Radio-Electronics
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Dr. Grote Reber,
National Radio
As tronomy Observatory
Post Office Box 2
Green Bank, West Virginia

Dear Dr. Reber:

I looked through some early Gernsback Offical Radio Service Manuals and found a few Wells-Gardner circuits, but none containing the adjustment I remembered. Since I was working in Canada at the time, it may well be that this appeared only on a model circulated in that country. (Many short runs were sold completely in foreign countries.)

I was, however, able to dig up a diagram of the Tuska Superdyne. This appeared in the earliest of the One Hundred Radio Hookup books. (All future editions, I believe, were known as One Hundred and One Radio Hookups.) I note that they even use the term "negative regeneration".

It is possible that Clarence Tuska might give you more information on the use of degeneration in the early days. I believe he is still with RCA's Patent Division in Camdne, New Jersey.

Sincerely,

RADIO-ELECTRONICS

Fred Shunaman,
Managing Editor

FS:mis

Fig. 63. A circuit similar to that of Fig. 62 except that a third variometer is connected in the plate circuit of the last tube to produce regeneration. The variometers may be of any standard make.

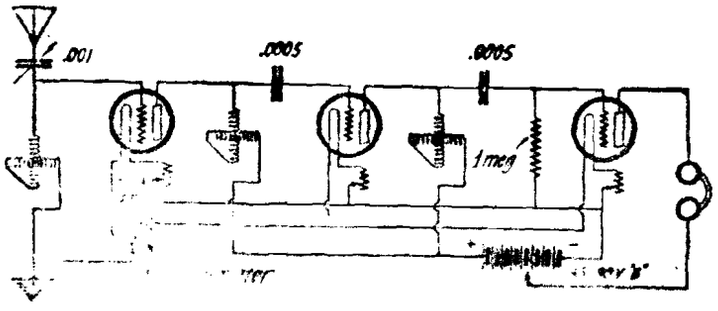

Fig. 64

Fig. 64. A simple single circuit receiver with two stages of tuned impedance radio frequency amplification using variometers throughout. For best operation the variometers should be from 6 to 8 in. apart.

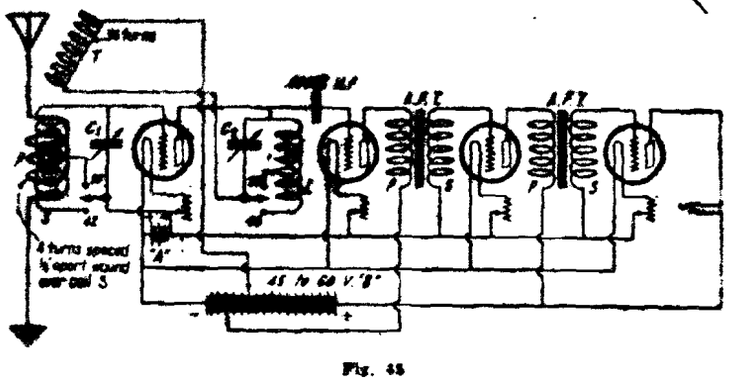

Fig. 65

Fig. 66. Here is the well-known Superdyne circuit. It employs, in conjunction with its single stage of tuned radio frequency amplification, a controlling or stabilizing factor referred to as "negative regeneration." The Superdyne compares favorably with the standard Super-Heterodyne when in the hands of an experienced operator. It is important that the two-stage audio frequency amplifier be used, as the circuit will not function properly without it. The coils are wound with No. 22 D.S.C. copper wire.

NEUTRODYNE RECEIVERS

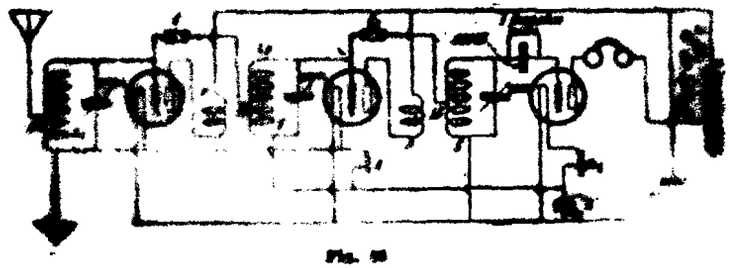

Fig. 67

Fig. 68. The circuit of the famous Neutrodyne receiver. This combination employs two stages of radio frequency amplification. One of its main advantages is the absence of all squealing noises since it is so wired that the radio frequency current cannot feed back through tubes A and B and produce oscillation. This is accomplished by condensers [illegible] and [illegible] whose use of [illegible] capacity (about one-microfarad). All coils are wound on three-inch tubing and with No. 22 [illegible] wire, a diameter of [illegible] with a tap-off at the 14th turn. L-2 and L-3 are identical in size but each has a primary coil of 15 turns wound in the same direction and over the coil from the electric point to the top. The Neutrodyne is very sensitive and selective and is a good long-distance receiver.