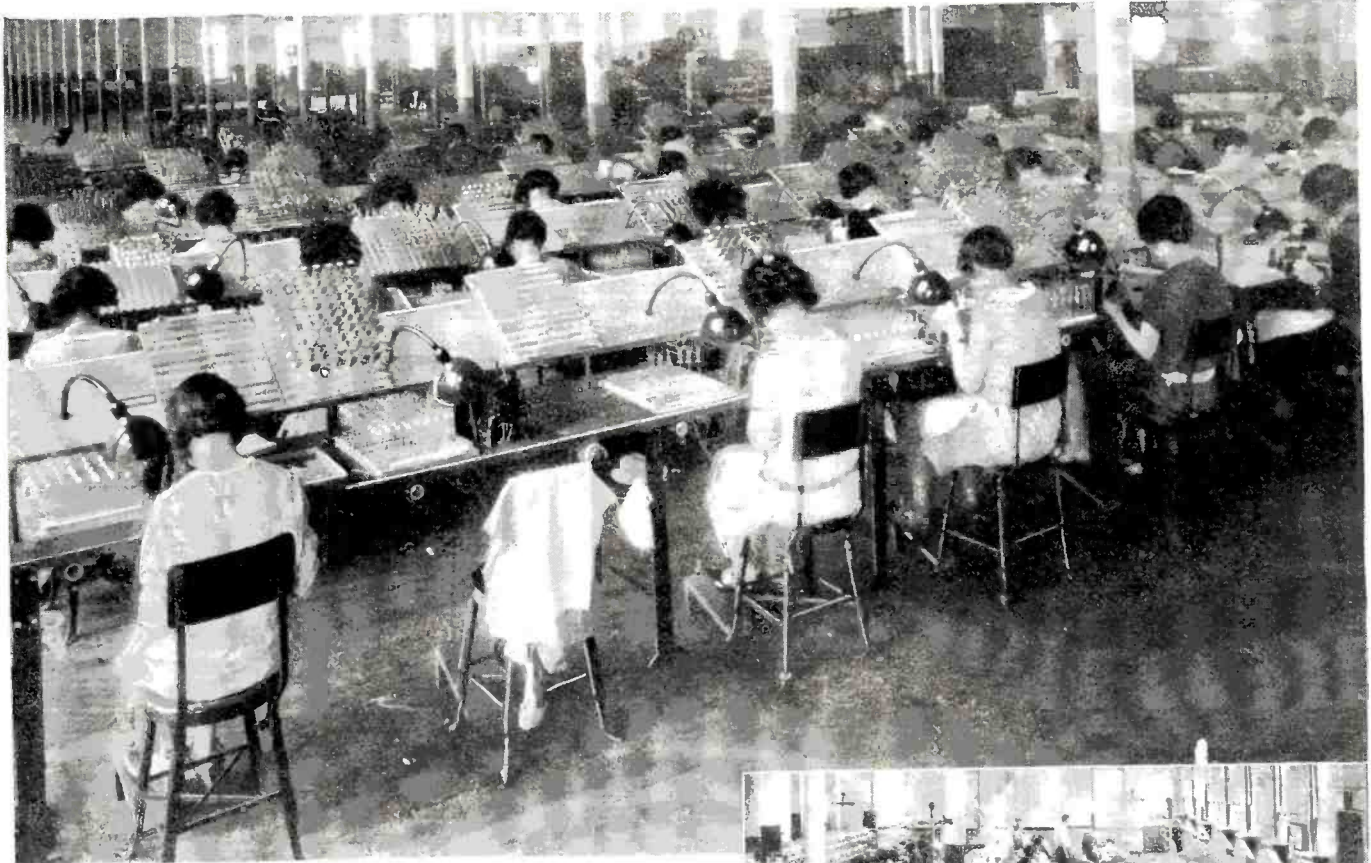


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each position in a receiver got definitely under way. That marked the beginning of a financially successful day for radio.

Note what happened to the tube sales in 1928, the year that saw the introduction (in volume) of the a. c. tubes. Sales jumped nearly double over 1927 (from \$67,000,000 to about \$112,000,000) and the full buying power of the public, as measured from the standpoint of the replacement of battery-operated tubes with the a. c. types, had, at the end of 1923,



scarcely gotten under way. With production of receivers well under way, with orders from dealers mounting on the manufacturers' books, and bearing in mind that an average of six tubes is required for each new receiver, and the further fact that replacements form the basis for even more tube sales, it will probably not be difficult to see that the future opportunities of the tube-making industry may be numbered among the great.