

A THOUGHT FOR THE WEEK

He thought with his songs he would kill 'em,

If once on the air he could trill 'em.

His wife wasn't certain.

He tried, failed—the curtain!

Said she: "There's the twins—you can thrill 'em!"

RADIO WORLD

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Tubes of Promise

WHAT! More new tubes! Yes, indeed. Five of them. It is getting hard to remember the numbers of all the receiving tubes, more so the characteristics. And yet no one can safely pass up the new tubes, for they offer much promise.

It is not to be expected that the full knowledge of all the uses to which these tubes may be put, and the peculiar requirements to gain fullest advantage, are known now. The history of new tubes has been that determination of the right way to use them has been born of long experience, rather than of long calculations. Even the instructions as to how to use certain tubes have undergone change since early announcements by the manufacturers.

We recall particularly that in the beginning no distinction as to negative bias was made between a-c operated and d-c filament type tubes. In these very columns first attention was called to the necessity for increasing the apparent bias for a-c, to yield the correct effective bias, and subsequent data from manufacturers included these precautions. Also, the general proposition of regarding comparing the screen voltage to the effective rather than the applied voltage was set forth in these columns, with the result that a very low order of screen voltage for the 236 as detector and audio amplifier, and other screen grid tubes for audio amplification particularly, was stressed, and that became the general practice.

So we hope to make some contributions to the knowledge of how to use the new tubes to best advantage. The new tubes should give rise to special circuits of complete satisfaction.

The tubes are five in number. One is a mercury vapor rectifier, the 82, characterized principally by voltage constancy despite load difference within stated limits. The lowest-numbered of the new tubes, the 46, is an output tube that may be used for Class B and Class A power stages, has a UY base and two control grids. As a Class B amplifier the mu is very high, no grid bias being used; maximum plate voltage, 400 volts. As a Class B amplifier the continuous power output is 20 watts. As a Class A amplifier, 33 volts negative bias, the maximum undistorted power output is 1.25 watts, maximum plate voltage 250 volts.

The 56 is something like the —27. The connections are the same, but at 2.5 volts on the heater the current is 1 ampere instead of 1.75 amperes. The amplification factor is 13.8, instead of around 8, and the tube is therefore especially useful in

audio frequency amplifiers using resistance coupling, including a detector stage feeding such an amplifier, while it makes a good oscillator, too.

While one might have expected a tube ending with a "7" to be of the general purpose, good-detector type, it so happens one ending in "6", as just related, is more like the —27, while the 57 is a screen grid tube that really has three grids: the control, the screen and the suppressor. It is not vari-mu but has a sharp plate current cutoff; its amplification factor is greater than 1,500. In appearance it is quite different from any other receiver tube we have had, because of its dome-top bulb, with control grid cap at top and six pins at the base.

Like the 57 in appearance is the 58 super-control (vari-mu) tube, also screen grid, also three grids: control, screen and suppressor. The amplification factor is 1,280. Top cap and six base pins are provided.

The 56, 57 and 58 all have 1 ampere 2.5 volt heater ratings, and thus make for power economy, permitting smaller power transformers, compared to 1.75-ampere tubes.

With the opportunities presented by these tubes much may be done in a-c design. While four of the tubes are cited as a-c or d-c for heater operation, naturally there will not be very many d-c uses, because even at 1 ampere the drain is rather high. In a-c circuits there will be a variety of uses for the tubes, and both the public and the manufacturers should benefit.

Summer Prospects

THE trade may well expect a fairly good Summer, all things considered, for the Presidential conventions of the Republican and Democratic parties will be held, the Olympic games in Los Angeles, ball games and a fight for the world's championship between Max Schmeling and Jack Sharkey. Who will fight for the Democratic nomination is hard to say, for there's no telling which one of several aspirants mentioned will succeed, if any, or whether a dark horse will get it, and no list of contenders could be complete without the ultimate victor, would it? As for the Republican situation, this may be classed as "no contest," yet not divested of interest despite absence of suspense, for all like to hear the political leaders.

