



T. & R. Bulletin

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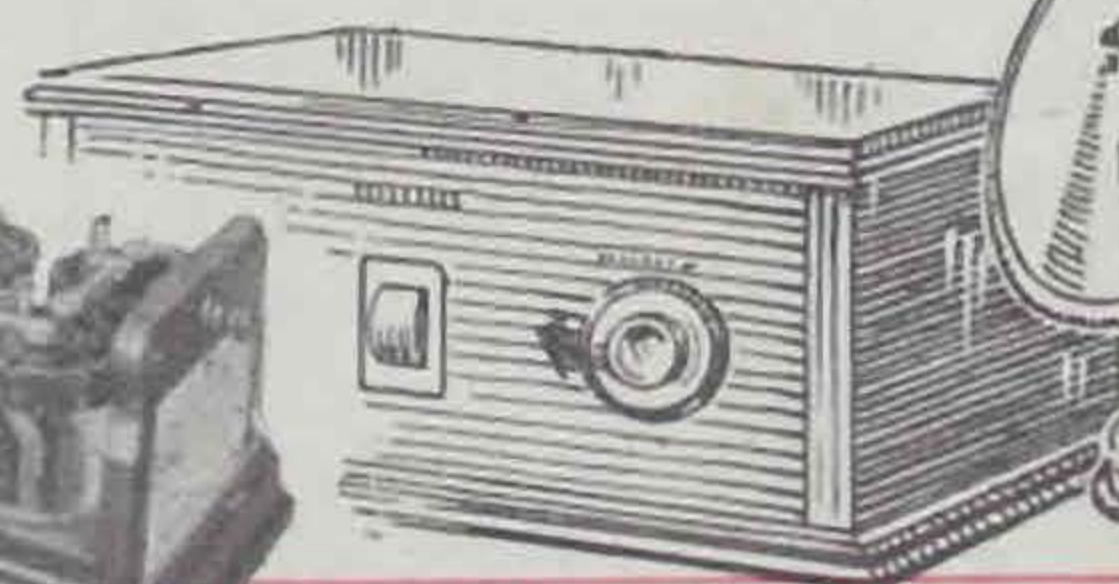
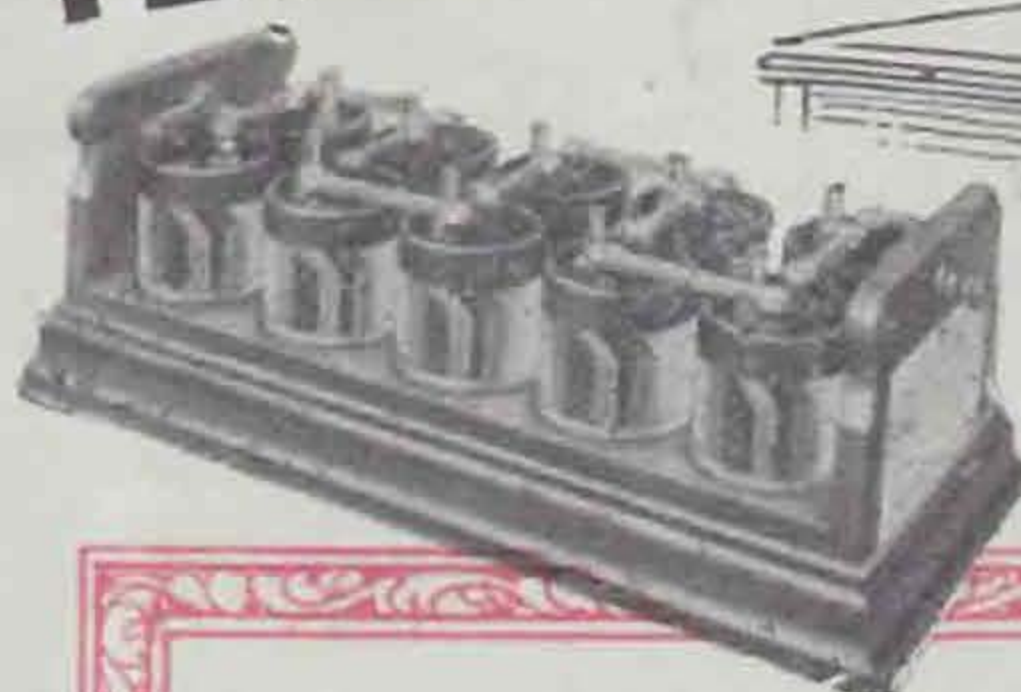
The Journal of the Inc. Radio Society
of Great Britain



Vol. 3. No. 1. July, 1927

Price 1/6

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The 'HART' RAY High Tension Accumulator

By using "HART" ACCUMULATORS for High Tension Circuits you can at once eliminate all those dry battery troubles which, actually, are accentuated by the atmospheric conditions usually prevailing during the Summer months.

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CAPACITY
2,500 milli-amp.
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| TYPE | 2,500 milli-amp. hrs. | 9d. |
| W J PRICE | 15/- | |
| | per 20-volt unit. | per volt. |

Advertisement of the Chloride Electrical Storage Co. Ltd.
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Quartz.

Several disjointed statements to make this month.

Transmitters living abroad will be wanted to act as consultants to companies about to be formed to produce quartz locally. Qualifications are the ability to read and write idiomatic English and to have read "Experimental Wireless" for December, 1926, and January, 1927.

My crystals are distinguished as N and T cut. The N cut is normal with a very small temperature coefficient. The T cut has a very much greater output, but the frequency drifts slowly with rise of temperature, say 10,000 cycles. Also it is much more difficult to make a small alteration in fundamental frequency.

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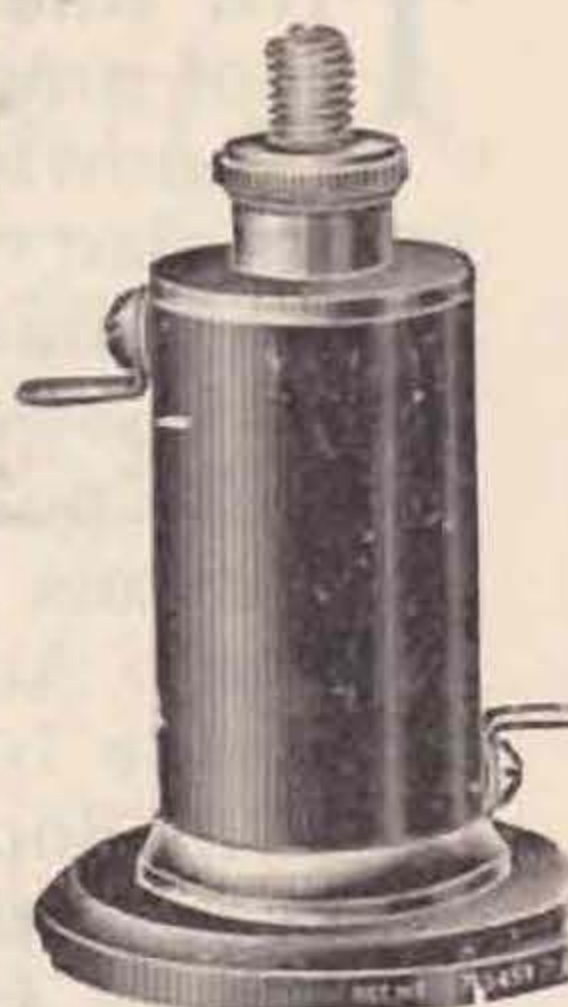
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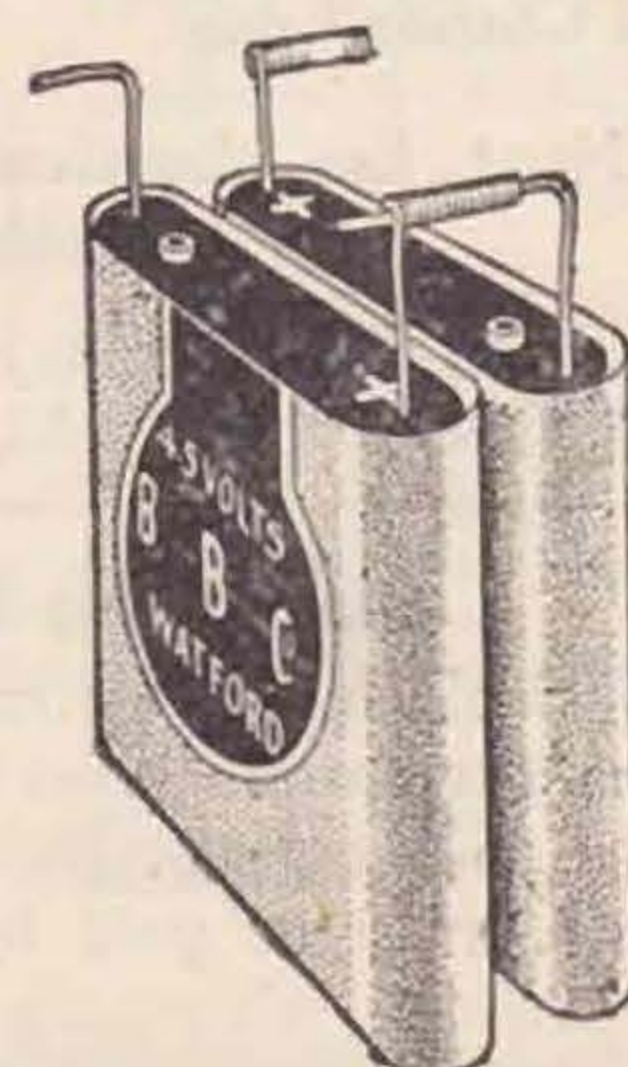
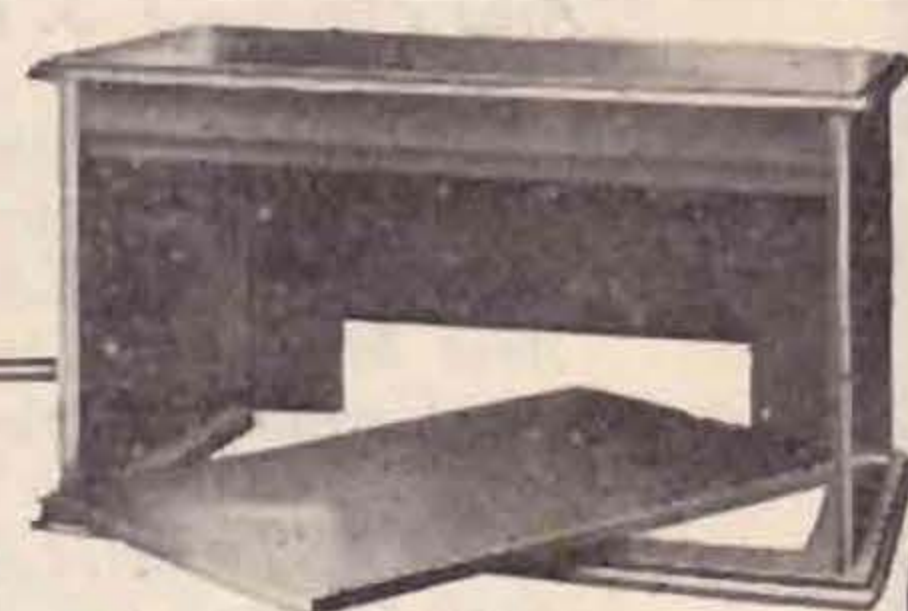
| Prices: | 12 | 14 | 18 | 21 | 24 | 28 inches |
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The 12-14 and 18 in. are 8 ins. wide inside.
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Inc. Radio Society of Great Britain.

