

FURTHER RADIO DEVELOPMENTS EXPECTED TO COME WITH 1926

Six Outstanding Improvements in 1925—New Tube May Make Television a Reality—Low Waves Lead Progress of Old Year

By ORRIN E. DUNLAP JR.

THE outstanding radio development in 1925 was the advancement in transmission and reception of waves under 75 meters in length. Five other prominent milestones which 1925 will leave on its record are the improving of the tone quality produced by receiving sets; the stabilization of the industry; the winning over of world-famous artists to broadcasting; the improving of transmission, especially the usage of higher power, such as in the 50-kilowatt plants at Schenectady and Bound Brook, N. J., and the invention of a combination photoelectric cell and vacuum tube, which is likely to lead to more rapid development of television and radio motion pictures.

Reading between the lines of 1925 progress reveals the trends broadcasting may follow in 1926.

There is nothing on the western horizon of 1925 or on the eastern skyline of 1926 to indicate that revolutionary changes will take place during the next year which will make present-day apparatus obsolete or worthless. Developments in 1926 receivers will be gradual improvements as in 1925. Sets are likely to be made more compact and tuning controls simplified. There will probably be more built-in loud-speaker sets in console cabinets and there will undoubtedly be numerous instruments equipped with built-in "B" battery eliminators and perhaps filament current supply devices. In all cases the trend will be for compactness and attractiveness in cabinet design.

Tonal quality stands out as a triumph of 1925, due to improved loud-speakers, new power tubes and better craftsmanship. The standards will undoubtedly be raised in 1926.

5,000,000 Set Owners.

The passing year leaves a record of approximately 5,000,000 radio set owners in the United States, about 600,000 of whom are on farms. There are 21,000,000 homes in this country, so that the existing market is large, considering that there are 18,000,000 automobiles and 15,000,000 telephones in the United States. There will probably be 2,000,000 set owners added to the invisible audience during the next twelve months. The market has scarcely been scratched and the saturation point is far from being in sight.

Amateurs and research laboratories have delved deeply into short-wave bands in 1925 and have uncovered some of the secrets of science and the ether. Thousands of miles have been covered by amateurs using less power than is required to operate an electric iron, and there are great possibilities in this wave band between 1 and 100 meters. Whether broadcasting will be done on low waves is yet to be seen, but 1926 may prove the feasibility of such a shift. It is certain that the short waves are superior and more economical for long distance work than waves between 200 and 600 meters.

So successful have been transmissions under 50 meters that six commercial low-wave stations are supplementing the powerful long-wave transmitters handling transatlantic traffic, and more of these low-wave stations are planned to link Hawaii and the Philippines with the United States.

The radio industry has apparently passed its chaotic stage and is much more stabilized than at the beginning of the year. Stabilization of the business and standardization of equipment will continue throughout 1926, possibly effecting the consolidation of several companies and the disappearance of others.

Old Man 1925 as radio impresario has a great list of talented entertainers to hand over to 1926, and many of the world's best artists have signed contracts for microphone appearances during the new year. The broadcasts will be better than ever and those 17,000,000 homes still out of tune will miss many hours of pleasant entertainment. The year 1925 started out with a concert by John McCormack, tenor, and Lucrezia Bori, soprano, of the Metropolitan Opera Company, and with these names as a nucleus many other famous stars have been added to the radio list.

Two 50-kilowatt plants, WGY, Schenectady, and WJZ, Bound Brook, N. J., are achievements of 1925, and many of the other stations have increased their outputs to at least 5,000 watts during the past year. Whether or not more 50-kilowatt transmitters will be built in 1926 remains to be seen. No such plans have been announced up to the present time.

There are now about 550 broadcasters in the United States. The total during the year reached 578, but the radio conference's recommendation that no more stations be licensed until Congress could pass radio legislation led to a curtailment, and with the voluntary deletions the total has dropped to slightly relieve congestion in the air.

One of the big problems which faced 1925 at the beginning was "Who will pay for broadcasting?" The trend of events and the recognition by advertisers that the ether is a good advertising medium has apparently solved that problem. Many stations are now operating on a toll basis and more are expected to accept payment for the facilities of their station as 1926 progresses.

The American Telephone and Telegraph network of allied broadcasters now totals sixteen, compared to seven in the official chain in January, 1925. The network is likely to be extended during 1926. No steps were taken at the 1925 radio conference, called by Secretary Hoover, to prevent adver-

tising over the air; in fact most of the delegates voiced the opinion that it was beneficial to broadcasting because it improved the quality of the programs.

