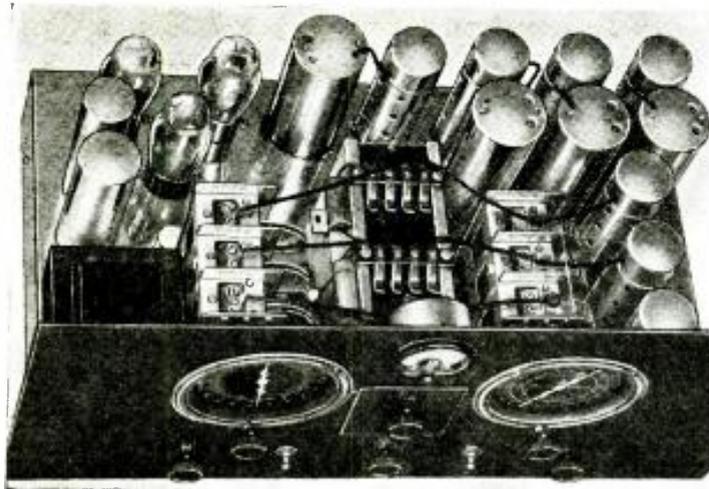


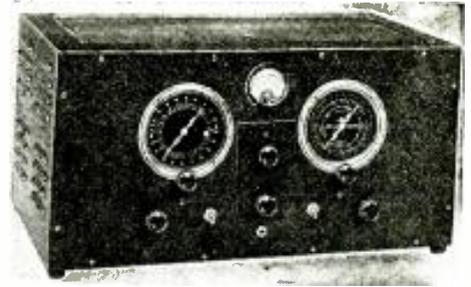
A New Sensitive Constant Band-Spread Super-het



Right — The handsome appearance of the new Postal Model 35, 10-tube all wave super-het. (No. 213.)

Left — Note the massive construction of the new Postal 10 - Tube Constant Band - Spread All - Wave Super. It has accurately calibrated dials.

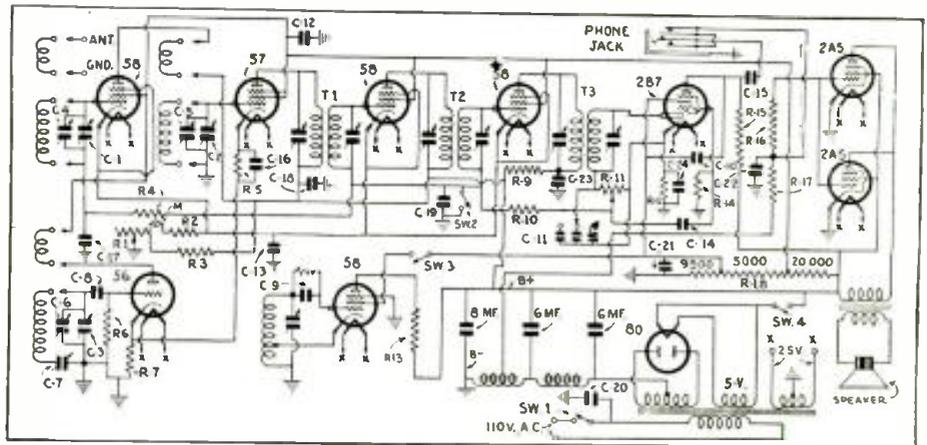
Below — Diagram of the new 10-tube Postal Super-het; it has "beat oscillator" and "A.V.C."



by the well-known Postal "draw method." This draw is inserted directly in the center of the panel between the two large tuning dials. The dial to the left of this drawer is the *band-spread* dial and the one to the right is the *general-coverage* or *band-setting* dial. This dial is calibrated, showing the operator at all times in just what frequency range he is working. These illuminated dials are beautiful 4½-inch diameter affairs having suitably high ratio. The *continuous band-spread* arrangement makes it possible to have band-spread at any par-

(Continued on page 434)

● THIS new Postal Model 35 receiver is complete in every detail and is truly a versatile receiver. It can be used for amateur work where extreme selectivity and stability are required. It has a beat-oscillator which provides CW reception. The large amount of band-spread incorporated in this receiver design of course makes it an excellent receiver for the short-wave "fan" who listens in on the various short-wave "broadcast" (speech and music from Europe, etc.) bands. These bands are spread over the dial to such a degree that tuning is as simple as that of a broadcast receiver. A pre-amplifier stage, that is, the stage of tuned R.F. used ahead of the first detector, practically eliminates image response and improves the over-all gain of the set. The photograph clearly shows the beautiful crystal finished metal cabinet in which the receiver is built. The various bands to which this receiver will tune are changed