THE Radio Society of Great Britain is a virile and progressive body of amateur radio experimenters banded together for promotion of knowledge and brotherhood of those interested in the Radio Art. It exists also with the object of the advancement of the Art, the representation of the amateur in legislative matters, and for the disciplined use of the ether in so far as amateur experimenters are concerned.

The policy of the Society is to accept to its Membership any person or persons who are able to satisfy the Council that they are interested in Radio Art, or who in their opinion are persons whose Membership is desirable in the interests of the Amateur Experimenter.

The Society is recognised by the British Postmaster-General as being representative of the aims and objects of the experimenter. We have members in every corner of the earth, and welcome inquiries from prospective Members at all times. A bona fide interest in experimental Radio work is the only essential qualification.

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T. & R. Bulletin

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This instrument comprises a handsome cabinet on violin lines, the top
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MICRO-AMPS TO
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2,000 VOLTS

50 OHMS TO
50 MEGOHMS

WITH
ONE
METER

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IS NOW THE RECOGNISED RADIO STANDARD.
HIGHEST GRADE — — — LOWEST PRICE.

The ingenious system of Multipliers at 6/6 enables full scale readings of any value to be made
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THE DIX-ONEMETER is The Rolls Royce of Radio!

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| (1) Is absolutely Dead Beat. | (7) Internal Resistance, 500 ohms per volt. | (10) Accuracy to British Engineering Standards for first-grade instruments. |
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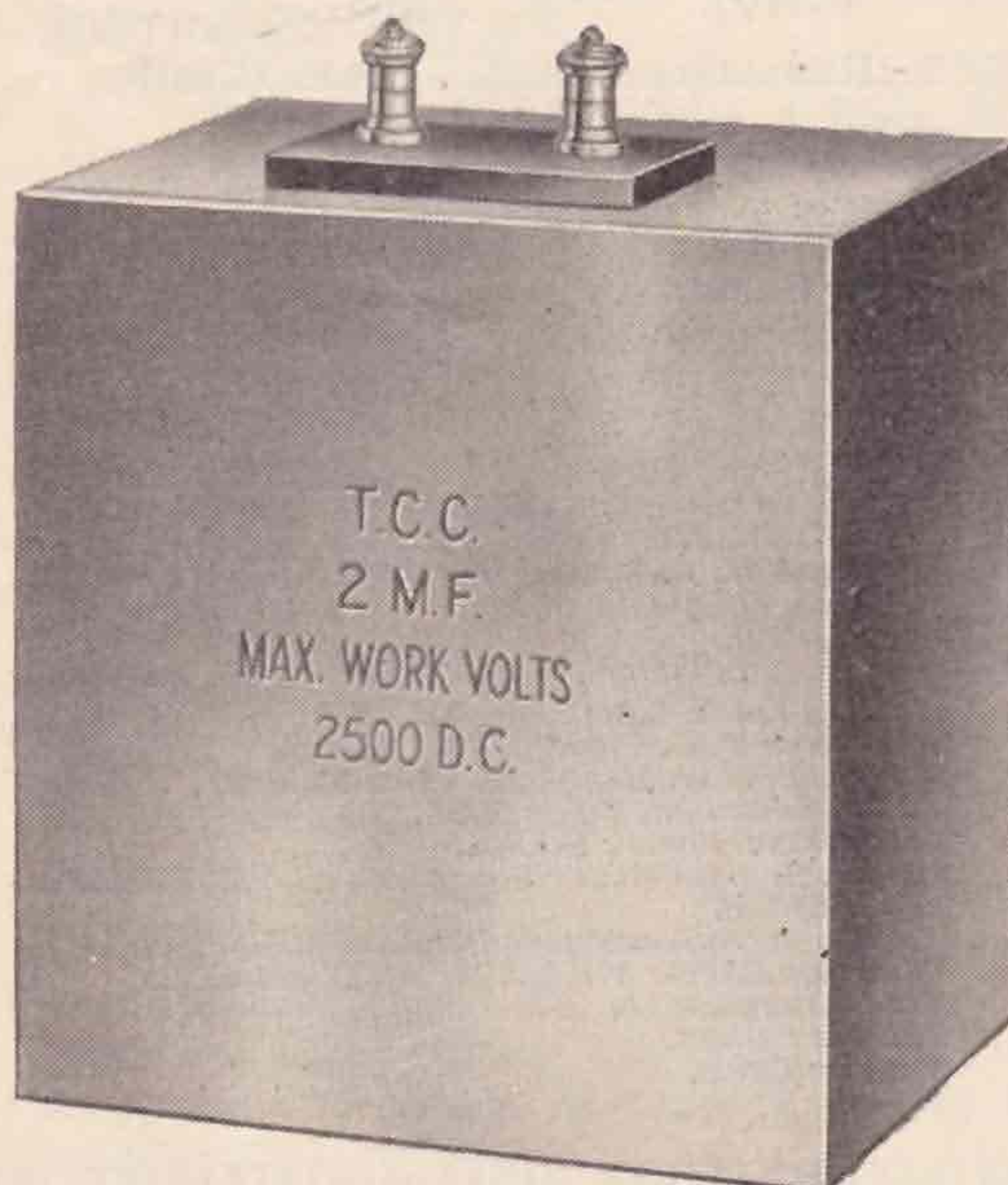
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DON'T take a risk with the condensers for your transmitter. Buy those chosen by the leading technicians throughout the world—T.C.C. Condensers. The letters "T.C.C." on the case of a condenser are a hall-mark of extreme accuracy and utter dependability. Green—the colour of the T.C.C.'s case—is a symbol of the safety assured by the T.C.C. Your Dealer stocks T.C.C. Condensers for Transmitters in the range below.

Condensers for maximum working voltage of 1500 peak value.

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| 4 mfd. | 6" x 6" x 2" |
| 2 mfd. | 6" x 6" x 1" |
| 1 mfd. | 5" x 3" x 1" |
| .5 mfd. | 5" x 3" x 1" |

Condensers for maximum working voltage of 2500 peak value.

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| 4 mfd. | 6½" x 6" x 8½" |
| 2 mfd. | 6½" x 6" x 4½" |
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The type illustrated is the 2 mfd.—Max. Work. Volts 2500 D.C. Price £2 10s.

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T&R

BULLETIN.

The only British Wireless Journal Published by Amateur Radio Experimenters

JULY, 1927.

Vol. 3. No. 1

EDITORIAL

Fusion

LAST issue we gave a brief précis of the recently effected agreement between the T. & R. Section and the R.S.G.B. as regards "fusion" and amongst other things we pointed out that Town Members residing within a 25-mile radius of Charing Cross were asked to pay an extra six shillings per annum under the new arrangements in respect of their annual subscriptions as corporate members.

Whilst we have had a certain response to this notice, there are still a large number of members who have not paid the extra fee asked for. In this connection we would point out that those members who have not as yet paid this small sum are not considered corporate members of the Society until such sum has been paid and that they are not allowed to vote on matters affecting the business of the Society, nor will they be allowed to vote in the next elections for Council, a matter which intimately concerns every member. Also the offer and arrangements made to absorb all T. & R. members on these conditions, and without the payment of ten and sixpence entrance fee, will not remain open indefinitely. Therefore we would remind all members, the greater majority of whom voted in favour of this arrangement at the last annual general meeting of the Section, that we would be glad to have these subscriptions as early as possible.

Subscriptions.

The non-payment of subscriptions should really have been the heading to this paragraph, for we have recently been preparing a list of non-paying members for removal from the Register of Members

owing to such non-payment and find that it presents a formidable list. We have sent out many reminders to these members, and we cannot go on indefinitely keeping their names upon the circulation list if the subscriptions are not forthcoming. Therefore we would ask that in order to avoid the removal of their names from the list, and the subsequent re-election of many who have been members for many years and might have to pay an entrance fee upon such re-election, send us that subscription as early as possible. By doing this you will also simplify our work in the office which at the moment is being run almost entirely on a voluntary basis.

The R.S.G.B. : Its Traditions and History.

With the putting into effect of the "fusion" arrangement it is not perhaps out of place to recite a few facts about this Society which are not perhaps known to our younger members. This Society was founded some years prior to the War and has a long history of achievement and useful effort at the back of it. It is the oldest Radio Society in the world, being formerly known as the Wireless Society of London, and was formed by a small body of enthusiasts in the good or bad old days of sparks and crystals. We number amongst its members some of the leading wireless engineers of the world, and certainly it is the only technical radio society in this country, apart from the local radio societies.