The photoelectric cell, in combination with a vacuum tube introduced by V. K. Zworykin of the Westinghouse Electric and Manufacturing Company, is looked upon by some as the basis or "eye" for television and radio motion pictures. This being the case, 1926 is quite likely to witness some interesting developments in "seeing" by radio.

The radio industry has grown rapidly in 1925. Sales this Winter are calculated to be 15 per cent. greater than last season.

The sales volume of 1923 in the radio industry was estimated at \$115,000,000, and a survey of the field this year shows a total estimated at \$350,000,000. Indications are that the sales within two years will reach \$500,000,000, according to leaders in the industry.

Four years ago the radio industry was not considered of sufficient importance to give it an individual classification in business. It was grouped under electrical products, along with electrical toys. When broadcasting started many hailed it as a fad. Today it is considered one of the first forty industries of the United States, and the saturation point is not in sight.

It is expected that a radio "talk-bridge" will be working across the Atlantic before 1926 closes. It is understood that the installation is complete on this side of the sea and the station at Rugby, England, is testing. The plan is to enable a person in New York to pick up the telephone receiver and ask for a number in London, or on board a ship at sea, just as a long-distance phone call is made. The rate for a three-minute chat will undoubtedly be much higher than a three-minute telephone conversation between New York and Chicago.

PHILHARMONIC CONCERT

In the next student concert of the New York Philharmonic Society, which will be broadcast by WJZ, WRC and WGY from Carnegie Hall at 8:25 Saturday, a modern American composer, Rubin Goldmark, will receive the honor of having his negro rhapsody played by the orchestra. The other composers whose works will be played during the evening will be Schubert, Beethoven and Strauss. Willem Mengelberg will conduct the orchestra for this concert. The detailed program follows:

Symphony in D minor.....Schubert
Negro Rhapsody.....Rubin Goldmark
Overture to the opera "Leonore".....Beethoven
Death and Transfiguration.....Strauss

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Stations KFY Los Angeles, and KPO San Francisco, are now connected by 500 miles of telephone wire, so that programs can be exchanged and broadcast by both transmitters simultaneously.

TRADE NOTES AND GOSSIP

A NEW receiver called the "zeniphonic" has been introduced by the Zenith Radio Corporation of Chicago. It is a ten-tube circuit, consisting of five stages of tuned radio frequency amplification. One dial tuning over a range of from 80 to 600 meters is an outstanding feature of the receiver. Its ordinary tuning range is from 180 to 600 meters, but this can be lowered to 80 meters by throwing a small switch inside the cabinet. The purpose of this wide tuning range, according to officials of the company, is to make provision for what they believe to be an inevitable development in broadcasting, namely, the extension of the present commercial waveband downward to 100 meters or lower. Selectivity and fuller tone quality are other attributes of the new receiver. Several of the models are equipped with two loud-speakers, which establish a balance between the low and high tones, and the most expensive model has five speakers to insure proper tonal qualities at both ends of the scale.

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Interests controlling the Vincennes Phonograph Company of Vincennes, Ind., have purchased the Radio Industries Corporation of New York. The two concerns have been consolidated under the corporate title of the Radio Industries Corporation.

J. S. Watters of Vincennes will be President of the new company; Irwin Kreiger, Vice President, and S. B. Fleming, Treasurer. The sales and promotions of the new concern will be in the hands of Scott & Keane of New York.