New HI-FI Antenna System

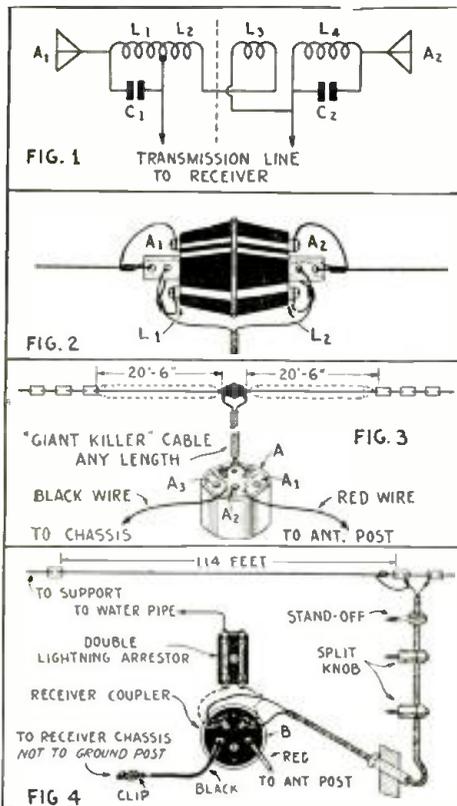
● UP to the present time most *all-wave noise-reducing antenna systems* have been deficient in signal strength on the *broadcast* band. In some systems a compromise has been made with noise by including a switching arrangement which converted the antenna from a doublet with noise-reducing properties to an ordinary "T" antenna with no noise-reducing properties. It had been though impossible to provide an antenna system which would be efficient over the very broad band of frequencies which lie between five meters and six hundred me-

The drawings at the right show the general arrangement of the new Lynch "HI-FI" Antenna System. This is good for noise-proof reception on all wavelengths. Circuit diagram of the coupler, together with the physical drawing, shows complete details. (No. 214)

ters, which is equivalent to fifty-six thousand to five hundred and fifty kilocycles.

The ordinary broadcast receiver has a frequency ratio of approximately three to one. The new Lynch antenna systems have a frequency ratio of more than forty to one.

Where suitable space is available an entirely different type of antenna is suggested having a total overall length of one hundred and fourteen feet which is approximately half a wave-length at seventy meters or 4.3 megacycles. With this type (Fig.



4) of horizontal antenna the lead-in is taken from the end rather than in the center. This has been done as a matter of mechanical convenience rather than electrical efficiency. This system is known as the *Complete Lynch "HI-FI" Simplex System*.

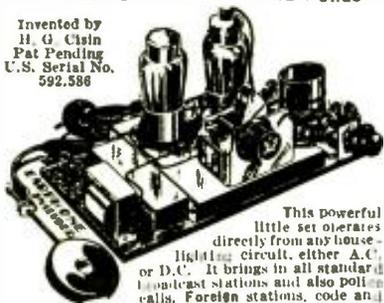
The latter system does not require the elaborate and rather expensive antenna transformer and where space is available it is recommended as being superior to the doublet type. As is true with the Duplex system (Fig. 3), the flat top need not be in a straight line. It may zig zag, but it should not double back on itself.

Most of the important short-wave broadcast stations operate on approximately 13, 16, 19, 21, 31, 49 and 70 meters. A long horizontal antenna cut to receive on 70 meters is fairly efficient on all of the other wave-lengths and it is extremely good in the broadcast band. Such an antenna should be at least thirty feet above the ground. By reason of the size of the collector (antenna) the signal strength it picks up is rather large and compensate for small deficiencies between the antenna and the receiver which could not be tolerated with a collector of the smaller size. Therefore, the impedance matching transformer at the antenna is eliminated for both mechanical and financial reasons. A low impedance transmission line is used on both systems between the antenna and the newly developed receiver impedance matching transformer (B) which is connected directly between the lower end of the transmission line and the antenna and ground posts of the receiver itself.

The impedance of the transmission line is approximately 70 ohms and the input (Continued on page 435)

ALL ELECTRIC ALL-WAVE AIR SCOUT ONLY SET OF ITS KIND IN THE WORLD

Invented by H. G. Cisin Pat Pending U.S. Serial No. 592,586



This powerful little set operates directly from any house-lighting circuit, either A.C. or D.C. It brings in all standard broadcast stations and also police calls, foreign stations, code and trans-Atlantic phone conversations. Uses five plug-in coils to cover band from 10 to 550 meters. Compact and light—Makes an ideal portable. Will operate several headsets, simultaneously and will work on a short indoor aerial. Complete Set, with two tubes, earphone, two coils covering band from 70 to 550 meters. Ready to plug in and use. Postpaid... **\$8.50** Same as above, less earphone. **\$8.00**

Postpaid Battery-Operated All-Wave Air Scout—complete with tube, earphone, two coils, ready to use (less inexpensive batteries)... **\$5.95** Three extra plug-in coils to cover band from 10 to 70 meters. 50c each.