Originally the official organ of the Society was "Wireless World and Radio Review," and latterly "Experimental Wireless." Now we have our own official organ, owned and published by ourselves, in addition to the Yearly Handbook. We think that this constitutes a landmark in the history of the Society, and we certainly think that every member has reason to be proud of his association with such a Society. It is hoped that we shall shortly be able to publish a history which we know will be appreciated by all members.

The Sales Department.

This Department was originally initiated for the benefit of members and in order to assist the BULLETIN finances, and in this respect it is promising to be a great success. We might say that at times there may be a slight delay in supplying certain books and sometimes notepaper. In the former case this is due to the fact that we do not carry a large stock of books and in the latter case we find that we get periodic runs on the stationery which clears out our stock before a fresh consignment has arrived. We ask the indulgence of all members in this respect and assure them that we do our utmost to provide the goods as expeditiously as possible but that at times a little delay is unavoidable.

We have in stock at the moment a fairly large stock of metal enamelled plaques for fitting to cars or to the door of the wireless hut or room, and these are advertised elsewhere. The plaques are stove enamelled and will stand a large amount of weather without damage, the finish being black and gold and the design an enlargement of the membership emblem with which we are all familiar. We hope that many members will send for one of these and that those who travel by road during the summer will display the plaque so that they might be identified by fellow members.

Incorporated Radio Society of Great Britain.

ARTICLES OF ASSOCIATION.

It is thought that many members would like to possess copies of the Articles of Association, and therefore a limited number of copies have been printed for sale. These will shortly be available and may be obtained, price 1s. post free, on application to R.S.G.B., 53, Victoria Street.

THE CONVENTION.

As announced in our June issue our annual Convention will take place at the Institution of Electrical Engineers, London, September 30 to October 1, 1927.

An interesting programme is being arranged and the dates coincide with the Radio Exhibition at Olympia, at which the Society will have a stand.

STANDARD WAVEMETER.

Regarding the announcement appearing in the June issue, we have to announce that we cannot undertake the calibration of absorption wavemeters at present.

A Visit to the R.E.F. Convention, Paris, 1927

On Friday evening, May 20, 5AD and 5KU sailed for France to attend the R.E.F. Convention in Paris on May 22. We arrived at the Palais d'Orleans where the first part of the R.E.F. Convention was held. Here, several of our French friends were met and old acquaintances renewed.

A speech by Deloy (8AB), followed by 8JN's remarks on the progress and aims of the R.E.F. were acclaimed by all, as also was a message from AF1B read by 8DI. This message of about 400 words was received by 8YOR during a 20 m. QSO with AF1B, Jamas of Siagon. Mme. Jamas was present and received the thanks of the R.E.F., while 8YOR was acclaimed and presented with a cup and signed certificate for his good work on 20 m. culminating in the first QSO between France and Hawaii. 8ZB was also presented with a certificate for his excellent QRP work, and after a statement of accounts, etc., the meeting was closed.

A photograph of those present was then taken after much arranging of the group in a rather small studio for the size of the meeting. An attempt to steal away for tea was frustrated by one of the members with a baby cinema camera. We lost 8MUL who stopped to argue about Hertz radiators, but with 8DQ we went along to a tea shop and revelled in delicious French rolls and pastries. After tea 8DQ once more made his car travel, and we visited Notre Dame and the Arc de Triomphe and the Unknown Soldier's Grave.

In the evening we returned to the Palais d'Orleans for the R.E.F. banquet. 8AB welcomed Com. Mesny, who presided at the banquet, and later welcomed the foreign amateurs present. To this welcome G5AD replied and gave the cordial greetings of the R.S.G.B. and hopes for the success of the R.E.F. OP3AA also expressed his best wishes to the R.E.F. Then 8YOR was presented with a really miniature transmitter which formed the basis of a competition, which was to guess the maximum wavelength of the set, the winner to be presented with a S.W. transmitter. 5AD then proposed that the second nearest competitor should be given one year's membership of the T. & R., by 5AD and 5KU. This was announced by 8DQ and heartily acclaimed. It was not till I noticed his signature on my menu card that I knew YDCR was present.

After the dinner a very humorous cinema show was staged, and the party broke up in the best of spirits.

I can say we thoroughly enjoyed our trip to Paris and the R.E.F. Convention, and have to thank all our friends in Paris who made it so enjoyable. Our special thanks are to 8DQ who gave us such a good time with his car, and also to the officials of the R.E.F. who showed us such hospitality. We have seen that the R.E.F. is an intensely active amateur organisation working in harmony with the other amateur movements. May they prosper as they surely deserve. We hope to see some of the R.E.F. in London for the R.S.G.B. Convention this year, and can assure them of a hearty welcome.

R. POLLOCK (G5KU).

**Do YOU Advertise in the
BULLETIN?**

A Method of Measuring Transmitting Valve Efficiency

By GI6MU.

The measurement of efficiency seems to be regarded by most amateurs as a feat of considerable difficulty only to be attempted by those who possess a large supply of laboratory instruments.

This, however, is not the case, and the efficiency of conversion of a transmitting valve may be easily obtained to a degree of accuracy sufficient for most amateur requirements by the method described here.

The valve is, after all, only a piece of electrical machinery used to convert D.C. to A.C., and no one would think of installing an ordinary electrical machine without having some idea of its efficiency. As with any apparatus,

$$\% \text{ Efficiency} = \frac{\text{output} \times 100}{\text{input}} = \frac{(\text{input} - \text{losses}) \times 100}{\text{input}}$$

Thus, if the input and the losses are known the efficiency is easily obtained. The main disadvantage of this method is that it necessitates the valve being run at sufficiently near full load to cause visible heating to occur at the anode: for this reason it is not suitable for most very low power stations. The degree of accuracy obtainable is not very great, but as already mentioned, it is ample for amateur work.

The test should be carried out at night, and preferably by electric light.

The procedure is as follows:—

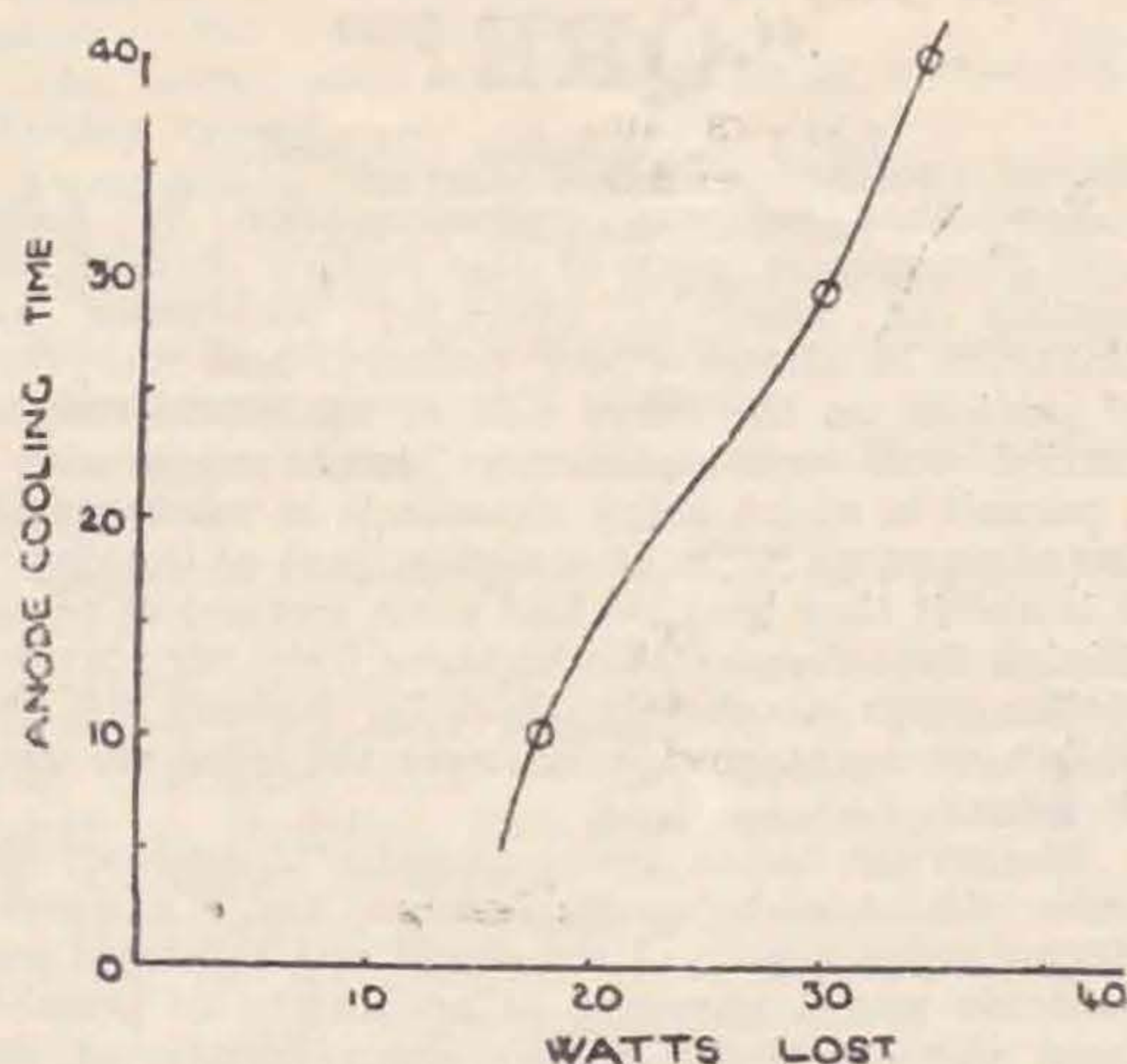
The valve to be tested is placed in the transmitter in the ordinary way, and the circuit is adjusted so that the valve will not oscillate. The H.T. and L.T. are then switched on and the input is adjusted to as near the rated anode maximum dissipation as possible. The supply is left on until the valve is fully heated up: this should take from 3 to 10 minutes, according to the size of the valve. The H.T. and L.T. and the light in the room are then switched off simultaneously, and the time taken for the anode to cool down to the temperature at which it becomes invisible is measured as accurately as possible by means of a stop-watch or by the second hand of an ordinary watch.