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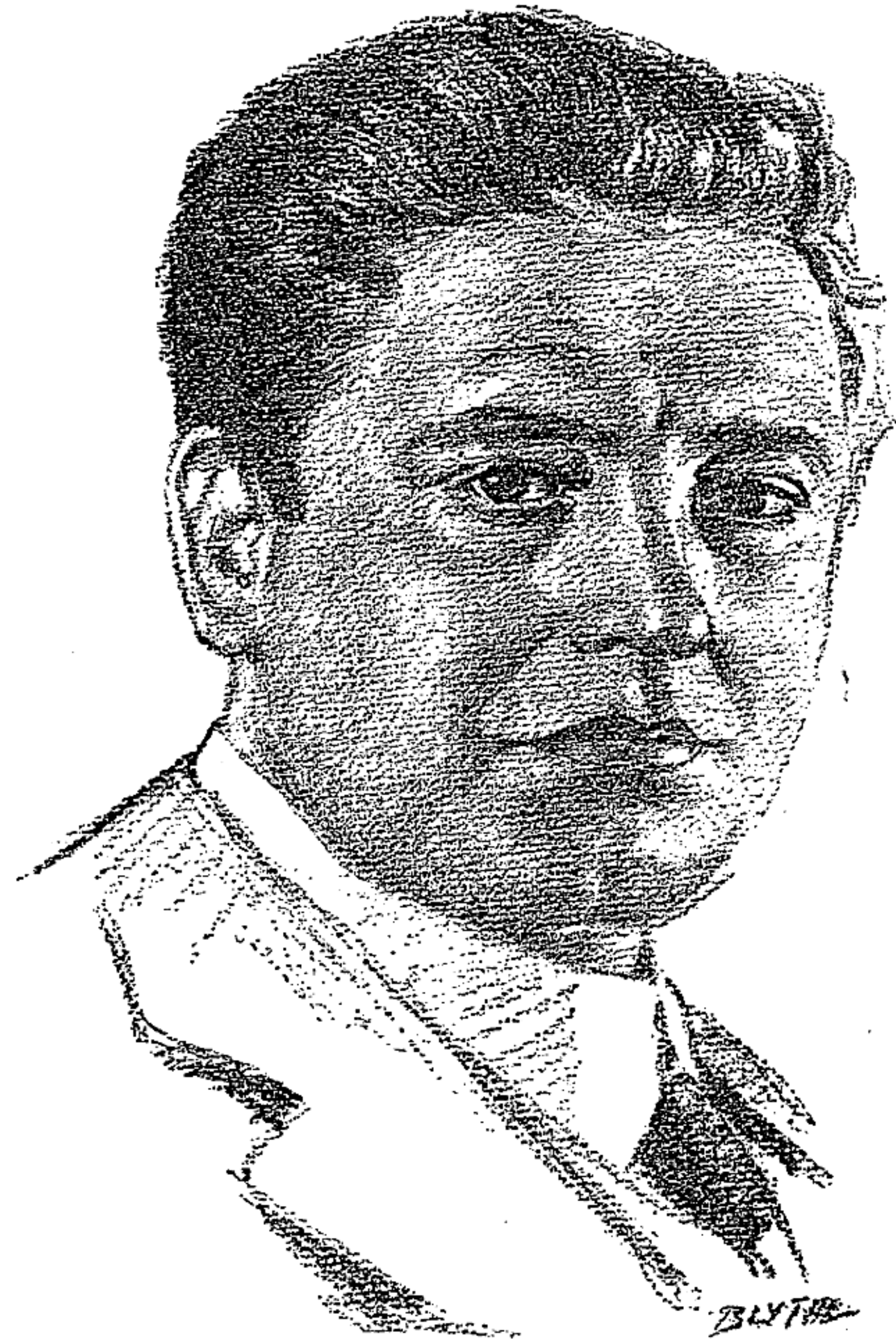
The United States Tool Company, Inc., whose factory is located on the edge of the residential part of that section of Newark, N. J., known as Ampere, have made extensive additions and improvements in its plant. The present company was formed in 1919.

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A hopeful note is sounded by United States Trade Commissioner Miller in Berlin regarding German radio conditions.

"The radio situation is rapidly clearing," Commissioner Miller reports. "A great number of small firms have recently attempted to get into this line of manufacture, but most of them have already stopped production. In the course of a year or so that business should settle down to more normal conditions and most of the business in complete sets, as well as parts, will likely remain in the hands of the more important companies."

Commissioner Miller advises that



John McCormack, Tenor, Who Will Sing Over WJZ and its Allied Stations Friday Evening.

one large electrical concern near Berlin is now employing 51,000 workmen and in some departments two shifts are being worked. However, radio apparatus is only one of a number of things manufactured by this company.

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Japan will soon have a large establishment, one of the principal objects of which is to manufacture radio sets. This comes with the consolidation of the Nipponophone Phonograph Company and the Tokio Phonograph Company, both in Tokio. They will hereafter be known as the United Phonograph Company. The combined capitalization of the new firm is said to be about \$2,300,000, fully paid up.

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A new power amplifier tube, known as the Mogul 5VC, is designed to provide for increased loud-speaker production, and it is claimed that it will increase signals from 50 to 100 per cent. when operated at rated voltages. It is manufactured by the Van Horne Company, Franklin, Ohio.

Inasmuch as the additional voltages, which the tube requires, are added independently of the regular set wiring, no change in the receiving circuit is required.