SUPER DELUXE MODEL All Electric ALL WAVE AIR SCOUT



Pat. Pending U. S. Serial No. 592,586 This amazing set incorporates the latest developments in radio engineering, including the new two-in-one 6F7 tubes—FOREIGN RECEPTION, OF COURSE—Loud Speaker operation on most local broadcast stations. Equipped with illuminated vernier dial, crackle-finish cabinet, metal chassis, variable selectivity control. Easy to tune. Works on any A.C. or D.C. householding circuit. COMPLETE SET—READY TO USE—with earphone, genuine Arcturus tubes, and five coils, covering band from 10 to 600 meters... **\$13.50** Same as Above, less earphone... **\$13.00** 5" Magnetic Speaker for Super Deluxe Model **1.25**

DELUXE MODEL ALL ELECTRIC ALL WAVE AIR SCOUT

Similar in appearance to the Super Deluxe Model, but for earphone operation only. Crackle finish cabinet, metal chassis, illuminated vernier dial. FOREIGN RECEPTION! COMPLETE—READY TO USE with earphone. Genuine Arcturus Tubes and two coils covering band from 70 to 600 meters... **\$10.75** Same as above, less earphone... **10.25** Three extra plug-in coils to cover band from 10 to 70 meters, each... **.50**

ALL ELECTRIC AIR SCOUT AMPLIFIER

Can be used with all Air Scout Models, including Battery-operated set. Standard \$8.50 All Electric Model, Deluxe and Super Deluxe Models. Will also work on any other set. Contains two powerful audio stages, with 77 tube in first stage and 43 power output tube. Uses a 25Z5 rectifier. Self-contained Power Supply. Operates from any A.C. or D.C. socket. Full-toned dynamic speaker. Chassis and wood baffle. Enormous volume. Foreign stations on speaker. Price Complete, less tubes... **\$9.95** Kit of Three Matched Arcturus Tubes... **2.55** Free Circulars Available.

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RADIO ENGINEERING

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A New Sensitive Super-Het

(Continued from page 411)

ticular point to which this receiver will tune, from the lowest to the highest frequency. Automatic volume control is provided in this set and by a simple flip of a switch, the volume can be controlled either manually or automatically. The automatic control effectively reduces fading, present on many short-wave stations at times. Referring to the circuit diagram, you will find that 10 tubes are used. A 58 is used in the tuned radio frequency stage for increased sensitivity and reduction of image response. A 57 first detector and a 56 high-frequency oscillator. Two type 58's are used in the intermediate frequency amplifier which is tuned to 465 kc. Tuned standard Litz I.F. transformers are used. The C.W. beat oscillator is a 58 in the electron-coupled circuit. The duties of second detector, automatic volume control stage and first stage of audio, are performed by the 2B7 tube. This feeds directly into the two 2A5 power amplifier pentodes. Needless to say the speaker can be driven to full capacity and the "foreign" stations fairly shake the room!

S. W. Scout News

(Continued from page 402)

almost every morning between 5:30 and 7:00 A. M., E.S.T. The carrier is rather jerky and fades very rapidly but the station nevertheless compares with VK3ME in every way. The wavelength is 10.740 kc.

There are several S.A. coming through very nicely at this post. The familiar "Hello America" can be heard regularly from HC2RL every time they are on the air. PRADO is received very well every Thursday night from 9:00 to 11:00 P. M., E.S.T. On August 12th this station was heard at 5:30 P. M. radiating a program intended for the Ecuadorian Colony in Paris. The wavelength used for this transmission was 15,300 kc. However, their regular frequency is 6,618 kc. The quality of both stations is surprising. On August 7th XEB came through very nicely. I write XEB, because that was announced, but I suppose it is customary to keep the long-wave station on the air and not "cut" for the SW station announcement, which actually was XEBT. HJ5ABB was heard lately, just above the noise level. Their announcements are "Achay hota thing—co ah bay bay". Usually a "crowing rooster" identifies this station. Address them Apartado 270, Cali, Col. The Brazilian government station continues to come in very strong. The best time to receive them is immediately after GSB signs off in transmission IV. The wave length 31.5 meters.

At present a real treat can be had by listening to either GSB, DJD, or Pontoise on 25.2 meters. Your favorite type of entertainment, whether it be dance music from London, political propaganda from Germany, or classical music from Paris, comes in with local station volume. HBL and HBP continue to come in very strong on Saturday evenings from 5:30 to 6:15 P. M., E.S.T. The Belgium station ORK is heard with only fair volume. CTAA is being received very well lately. They usually play records and announce about every 15 minutes. The identification signal is "cuckoo, cuckoo, cuckoo".

The Australians, VK2ME and VK3ME are coming in very fine. At present both are QSA/R9. VK2ME, as many listeners know, radiates programs dedicated to various states of the Union.

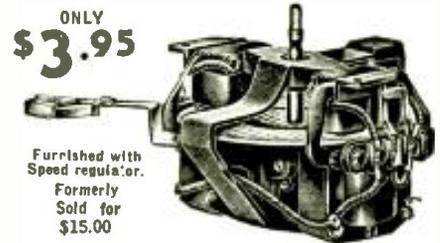
Several new stations were heard at this post during this month. In the first case I write new, because this station is seldom reported. It is RAU, located in Tashkend, U. S. S. R. They can be heard in the early morning phoning "Moskva". The time was 6:00 A. M., E.S.T. The signal was fairly weak but quite intelligible. The frequency was 15,100 kc.

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