So there are some broadcasts for the trade to welcome especially, and these include other major events, like regattas, swimming, automobile, and boat races.

The more interesting the events that go on the air, the better the radio business is. If people haven't as much money this Summer as they had in some recent Summers of pleasant memory, perhaps they won't go about so much, for going about costs money. Staying home results in listening considerably to the radio. And listening makes replacement and installation business. Or, if there is to be much auto riding, the car set offers opportunity. Some mail order houses report the auto sets and parts for them are "the only things that are moving."

That is, you can see the sunny side ahead, if you like, no matter which way the public mind and body move. Radio will get them in the end.

However, there is one requirement. It is harder to get business now, margins are less, and much activity and turnover are necessary to keep ahead of expenses. Unfortunately, the depression has not only depressed tangible values but also zeal and initiative. One of the world-wide effects, hardly ever remarked, is that besides currencies and other tangibles, there has been a deep deflation of enthusiasm. The rewards do not promise so much, so why work so hard? is the query. But it is not the answer.

Music Fees

THE American Society of Composers, Authors and Publishers proposes upward revision of fees charged for permission to broadcast copyright music, amounting to more than 300 per cent. increase. The present rates paid would be continued, substantially without change, to be known as the "sustaining license rate," while 5 per cent. of the amount charged by stations to advertisers will constitute the new and additional amount, to be known as the "commercial license rate."

The Society has watched the growth of advertising revenue by broadcasters, particularly the large chains, and has seen the income increase very considerably. Since music plays such an important part in the advertising programs, the Society feels that its members should be benefited accordingly, especially since its revenue from sheet music and phonograph records has fallen off. The income comparison with 1924 as index is: 1927, 111 per cent.; 1928, 116 per cent.; 1929, 78 per cent.; 1930, 33 per cent.; 1931, 28 per cent.; first three months of 1932, 4 per cent., or estimated total for 1932, 16 per cent.

WJZ and WEA network of the National Broadcasting Company, for instance, show increasing revenue: 1927, \$3,760,000; 1928, \$10,250,000; 1929, \$18,729,000; 1930, \$26,815,000; 1931, \$35,791,000; first three months of 1932, \$12,176,000, or estimated total for 1932, \$48,704,000.

Besides, the stimulus to broadcasting results in the sale of more receivers. It is expected that the total broadcasting revenue will be around \$60,000,000 for 1932, while \$400,000,000 in radio sets and accessories will be sold, and \$10,000,000 in station plant equipment. Thus the total becomes \$470,000,000 for a year, and if the Society takes in \$3,500,000 it figures it will be less than 1 per cent. of the total business to which its music has contributed.

Certainly the Society puts its best foot forward in correlating music with all sales and revenues resulting directly and indirectly from broadcasting as if all programs were 100% music. The present proposal is offered as "an emergency measure," the emergency being that the music publishers virtually without exception report that they are losing money, and the Society itself reports difficulty in holding all its membership together. Top price payment to members, so-called Class A publishers, is \$40,000 a year, as paid to T. B. Harms and to M. Whitmark & Sons, the latter prized possessor of Victor Herbert music copyrights.

As broadcasting has become Big Business, so the publishers and authors of music desire to move along apace, and like to think that nothing but copyright music makes the present success possible. However, a truce has been declared until September 1st.

Million-Dollar Fund Suggested for Opera

Washington.

Listeners will have to pay directly for radio, in the long run, as a safeguard of their self-respect, says Cyrenus Cole, Representative from Iowa (Fifth District). He says so many advertising announcements are vulgar that listeners with good taste will not tolerate them much longer, but would prefer to pay directly.

He suggests that public-minded citizens who like good music raise a fund of \$1,000,000 to permit continuing the broadcasting of the Metropolitan Opera over chains. This year the National Broadcasting Company provided the feature at its own expense.