This process is then repeated with reduced inputs, and a series of readings is taken down to the input at which no visible heating occurs. A curve is then plotted of watts input against time taken for the anode to cool down.

Since the valve is not oscillating, and therefore is not doing any useful work, the total power put into it under these conditions is dissipated in heating losses.

A typical curve taken with a Mullard DO/40 valve is shown: with an input of 60 watts on 44 metres the efficiency of this valve worked out at 54 per cent.

When the curve has been drawn the transmitter is started up and properly tuned in the ordinary way. It is allowed to run for a few minutes as before to allow the valve to heat up. The current to the valve and the light are then switched off



and the anode cooling time taken exactly as before. The losses corresponding to this time are now read off directly from the curve and the efficiency worked out as stated above.

The curve may be kept for reference and the efficiency with different circuits and adjustments may be very easily obtained.

If the anode of small 4-pin type valves cannot be seen directly owing to "gettering" deposit, try using a small mirror! Set it low down near the base, and you are sure to find a position which will give a good view of the plate.

An Expedition.

An expedition is going out to St. Anthony, Newfoundland, to establish radio communication with posts in Labrador, there being no other means of communication on account of bad weather conditions. This will be "on the air" towards the end of June, on a wave length of 43-45 metres, and will use the call NU-WTG. British amateurs are requested to listen for this station at about midnight G.M.T. on Saturdays.

Mullard Night.

Friday night is usually associated with Amami, but two Friday nights have certainly been "Mullard Nights."

On Friday, May 20, a presentation was made by Captain S. R. Mullard, to Miss I. V. Jenkinson and Mr. Noel Maskelyne, on the occasion of their wedding. The presents, including cut glass, silver and cutlery, were subscribed for by members of the staff and works of the two Mullard companies.

As an acknowledgement and a mark of thanks, Mr. Maskelyne arranged for a large number of the Mullard employees to attend a performance of "A Melange of Magic" at Maskelyne's Theatre (in which Mr. Maskelyne personally appears) on Friday evening, May 27.

Stray.

If the amateur who was QSO NUSATX on April 3 informs 5BD, he can have QSL, cos he's not guilty.

“QRB?”

By J. C. WILSON (BRS56).

Now that two-way communication by radio over the greater part of the earth's surface has become an affair of everyday occurrence for amateurs in almost every country, and reception of stations on the other side of the world can be carried out with extremely simple apparatus—a pursuit in which many thousands of wireless men are engaged all night and a good part of the day—it is about time that we had some method of ascertaining the other fellow's distance from our stations rather more accurately than by looking up the length of the steamship route in the atlas we used at school.

The writer had occasion recently to find out the radio distance between London and Capetown. Accordingly, a map of the world was procured and its scale was determined as accurately as possible from the length of a semi-circumference at the Equator. On this scale the distance London-Capetown was apparently 7,400 miles. Later, however, this result was checked by a different method, when the first result was found to be inaccurate by *more than 1,000 miles*. Even the steamship route method was better than that.

The purpose of this article is, therefore, twofold: first, to indicate the need of a reliable method of distance measurement without recourse to maps and scales, and, second, to outline such a method, suitable for use by those amateurs who possess a slide-rule, or who do not mind using logarithmic tables. A quicker method, which is sufficiently approximate for most ordinary purposes, is also given.

The need, in the light of the foregoing remarks, will not be disputed; the methods are as follows:—

GENERAL CASE.

Look up the latitude and longitude of the two stations whose distance apart it is desired to find in a gazetteer. From this, find the distance in degrees of arc of each station from the North Pole. Find, also, the *least* difference of longitude of the stations.

Now call the stations A, B. Let the distances from the North Pole be a, b degrees, respectively, and the difference of longitude be θ degrees.

We have two sides and the included angle of a spherical triangle.

From the well-known formula:—

$$\cos d = \cos a \cos b + \sin a \sin b \cos \theta.$$

In this, d represents the distance in degrees of arc of a Great Circle between the stations.

EXAMPLE:—

In order to illustrate the accuracy and ease with which point-to-point distances may be reckoned by this method, let us take the case to which reference has already been made: London to Capetown.

Here:—

$$\theta = 20 \text{ degrees.}$$

$$a = 38 \quad "$$

$$b = 125 \quad "$$

$$\cos d = \cos 38 \cos 125 + \sin 38 \sin 125 \cos 20$$

$$= -.452 + .475$$

$$= .023$$

$$\begin{aligned} d &= 88 \text{ degrees } 41 \text{ minutes} \\ &= 5,721 \text{ knots} \\ &= 6,625 \text{ miles} \end{aligned}$$

PARTICULAR CASE:—

For those amateurs who possess a map on Lambert's Equivalent Azimuthal Projection, the following method may be found useful:—

Where L = apparent distance on map (straight line) in miles.

d = true distance (arc of great circle).

D = diameter of the earth (8,000 miles approximately).

Then:—

$$d = L + \frac{L}{D} \left(\frac{\pi}{2} L - L \right) \text{ approximately.}$$

Taking the above example:—

$$\begin{aligned} d &= 4,710 + \frac{4,710}{8,000} \left(\frac{3.14159}{2} \times 4,710 - 4,710 \right) \\ &= 4,710 + 1,580 \\ &= 6,290 \text{ miles.} \end{aligned}$$

This agrees fairly closely with the result obtained by the longer but more accurately worked out method shown above.

Come, now—let us see if we can't make the figures after “QRB” on our cards mean something; it is just as easy to contract the habit of doing things well as of doing them carelessly, just as easy to write down truth as nonsense, and a great deal better to work it out instead of shutting our eyes and guessing.

Which Harmonic?

By 6XG.

Various statements are made from time to time as to whether transmitting aerials are being worked on the second or third harmonic, but it is suggested that the fundamental of the loaded aerial is hardly ever an exact multiple of the working wavelength (*i.e.*, neither 2 nor 3), but bears some other relation to it depending on the particular values of inductance or capacity or of both (if both are used) which are necessary for tuning to zero reactance at the working wavelength. With one particular arrangement here, using an inductance and a series condenser for loading, the ratio of loaded fundamental to the working wavelength was found to be 1.8. Loading the aerial to 135 metres and coupling the 45-metre oscillator to it, the response was found to be very slight, this presumably being the sort of thing which occurs when a broadcasting station radiates its valve-generated harmonics which are often received by listeners and which are exact sub-multiples of the fundamental.

NOTE THESE DATES:

SEPTEMBER 24 to OCTOBER 1
at OLYMPIA—STAND 226.
SEPTEMBER 30 — OCTOBER 1
CONVENTION.

Is QRP worth while?

By J. GEESON (G2SO).

The purport of this article is not to answer the title nor to be intended as a record of QSO established, but rather to offer encouragement to others who, like myself, were for various reasons dissatisfied with the results of the November tests.

Having stated that being dissatisfied with my own results (apart from the poor organisation of same) and believing that there is a cause for everything, even poor QRP results, I determined to reason out the cause in the following order.

1st.—If my tests were getting out (that is DX distance), was my failure to QSO due to poor reception?

2nd.—If my reception OK, was my sigs., although getting out of poor quality?

3rd.—If both OK, why etc. were my results a washout?



To satisfy myself that No. 1 was not the cause, the decision was made to keep a systematic watch of two hours each day for a month recording the country of origin, call sign, wavelength, QRK, QSB, QSS, and local conditions of reception, afterwards tabulating the results.

Having little hopes of hearing countries outside Europe during the hours that could be devoted to a constant watch of two hours duration the hours from 19.30 to 21.30 G.M.T. were chosen. This DX reception was carried out during January; the results proved to be beyond all expectation, practically the whole of the European countries being received at good strength, also on several occasions A, Z, BZ and other continents. This proved that No. 1 was not the cause.

No. 2, the more serious question, now had to be tackled.

Although being satisfied with the quality of transmission as tested locally during the November tests, it was decided to try various circuits before conducting further DX transmission; this was done between January 30 and February 3, finally

coming to the conclusion that circuit A was best suited to the conditions here.

The circuit used will be seen to be of the L.C. Hartley type *.

Parallel feed (the only out of the ordinary feature being the position of the grid leak and condenser).

The valve being a D.E.T.I. fed from D.C. mains.

The aerial and C.P. working on the fundamental.

Wavelength being 44.8 metres.

The power input being 220 volts at 25 milliamps. (watts 5.5).

Radiation reading by H.W.A. .3 (true radiation being a ?).

Having decided that conditions could not be improved tests were commenced on February 4 and continued each evening during the same hours as reception had been conducted (except for odd nights throughout February and March).

Calabration of each test sent was made every evening for wavelength, power input, and QSB, and every endeavour made to keep each test constant (it was early found that this systematic calabration of each test was well repaid, especially on schedule working).

Results of transmission tests will be found tabulated under B.

Schedule working results are not given, but have resulted in QSO being maintained up to distances of 2,500 miles fading out at R2 under identical working conditions of power, etc., as stated above and shown under B.

For those interested it is interesting to plot curves from data given and note percentage of QSO established at certain distances (distances are the average distance of the stations worked in the countries named, using Bonnes' Projection Map).

Also the same applies when average R strengths are plotted out, direction, QSB, etc.; in fact, a whole heap of interesting data may be worked out, but as the Editor warns me his sheets are not rubber ones these interesting

facts must be worked out on your own tests, OM's.

Briefly, however, if tabulations B are compared with a map it will be seen that the greatest percentage of QSO's are between 500 and 750 miles, the poorest being at 360 and 1,125 miles. It is interesting to note that all QSB reports under 500 miles give "DC slite Chirp" over 500 miles; all give "DC Stdi." Why?

Also, why are replies by G's to tests so poor, only being the same percentage as foreign stations (percentage 15.38).

