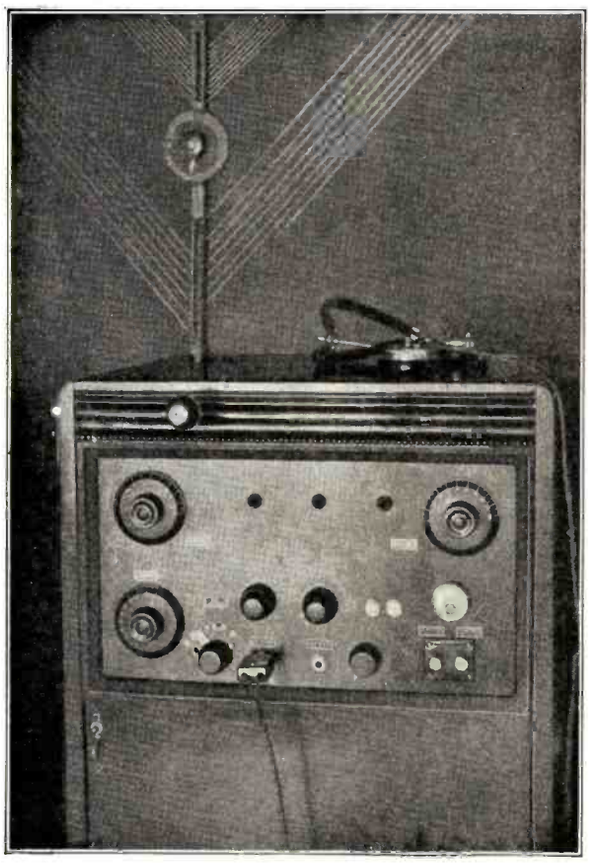
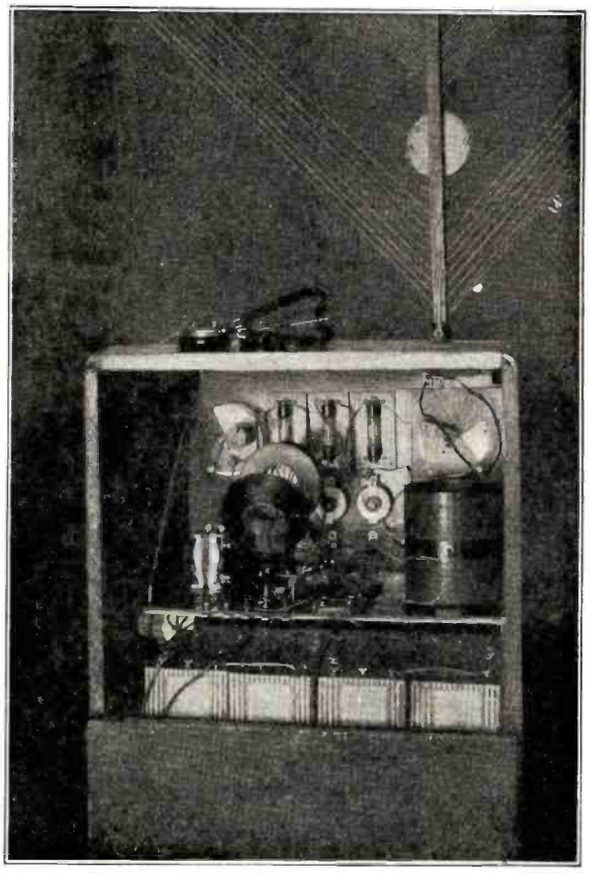
Awards of the Super-Regenerative Contest





Front and Interior Views of Mr. Hanscom's Super-Regenerative Receiver. Special Attention is Called to the Separate Loop Which is Clearly Shown in the Photographs. The Use of This is Explained in the Article. Three Myers Tubes are Employed in This Set.

Second Prize—Class I
A Super-Regenerative Set

By ALLAN T. HANSCOM

FOLLOWING is a description of a super-regenerative set which has been used successfully for two months. With this set, we have heard all of the large Eastern broadcasting stations, the wave-lengths of which range from 200 to 650 meters. From the West, we have heard the St. Louis Post-Dispatch, Davenport, Iowa, Detroit News, Chicago, the Drake Hotel and several others also Atlanta, Georgia, Charlotte, N. C., and Havana, Cuba.

