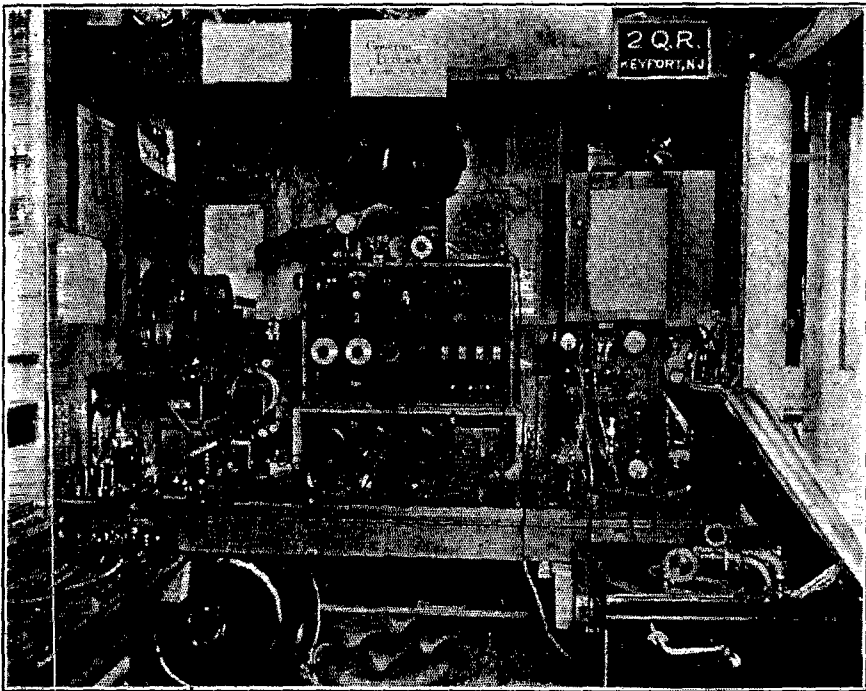


2QR Heard in Scotland?

THERE is every indication that a new record for amateur transmission was established on October 6th when the signals of 2QR, an A.R. R.L. station operated by Messrs. Harold and Hugh Robinson, Keyport, N. J., were reported heard in Scotland.

2QR was described in the May QST, but the new photograph reproduced here shows some later equipment and illustrates the station as it was on the date of this record. Considerable work has been done

your friend. I could not be sure of this gentleman's name, but we heard the record "Roamin' in the Gloamin'", by Harry Lauder, and the other tune, very clearly; also that your power at the time was 100 watts. I write you this as no doubt you will be interested to learn that you can be heard over here with so small a power. I was using 3 valves. I would be greatly obliged if you could transmit again (radio phone) say 3 weeks after you mail your letter to me, as the letters take some time



with the small DeForest radiophone shown, the input to which is about 100 watts. In its transmissions 2QR has often asked for reports of its signals, and this has brought replies from Ohio, Illinois, and particularly from Napanee, Ont., a distance of about 1150 miles, all of which are surprising for this small set. The transatlantic record is reported in the following letter received by Mr. Robinson:

Denmill Cottage, Peterculter,
Aberdeenshire, Scotland.
12th, Oct. 20.

Dear Mr. Robinson:

I write to say that my friend and I received your transmission on Oct. 6th to

reach here. As regards time, two hours after the transmission referred to above would suit, hoping you will manage to cooperate in our tests.

Your transmission was received here at about 6 P.M., G.M.T., so if you could transmit 2 hours later than the time you transmitted on Oct. 6th it would suit me nicely as this would be about 8 P.M., G.M.T. As I do not know how long your time is after ours, this is the only way we could arrange anything definite.

Yours faithfully,
(Signed) Geo. W. G. Benzie.