Now, OM's, "Is QRP worth while?" You will have to provide your own answers (no, this is not for the Star QRPDX men, so don't all shout at once), for the humble fry, like the writer, the answer may still be a lemon.

It is, however, the conviction of the writer that too great attention cannot be paid to details of:

"Method of conducting tests and sending."

"That it pays to be systematic in calabratings, etc."

"Schedule times of working are essential for 100 per cent. QSO's on QRP."

"When results are poor, don't blame the other fellow for not QSLing; there's a cause: try and find it out systematically."

Questions still to be answered:—

Why such poor response to test calls by G stations (are they too QRW with DX, or don't they hear em?).

Why chirp under 500 miles and not over?

For the purpose of finding out the answers it is proposed to carry on tests further, and will be pleased to co-operate with all interested.

A brief description of the station here is given below.

The station consists of three entirely self-contained stations working from 36 metres up to 500 metres on transmission, receivers to cover each transmitter band of wavelengths being used entirely upon the band of wavelengths associated with its transmitter.

Transmitter "A" is the one described and used in the tests referred to, a loose coupled Hartley type oscillator and choke controlled modulator, parallel feed, covering wavelengths from 36 metres up to 105 metres.

Receiver "A" used in conjunction with "A" transmitter is a Grebe circuit, and with three changes of coils covers wavelengths from 15 metres up to 115 metres.

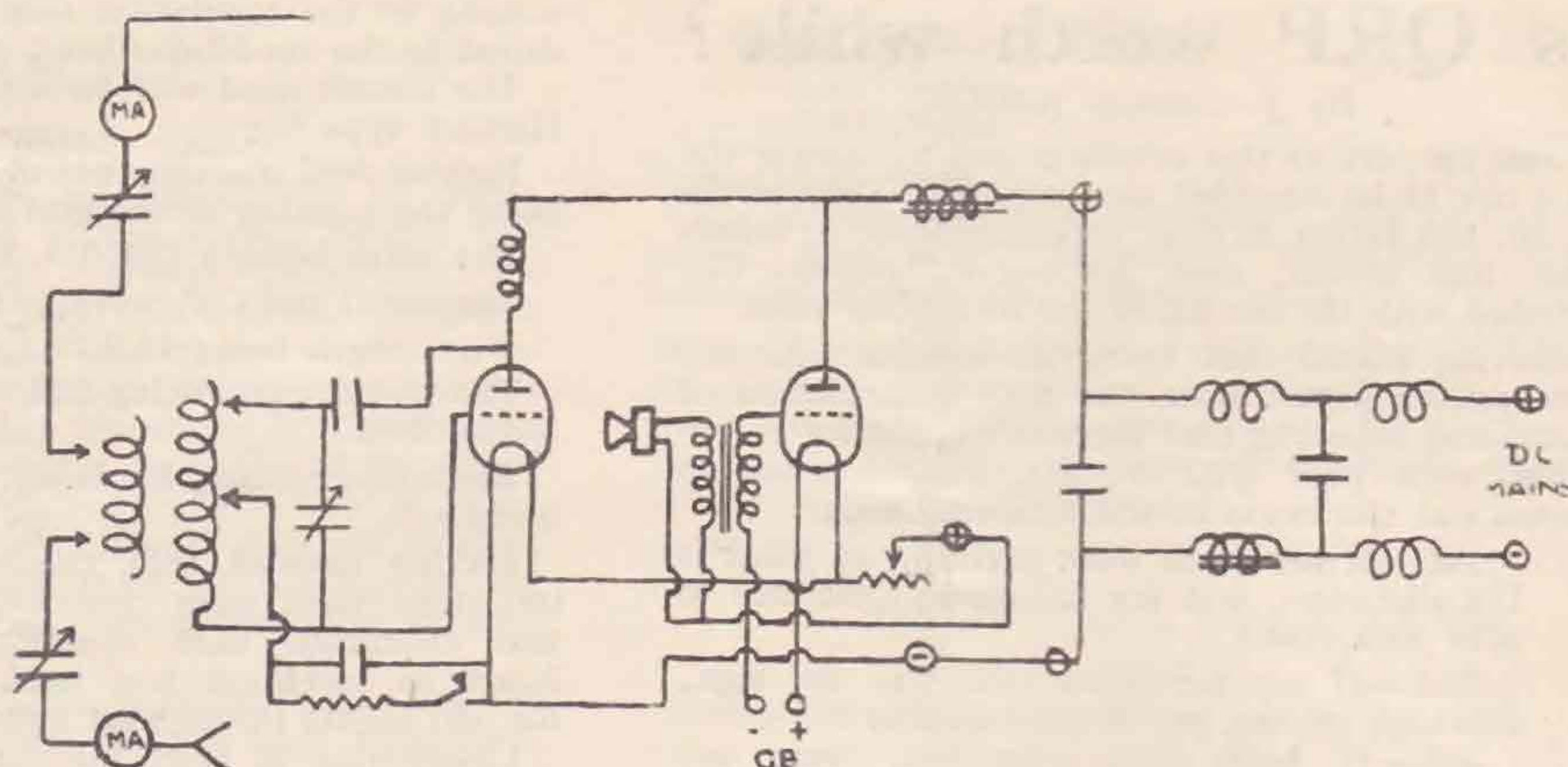
Transmitter "B" is of the R.F.B. type, and covers wavelengths from 134 metres up to 290 metres and is grid control, loose coupled aerial circuit, variometer tuned, feed as "A."

Receiver "B" is a detector, one L.F., plug-in coils being used covering wavelengths from 120 to 450 metres.

Transmitter "C" is exactly same as "B," covering wavelengths from 280 metres up to 500 metres.

| Test Calls made by 2SO. | Answered by | Countries | Percentage of QSO to tests by 2SO. | Test calls answered by 2SO. | QSO established. | Percentage of QSO established. | Approx. distance in miles. |
|-------------------------|-------------|-----------|------------------------------------|-----------------------------|------------------|--------------------------------|----------------------------|
| 26 | 4 | EG | 15.38 | 17 | 7 | 41.7 | 125 |
| | | EB | | 3 | 0 | — | 360 |
| | | EN | | 1 | 1 | 100 | 360 |
| | 2* | EF | | 4 | 1 | 25 | 360 |
| | | ED | | 4 | 2 | 50 | 500 |
| | | SM | | 8 | 4 | 50 | 675 |
| | | LA | | 1 | 1 | 100 | 675 |
| | | EK | | 11 | 6 | 54.54 | 675 |
| | | EC | | 1 | 1 | 100 | 925 |
| | 1* | EI | | 8 | 2 | 25 | 925 |
| | | EAR | | 6 | 2 | 33.3 | 925 |
| | | EP | | 1 | 1 | 100 | 1,125 |
| | 1* | ES | | 3 | 0 | — | 1,125 |

*15.38%.



Total per cent. replies by G's, 15.38 to test calls by G2SO.

Total per cent. replies by foreign stations: 15.38 to test calls by G2SO.

Total per cent. of QSO to 2SO tests, 30.76.

Total per cent. of QSO to foreign tests answered by 2SO, 41.17.

Per cent. of QSO at 125 miles, 41.17.

Per cent. of QSO at 360 miles, 25.

Per cent. of QSO at 500 miles, 50.

Per cent. of QSO at 675 miles, 55.

Per cent. of QSO at 925 miles, 33.3.

Per cent. of QSO at 1,125 miles, 25.

Receiver "C" is a 4-valve, I.H.F. detector, two stages L.F. using tuned anode circuit, the set being purely experimental provision is made for tune stand bi (loose or direct coupling) series or par. aerial tuning and covers wavelengths from 65 metres up to 2,000 metres.

In each transmitter change over from C.W. to telephony is simplicity itself, one switch in each transmitter accomplishing this.

The working of each transmitter and receiver is just as simple, a permanent aerial panel being connected by plugs (note: no terminals used in the aerial circuit), any combination of transmitter and receiver being the matter of a few seconds.

All instruments (except receivers) are mounted bread board fashion (supplied by Sullivan), this style being preferable because, whilst all components are visible and easily wired and accessible, it lends itself for neatly wiring temporary circuits.

The various components and instruments may be picked out from the photo of station.

In conclusion, if the object of this article has been achieved by spurring any of my fellow members on to further efforts the writer is amply repaid.

Further tests of a similar character will be undertaken during July and August between the hours of 20.00 and 23.00 G.M.T. (hours chosen in relation to sunset), and any co-operation will be acceptable. Details of tests will be made later to anyone interested.

*Ed. NOTE.—Mr. Geeson states that the only fault of his circuit is that it suffers from a bad chirp.

Keying the Transmitter.

By L. A. LAFONE (6HW, 6ZA).

WITH SPECIAL REFERENCE TO THE ABOLITION OF SPACERS.

This article is on one of the most fundamental subjects in transmission. It is an expansion of my letter in the May BULLETIN with regard to "Chirps and Spacers," and gives a fuller account of the method, and of the advantages which it seems to me to possess over certain other types of keying.

This method of keying has been in use at 6ZA for about fourteen months and has proved perfectly satisfactory; it has also been in use for about three months at 6HW. At both stations a straight forward loose coupled Hartley circuit is in use, and the key is between the grid clip and the grid condenser, so that when the key is up the grid circuit is completely broken. The advantages which this method has shown over all the other methods of keying tried at both 6ZA and 6HW are:—

- (1) No radiation when key is up, so no spacer.
- (2) Key clicks practically disappeared, so B.C.L.'s happy.
- (3) No sparking at contacts, so no bad keying owing to burnt contacts.
- (4) No chirp or QRN unless operator moves his hand in relation to the key whilst keying.

If trouble with chirp is reported it means that the capacity between the hand and key is altering, and this, of course, alters the wavelength. This can easily be cured by fitting a relay.

I believe that many chirpy notes are caused by operators holding the key in such a way that the hand to key capacity varies, and that they would be reported "fb steady" if keyed *via* a relay, or if the operator held the key differently.

Stray.

EAMP asks the B.R. stations who have received him, particularly the stations in Ireland and Scotland, to send him a QSL card, QRA P. Mayer, Martinsstrasse 71, Vienna 18, Austria.