Referring to the photographs, the loop is mounted by means of a round telephone plug inserted in a jack and turned by a knob above the panel which is attached to a fibre speedometer gear. There are really two loops, one inside of the other. The outer loop consists of eight turns of No. 22 bare copper wire and the inner loop has eleven turns of No. 32 with a .0004 mfd. Variadon condenser across its terminals. It functions as a wave trap and permits sharp tuning, thereby eliminating interference. For ordinary work, the Variadon condenser may be placed at zero. The coupler is a 6" formica tube. This was put on a lathe and 36 threads to the inch were cut on its surface. The tube was then wound with No. 22 bare copper wire. An additional inductance is placed in the grid circuit of the oscillator tube and is wound on the same form. The feed-back for the plate of the regenerator consists of the rotor of the coupler in series with the lower windings on the outside of the coupler. The number of turns are indicated in the wiring diagram. Two tubes only are used for ordinary work. For loudspeaker operation, the third tube is provided as an audio-frequency amplifier. The only controls are the tuning condenser and the tickler which are on the left of the panel looking from the front. The 31-plate condenser on the right is used in parallel with a .1 henry choke coil as a filter. The lower part of the cabinet contains a Westinghouse vibrating rectifier Ever-ready storage battery and two sets of Burgess "B" batteries. The materials used are as follows: Giblin-Remler honeycomb coils, Myers tubes, Cutler-Hammer rheostats, Micadon condensers and Acme transformer.

In closing we wish to emphasize the advantages gained by using the extra inductance of 40 turns in the grid circuit of the oscillator tube and the separate loop which allows for sharper tuning.

Second Prize—Class II
A Single Tube Super-Regenerative Set

By RUAL C. JONES

Herewith is a description of my single tube super-regenerative receiving set which has proved to advantage in the reception of amateur and broadcasting stations. This set tunes a great deal easier than a single circuit regenerative receiver and the signals come in as loud and clear as an ordinary receiver using an aerial and ground and two stages of amplification.

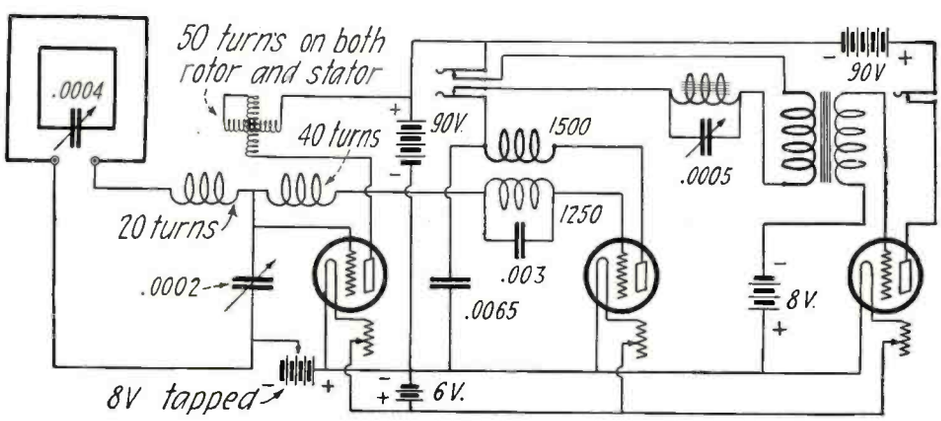
The loop employed with this set is 2½' square with approximately 13 turns of wire on its frame. Referring to the diagram, A, is an inductance on a card-board tube 3½" in diameter wound with 45 turns of No. 22 D.C.C. wire tapped every five turns. This inductance is necessary if the loop has the proper length of wire wound on it. L^1 and L^2 are honeycomb coils of 1,500 and 1,250 turns respectively. After the set is wired, the terminals of the coils may have to be reversed before the set will work properly. these coils are mounted stationary with a coupling of about ½" between them.

B—.001 mfd Variable Condenser (Brilliantone Radio Products Co., N. Y.)

C—Variometer (Brillantone Radio Products Co., N. Y.)

D—U. V. 201 Amplifying tube and socket.

E—45-volt "B" battery (Eveready.)



The Wiring Diagram of Mr. Hanscom's Set. As Seen, a Variometer is Connected in the Plate Circuit of the First Tube, This Being in Inductive Relation to the 20 Turn Coil in the Grid Circuit.