We congratulate Mr. Robinson as, if true, this is a most amazing record, even

for the ultra-efficient Continuous Wave. QST does not regard it as at all impossible, and Mr. Robinson informs us that the reported data concerning the time, the speech, and the records played, coincide with the facts, so that it looks "real". Mr. Robinson, however, is conservative and seriously doubts it, and has written for more substantial details.

There is one possibility that occurs to us: 2QR's signals might have been picked up at some transatlantic station like NFF and used to modulate the emission of the latter. For example, of late most of us have been hearing the time signals nightly from NSF on 250 meters. The note is unmistakably Arlington's, and generally the actual signature, "NAA", comes thru. This is accomplished by the reception of NAA's signals at NSF, the latter station then feeding the received signal acoustically to the microphone of its radiophone transmitter and so repeating it on NSF's own power and wave length. While very interesting QST sincerely hopes that the practice will not become a general one among radio telephone stations, for it will result in untold confusion in the identity of station calls and wave lengths. We particularly want to point out that it in effect amounts to the signing of incorrect call letters and so is illegal. Further investigation will be necessary before it is apparent whether Mr. Benzie heard the actual signals from 2QR, or repeated signals from some station of higher power.

This opens discussion on a new idea in relaying which has been proposed by Mr. Ben Emerson, 5ZG, Dallas, Texas. Mr. Emerson suggests that if a route of CW stations with independent receiving and transmitting aeriels were arranged across the continent, with the signal picked up on the receiving aerial and fed into the transmitter operating simultaneously on the transmitting aerial at another wave length, the delay now incident to intermediate relays would be completely eliminated and New York speech or signals could be received practically instantaneously in California. In other words, it involves simply a chain of repeaters acting as NSF does in the case of NAA's time signals.

This would be automatic relaying and would remove all the fun from the game except the scientific interest of the performance, but it would result in a speed of relaying never before attained, and would make it possible for one station to address the whole country, as all the receiving stations surrounding each transmitter could of course listen in on the transmission. Who knows but that someday our A.R.R.L. may have Transcontinental Super-Routes fashioned on this scheme?

A.R.R.L.—B. S. FADING TESTS

(Concluded from page 19)

1920, by six sending stations operating at 250 meters wave length and observations of the intensity of the signals were made by fifty recording stations. An average of twenty-eight recorders listened for the test schedules on each of twenty-one evenings, obtaining 1260 curves of signal intensity variation.

Frequent checks between curves at adjacent and sometimes distant receiving stations were found. Traveling curves, appearing successively at various recording stations, were found. No definite connection between weather and transmission was found. Inverse curves were found but infrequently and are not considered as other than chance variations. Three types of fading were observed, a rapid and very abrupt type, appearing mainly in New England, a less rapid and less abrupt type found in all parts of the test territory, and a very slow type covering large territories and affecting all sending stations in the region alike.

There is no marked difference in the manner of fading for various types of sending sets. However, a damped wave that has faded out can often be recovered by retuning, which cannot be done for continuous waves.

The tests furnish good evidence in support of the belief that radio signal variations such as fading and swinging are caused by varying reflection and refraction of the waves.

SELF-RECTIFYING C.W. SETS

(Concluded from page 10)

the grid circuit, and both it and C' are of .001 mfd. max. A grid biasing battery, B, is used, the value depending on the tubes. 22.5 volts being about correct for E's, T's, and Moorheads. Grid leak R has a value of about 10,000 ohms for these tubes also.

L is a 3 or 6 volt battery lamp, used to indicate the flow of plate current in lieu of a meter.

Mr. Ruckelshaus states that this circuit is very critical in adjustment and will require some patience before satisfactory results are obtained, the grid coupling in particular requiring careful adjustment. It is possible that the Colpitts circuit would be found superior in performance, as well as much simpler.

This A. C. Radio Phone propagates a 60 cycle hum but not over the distance to which the speech will reach nor in any case, when properly adjusted, of the same order of audibility as the speech. And so it seems likely to find a ready reception among amateurs.