The Grid-Current Milammeter.

Judging from the complete lack of reference to it in the pages of the BULLETIN, few British amateurs can be aware of the great usefulness of a D.C. milammeter in the grid circuit of a single valve transmitter. Connected in series with the grid leak, no matter how the leak is placed, it indicates resonance between tuned circuits. The resonance point is that which gives the lowest reading.

In loose coupled circuits, and particularly when any form of Hertz aerial is used, the grid-current milammeter is a very delicate indicator of the point of exact resonance. In voltage-fed Hertz oscillators it should render the use of an indicating lamp quite unnecessary. In the current-feed arrangement it shows resonance more clearly than either the power feed milammeter or the aerial resonance meter. With ordinary aerial arrangements, with very loose coupling and a single loop pick-up the wavelength of the system can easily be discovered by the aid of a wavemeter and a grid current meter.

As grid current proceeds from electrons, which are collected by the grid instead of passing to the plate, it represents a loss of energy, and circuit arrangements should be made to reduce this loss to the lowest possible dimensions. At this station, with 40 watts input to a O/50 valve, 100,000 ohms grid leak, balanced Colpitts circuit, the grid current is just under 4 m.a. with the circuit tuned to 44 metres. When the current-fed Hertz is in exact resonance the current drops to 3 m.a. The aerial is tuned to just under the resonance point to give a D.C. note.

Any appreciable rise in grid current, with normal tuning, indicates that the valve is going "soft."
G5YM.

An Ode to the Manager.

Oh! Gee! 2XV, Amateur, Collector of reports,
Although it's not my habit, I'm now sending one
of sorts.

With the help of G2BAX, I've called myself to book,
And I think I'll send you, monthly, extracts from
my log book.

I'm a casual sort of customer, I really must admit,
And though I work (occasionally), I somehow do
fergit

(Excuse the rhyme, "poetic licence") till it is
too late.

But in future I am really going to try to get agate.
So let's make the future rosy, and you will have
the thort

That every month you'll get at least one local
ham's report.

Well, now I've finished burbling, I'll get on with
the biz;

I haven't done much lately, namely, i.e., viz.,
I've been QRW with swotting, and not done
much DX.

The key has had a rest for months, but not so
the RX.

For I get up every morning, receiving foreign lands,
From Greenland's icy mountains to Afric's red-hot
sands.

This month of March the sigs. have been FB from
every way,

And I've logge, with few exceptions, Z's, A's and
U's each day,

And now and then a Yankee 6, which is rather
gud I think.

But you wait till I've made my new Rx—that's
gonna cause a stink!

The transmitter I'm rebuilding: I'm putting in
the mains

To warm my feet with 1stR and so prevent chilblains.
(My shack gets very cold at night): also to get
some juice

To supersede the old D.B.'s which conk out like
the Deuce.

I've got these mains on order, I expect them
any mail,

And when I write to you next month I'll have
them without fail.

So that with the DX season, which shortly will
be here,

I'll have some DX to report to you, so never fear!
That's all this month from 6CJ, so I'll say toodleoo,
Wishing you very 73's and raising my hat to you!

IuI of 6CJ.

The Prefixes and International Amateurism.

By R. TAPPENBECK

(President, Dutch Section I.A.R.U.).

There seems to be a "choc des opinions" in some quarters of the world's amateur activities about the new prefixes issued by the I.A.R.U. recently. This is a good sign.

It shows, in the first place, that the question is an important one, and, furthermore, that the international organisation (or understanding) of the radio amateurs is still in a very embryonic stage.

In my humble opinion the latter point is the main one, as all evil, even in international amateur radio, has its origin in misinterpretation of the other fellow's aims and ideas.

Let us put the question as follows: What is the I.A.R.U. at present?

As the president of the I.A.R.U. Section with the second largest membership in the world, I am very sorry to state that the I.A.R.U. in its present form is a puzzle and a mystery. (Not in Holland, of course!) This doesn't sound very hopeful, but going back to the question of the prefixes, we must admit that it will only be possible, by means of a well-organised international co-operation, to deal with this matter in a satisfactory way. And there are still other problems waiting for a uniform treatment—for instance, wavelength distribution, QSL sections, organisation of tests, etc.

An international organisation will only be powerful if its ideas are approved by and will be supported by one national organisation in each country. Developing this point of view a little further, the experimenting amateurs of every country who are interested in international problems (and as far as I can see everybody should be, as everybody's receiver or transmitter has a range far beyond the national borders, i.e., an international range) must all join that one national organisation that is representing their common interests, helping this organisation to grow as large as possible in co-operation with their own Government. A national radio society of this type will be the only possible authority to deal with international matters concerning that particular country.

If this is done all over the world, we have a well-organised International Amateur Radio Union, robbed of all mysteries, and the I.A.R.U. headquarters acting as an exchange office of national ideas will nobody any more surprise by a new suggested scheme.

Certainly an international organisation is the most difficult problem of co-operation and has to rely almost completely on the goodwill of every member (member society).

There are international questions concerning the experimental amateurism: an organisation is necessary. Then why not improve the situation?

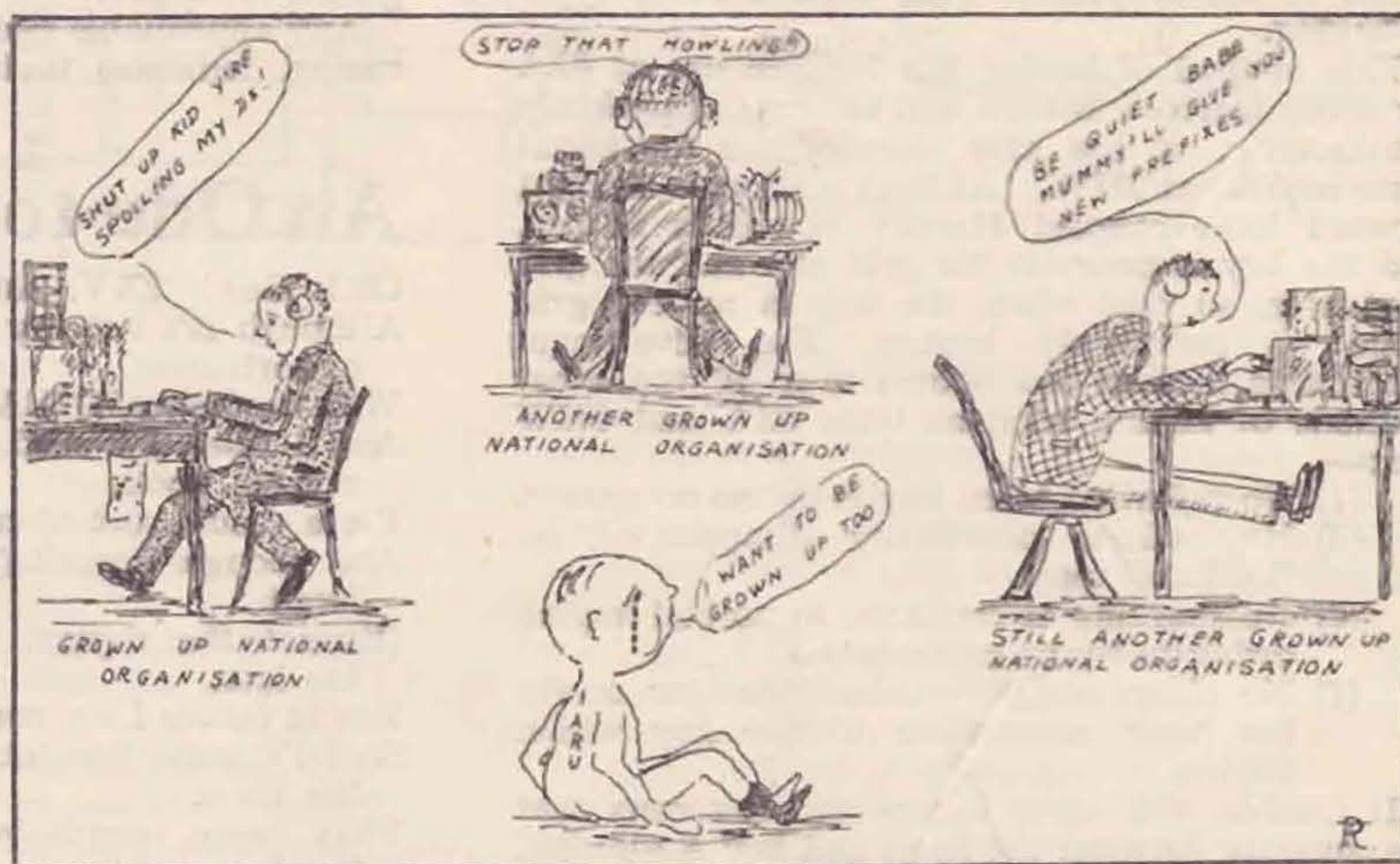
L'art est difficile, la critique est aisée!

Let's help the embryo!

Strays.

Half a dozen things we want to know:—

1. Who are the enthusiasts who were touring North Wales in a large saloon to "see the eclipse" and study its effects.



2. If their wives know exactly the objects of their research?
3. If they recently applied for an extended licence?
4. Why they propose taking a teetotaler as emergency oscillator? (Sorry, I mean driver!)
5. If they are really members of the R.S.G.B., or have they got mixed up with another four letters—A.O.F.B.?
6. If they will send a complete and detailed report to their Area Manager for publication in his next month's notes?

Irish Free State Amateur Transmitters.

GW11B.—Colonel Dennis, Fortgranite, Baltinaglass, Co. Wicklow.

GW12B.—The Wireless Society of Ireland, 12, Trinity Street, Dublin (fixed station).

GW13B.—The Wireless Society of Ireland, 12, Trinity Street, Dublin (portable station).

GW14B.—Mr. J. P. Campbell, 1 Martello Terrace, Sutton, Co. Dublin.

GW15B.—Mr. W. R. Burne. (Station now closed down.)

GW16B.—Mr. H. J. Duncan, 2, Albert Road, Sandycove, Co. Dublin.

GW17B.—Mr. W. F. Warren, 130, Tritonville Road, Sandymount, Dublin.

GW18B.—Messrs. Dermot & Donal O'Dwyer, 9, Upper Leeson Street, Dublin.

GW19B.—Mr. H. Goldsborough, Shaftesbury House, Fethard, Co. Tipperary.

GW11C.—Mr. D. E. Bradshaw, Littleton, Ashfield Road, Ranelagh, Dublin.

GW12C.—Mr. L. H. Carder, Dunsinea, Castleknock, Co. Dublin.

GW13C.—Mr. E. C. Boursin, Church Street, Listowel, Co. Kerry.

GW14C.—Mr. D. G. Kennedy, 21, Morehampton Road, Donnybrook, Dublin.

GW15C.—Mr. W. B. Bates, Baltrasna, Ashbourne, Co. Meath.

GW16C.—Mr. George Horrander, 44, Dufferin Avenue, S.C. Road, Dublin.

GW17C.—Mr. J. B. Scott, 9, Upper Garville Avenue, Rathgar, Dublin.

GW18C.—Mr. J. Benson, 46, Dufferin Avenue, S.C. Road, Dublin.

(via Irish Radio Review.)

QRP!

Transmission from London to Mons on 4 volts H.T. is chronicled by Mr. L. A. C. Lawler, G6LR, of London.

On a recent occasion, while his high-tension generator was out of action, Mr. Lawler carried out a local test with 20 volts H.T. on his Marconi L.S.5 valve in his short-wave transmitter (44.9 metres), and on closing down heard the Belgian station S5 replying. He was reported at good strength, and as an experiment reduced this already amazingly low H.T. voltage in steps until only three cells of the battery were in use, when he was still received clearly, but weakly, in spite of atmospherics, and was able to put a number of questions.

Books to Hand.

WIRELESS LOUD SPEAKERS. By N. W. McLachlan. (Iliffe & Sons, Ltd.) Price 2s. 6d. net.

This book is one of the finest half-crown's worth we have seen in radio literature. In our opinion, it would be cheap at 5s., so fine a collection of information does it contain on this important aspect of radio work. Unfortunately, the average amateur experimenter is apt to neglect the acoustics side of research work when he is in search of perfect loud-speaker reception, and this book should be invaluable to those whose knowledge of this branch of physics is meagre. Written in a straightforward plain-spoken style, unobscured by smoke screens of mathematical formula, and with chapters devoted to almost every known type of loud speaker and with a special chapter on amplifiers, it will be greatly appreciated by everybody who wants to know something definite about faithful reproduction by the loud speaker.

THE LEAD STORAGE BATTERY. By H. G. Brown, A.M.I.E.E. (The Locomotive Publishing Co.) Price 10s. 6d.

A handy, compact book containing reams of useful information concerning lead storage batteries, their construction and their working. Those members who use "home-made" current should have this on the bookshelf, for it will tell them a great deal about secondary cells, which is not to be found in ordinary electrical engineering text books.

(Note.—Any of the above-mentioned books may be obtained through our "Sales Section.")

Notes and News from the Areas.

Northern Notes.

Area Manager, S. R. WRIGHT (2DR).
(Reports to Collectors by the 8th.)

Yorkshire seems to be the only county doing a great deal of reporting this month, but there seems to be plenty of work going on in spite of the lack of reports. Don't let your Area down for the sake of a post card, fellows!

In the low-power brigade, 61G, Mr. Brady, A.M.I.R.E., of Ripon, deserves praise for maintaining contact with NC1DM for over half an hour, using 3.5 watts, a V.F. Hertz, and an L.S.5 on 45 metres.

5MQ, Mr. Menzies, of Liverpool, having worked SB and 14 NU's on 9 watts, also deserves commendation.

6YV, Mr. Evans, of Whitley Bay, has done good work on medium power.

Will collectors please note that I must have all reports by the 10th of the month at the very latest. If your gang have not reported by the morning of the 9th, send along what you have, OM's. Time and the Editor wait for no OM!

Now for the reports:—

YORKSHIRE.

Reports to 2DR.

600 is busy trying 23 metres, but is not having much luck at present, and has not much to report. I don't agree with the eclipse idea, OM. How can it possibly?

6TY worked 53 stations covering all Europe and three ships on 24 watts R.A.C. Best DX, EP, 1AO. R6. He has not been on much this month.

5SZ has occupied a good deal of time clearing up generator hum, and the results have been fully worth the time. Pure D.C. at 150 watts is not easy on 45 metres. Phone has been done on 45 and 90 metres with Continentals and G's. C.F. Hertz now going here.

6DR has managed 115 stations this month, but DX conditions are only moderate. Best DX, EU1UA (R6). No wave or power stated. He is trying crystal control after visiting 6CI and 5ML at Coventry.

61G has worked 50 stations on 45 metres with 3½ watts and a V.F. Hertz, including the very good QSO with NC1DM mentioned in the summary above. Usual Continentals worked R6-7.

6JS also worked 50 stations, but gives no details beyond R.A.C. supply. Best report Paris R7 when using 2½ watts from accumulators.

BRS26 reports hearing NN, SE, SM for the first time this month. He prefers 20-metre band to 45 owing to absence of QRN.

2YU, ever busy, turns in the total of 141 QSO's. Best DX D7JO when using 2 watts and 2XQ at Riga. Maximum power, 5 watts. He seems to cover most of Europe with this input.

2XY has had his aerial down, but before this worked several MU's on 23 metres with 120 watts. On 45 metres phone was put across to NU1DM. Reports received from OA, OZ, and FO, R4 to R6. 90-metre telephony also done with 5SZ.

6BR has worked the usual Europeans. Best DX being SB2AG, R6 on 45 metres, and NU1AH1, R4 on 23 metres. Angular propagation experiments proceeding here. Hi, fellows, camp on the fellow illegally using 6BR's sign for three months past on 45, and now continuing on 38 metres. Information to 6BR or the A.M.

6XL has done the Continentals, but has not been on the key much. Has had little time, and put most of that into rigging his R.A.C. outfit.

2DR is temporarily out of action owing to experiments in preparation for the eclipse for the Radio Research Board.

Failed to report: 2IH, 5US, 5KZ.

LANCASHIRE AND ISLE OF MAN.

Reports to 5XY.

2QV reports good European working with an input of 6 to 8 watts, presumably on 45 metres. More details would be welcome, OM.

5MQ has done excellent work on 33 metres with 9 watts (300 volts from accumulators). Fourteen NU's and Brazil being bagged during the A.R.R.L. tests.

2AUH sends a list of calls heard. Please see standing orders in the BULLETIN about these, OM.

5XY has not been on a great deal this month, but has again managed 7th district NU on 32 metres.

5XD is the only representative of I.O.M., and has covered Britain and Holland on 45 phone, using 7 watts. On C.W. has worked EZ66C, but thinks this Albanian. Any information would be appreciated.

Failed to report: All others!

NORTHUMBERLAND, DURHAM WESTMORLAND AND CUMBERLAND.

Reports to 2AIZ.

6FG is still QRW exams, but hopes to be on the air again very soon.

6QT has worked 23 stations on a 9ft. high C.F. Hertz, using 3 or 4 watts, dry batteries and accumulators. He seems to be covering Europe well.

6YV uses 50 watts from a D.C. generator and has done good work on 45 metres, SC2AR (R5), SB1AW (R6), AF1B (R4), AI2KT (R5) being the best. A few NU's and a report from FO and Tasmania to boot. Full wave Hertz here.

BRS44 reports general reception and alterations for some experiments on ultra short waves of 8 metres and lower.

BRS68 reports hearing SB and SC's, including SB6QA at R7, but is QRW exams.

I agree with 2AIZ that there are a lot of hams in this area who do not report, and I think some of them might let fellow hams hear of their doings. It is not exactly ham-like to maintain silence, anyway, so roll up the P.C.'s, you fellows.

NOTTS, DERBY AND LINCOLN.

Reports to 5CD.

2ABA has been doing interesting fading tests with 5KU, but no details are available.

2AHP has nothing to report.

2BZT has very little to report. He is busy fixing up a 50-watt set for use in Rhodesia, whither he is shortly going. He will try crystal control, and should be working during July.

5BD has worked 83 stations, including EJ, EP and ET. He had a report from British Guiana when using a half-wave Hertz laid on the ground. Power and wave not stated.

5CD has at last got going on 45 metres, using a Hartley while awaiting a crystal. Has worked Jersey on phone with 8 watts. A C.F. Hertz is due here.

6UO (ex 2AUR) has got a full permit and is using 7 watts on 45 metres. He has not got far afield yet, but is trying a C.F. Hertz.

2BLG has unfortunately failed to secure a full permit. You will get better sigs with the earth off, OM, as a rule.

BRS34 is carrying out schedules on fading on 45 and 34 metres. He has applied for a transmitting licence. Good luck, OM.

BRS45, owing to change of QRA, has little to report, except re-erection of his set and a new mast. He has received confirmation of reception of SADE3 when this station was using only 5 watts.

Failed to report: 2IX, 2VQ, 5DM, 5KW, 5OD, 5QT and BRS48. Hi!

CHESHIRE AND NORTH WALES.

Reports to 6TW.

2SO has been busy on 45 metres with 5½ watts, and has worked a good many Continentals. He is testing out a C.F. Hertz on 6VQ's principle, but has not managed to touch the States yet. He has not been on the key as much as usual.

6TW uses 2½ watts on 45 metres phone and C.W., and has done well in Europe with both systems. Input, 180 volts to DFAO valve as oscillator and a CT25 as modulator.

The rest of Cheshire and North Wales are so busy getting ready for housing eclipse crowds they seem to have forgotten the BULLETIN and 6TW's address. Two reports for the whole area is not very startling, OM's!

Southern Notes.

Prepared by 2LZ and 2ABK.

I am glad to say that we have had several new stations who have sent in their reports this month.

But very few of the old hands have sent in anything.

Many are, no doubt, absolutely QRT during the summer, but this should not be so, and if it is so, we want to know it!

I am sure that considering the size of our area, that the number of reports received is the smallest percentage of any area, so up to it, you hams of Hertford, Berkshire and Middlesex—three large counties and no reports at all.

KENT (by 2MI).

2UD reports good work on 45 metres, but he is experiencing trouble with H.T. He is using a Wilson Break, but his difficulty is in the smoothing circuit. Rectifying with ordinary receiving valves has been tried, and 2MI expects the valve manufacturers have made a fortune.

6VV has been busy putting down earth plates. He has taken advantage of road excavations in front of his QRA, and put them there. He spends his evenings now chipping up the pavements for the lead-in wires. Hi!

2MJ is also going strong on 45 metres; he is using 2MI's generator during the latter's absence from home. Using phone, he has had an R9 report from Edinburgh.

2MI has not been home for several week-ends, and therefore has nothing to report. He has been visiting Essex stations, 6QO and 5QV.

2AOV is still studying code, and hopes are high for obtaining an open aerial licence soon.

OTHER DISTRICTS.

2HJ reports using 2-8 watts A.C. on 45 metres, and working 42 QSO's. Countries EB, ED, EG, EF, EN. Best DX, ED7MT,

who gave him R6, steady A.C. He apologises to those who have to copy his QSB. The matter will be rectified as soon as possible!

2TO has returned to his QRA after a period at Northolt radio station, but is QRT owing to decease of a 30-watter. He will be working for eclipse tests on 200 watts D.C. on 32 metres. He will be shifting QRA soon owing to a "double event" later on.

5NZ has worked a number of stations on QRP ½ watt from dry cells. The set has now a current-fed Hertz antenna on 45 metres. With the above power a report was received from Germany R7 on three valves. He is thinking of installing a hand generator for larger transmitter, and would welcome any advice.

6FD, of Cowes, sends his first report. He was licensed last November, and has been QSO NU1, 2, 4, NC1, FI, FM, and 19 European countries. Input, 10 watts maximum. He hopes to do better when he can get a decent aerial up. At present it is only 33ft. long across main street, and counterpoise round skirting of room.

5UY reports his speech heard in Sweden and Spain on QRP, 2 watts. He is QRT on 23 metres now. He had two reports, and one QSO with 8NOR (F?)! 'Phone on 8 watts has been tried with fair results, best being 250 miles in daylight. On C.W. Iraq and SFV have been worked. The latter being 150 miles S.E. of Bahia. A new 23-metre RFB is under construction. The valve in use is a Cosmos SP. 18 R., and gives FB results.

6CJ sends a beautifully versed report, three pages, which, subject to Editorial QRM, we hope to get in somewhere in this issue!

2BHC sends his first report. He has been touring the country with a portable short waver, and has with O-V-1, and 10ft. of flex, heard G's, F's, B, K, SM, I, EA, P and U's on 40-46 metres. Although his receiver works O.K. from 13-20 metres and 25 metres up, it will not work from 20-25 metres. Dope is wanted other than different H.F. chokes and aerial capacities, which have been tried unsuccessfully. Listening schedules are wanted. QRA: Bermuda Cottage, Warren Road, Guildford.

BRS42 reports best DX NP4SA (20 metres), R7 on vertical indoor aerial. A good bag of stations has been heard on 20-metre band during May, including 16 NU's.

Very few Essex stations have reported this month, although several promised to do so.

6WQ, owing to business QRM, is not doing much except Sunday mornings, as he is away from QRA during week. He is using crystal control on 150-200, and has come to the conclusion that CC seems to waste a considerable amount of energy. He worked 5QM Hastings recently, who gave him only R3 C.W., and with his old master oscillator circuit, telephony was easily accomplished. He says his activities in radio need a "Supertonic." Hi! This is what a local newspaper described his recent prize-winning super-sonic 10-valver.

5QK reports several local QSO's on the first try-out of a Hartley on 150-200 metres, using telephony. A CW report was received from 5JO, at Cambridge.

5OK has had a report on his C.W. from Ohio on 9 watts on 150-200 metres. This checks O.K. with his log. Receiver: Super Het.

2ABK has not done much radio at home lately. One all-night sitting was given to the Transatlantic tests, and 2XAD was received on O-V-2 at full loud-speaker strength and scarcely any fading. This was when he was on 26 metres. Still QRW with the code in spare time.

2LZ has been busy on relaying Daventry programmes. These have been heard well in U.S.A. The Empire Day proceedings were attempted as a relay, but unfortunately did not meet with success. His pole (105ft. tower) not being high enough, has now another 10ft. on the top! Hi!

Don't forget those reports, Ms, either to 2LZ or 2ABK, by the 15th of each month.

Many thanks to all who have reported for the first time, and promised to continue monthly. That's the idea, OM's. Make it a habit, it's a good one.

Scottish Area Notes.

By 5YG.

May, judging by reports, has been rather a peculiar month in the matter of DX conditions. In the North, conditions appear to have been very good, while in the Southern part of the Area, they were deplorable, QRN rendering reception difficult for the greater part of the month.

In this connection, I should like to say a word in passing of the remarkable consistency of the work of 6KO. I have just received an extract from his log, and although it embraces the first few days of June, must nevertheless be taken in its entirety to appreciate its true significance.

Briefly, during the period May 21 to June 10, with the exception of May 24, he has been QSO NU or SB at least once and often several times each night. This has been accomplished on 23 metres, and between the hours of 21.30 and 23.00 B.S.T. Truly a remarkable performance, and a strong argument for the increased use of 23 metres.

A large number of stations took part in the ARRL tests, with a fair amount of success in the North, but in the South, it was only found possible to "get over" on two nights of the fourteen allowed. A further difficulty was experienced in the fact that all the NU stations had been instructed to regard G, GC, and GI as "EG,"

and on several occasions the writer, when asking for a test message, was refused same on the grounds that a message had already been given to an English or Irish station, as the case may be.

6MS is more or less closed down, as he is now an operator with the Clyde Shipping Co., and is only home occasionally.

I am glad to be in the position to welcome two new stations to No. 1 District—5XQ, Mr. J. Cyril Adams, Towerhill, 35, Newton Street, Greenock, and 6WL, Mr. John Kyle, Hillend, Dalry, Ayrshire. Both are T. & R. members, and I look forward to useful reports from them each month.

I have to thank 6IZ for responding to the call for 23 metre stations in connection with the solar eclipse tests.

NO. 1 DISTRICT (by 2WL).

Reports by the 5th of each month.

2MG has been carrying out a few tests lately and has received an R6-7 report from Birmingham, in connection with a telephony test. Power used is normally from 40-60 watts and the plate supply is derived from a 500 cycle Newton machine, the output of which is duly rectified and smoothed.

2FV has been experimenting with an artificial aerial, but by the time this reaches print will be again on the air, on 23 and 45 metres, when great results from his new transmitter are expected.

2WL has not been transmitting much owing to his difficulty in procuring the necessary "juice." In this respect, he would desire to thank members who have been so kind as to supply him with suggestions in response to his recent appeal. He hopes to make use of some of these at an early date.

5XQ, having had his mast blown down by a gale, is waiting the erection of a new "stick." A little testing has been done on 45 metres with a short temporary aerial worked on its fundamental, but this has not been found to be very satisfactory.

5YG, 28 QSO's, including EA, EB, ED, EF, EG, EK, EM, EU, NU. Power used varying between 30 and 80 watts from D.C. generators. QSB-RAC (intentional); QRH, 45 metres. Best reports: "R9 steady" from EA (Vienna), R7 from EU (Nijni Novgorod), "R5 very steady" from NU 1st District (Mass), "R5-7 steady RAC" from NU 8th District (Ohio). This last report relates to what was intended for a local call at 6 p.m. B.S.T. and checks with log. QRM in receiver from A.C. power mains nearby has been partially cured by the use of a vertical aerial.

6NX, 90 QSO's, including all Europe. Best report R7 from Finland. Power: 10 watts approximately from D.C. mains, which are shortly to be changed over to 25 cycle A.C. (Mim Mim—5YG). Strong "static" spoiled the month of May in so far as real DX was concerned.

NO. 2 DISTRICT (by 6IZ).

Reports by the 5th of each month.

2VX is not transmitting at present owing to lack of time.

5JK is home for a spell, but does not propose to start in again till he can obtain a satisfactory means of raising power.

6IZ, 30 QSO's, including all Europe, U.S.A., Canada, and Newfoundland. One NU on 6 and one on 4 watts. Best report, "R3 FB, C.C., very steady." Power, 4-20 watts from 220 and 440 volt D.C. mains. May was a fairly good month for DX. Twenty-metre signals coming across from N. and S. America very well without any of the QRN such as presently exists on 37-40 band.

6VO is tired of H.T. accumulators, and is considering installation of hand generator.

BRS69 has been granted an A.A. licence and is busy getting some gear together.

NO. 3 DISTRICT (by BRS6).

Reports by the 5th of each month.

5JD has nothing to report.

6KO, 24 QSO's on 45 metres, including EG, EM, NP, and NU, the best report being R4 from NP. This accomplished with hand generator and 10 watts input. Thirty QSO's on 23 metres, comprising EF, EI, EM, FM, five SB's (districts 1, 2, and 3). Best reports: R6 from SB on three occasions, and R6 from NU once. Power on 23 metres being 12 watts, derived from hand generator.

Second half of month entirely on 23 and QSO with SB as easy as "shelling peas." No QSO with G stations on this wave. Earliest QSO, 20.30 G.M.T. Handled one ARRL test message.

6GY.—Station dismantled until Mr. Galloway gets through Varisytin about a year's time.

BRS6 will be at his instrument again ere this reaches print, and will be willing to accept schedule tests with any stations in Europe—or elsewhere (don't guarantee to hear "elsewheres" always). If you want schedules, OM's, please drop me a card, via T. & R. or direct to The Manse, Muthill, Perthshire.

BRS71 QRW owing to change of QRA, and does not expect to do anything till August.

NO. 4 DISTRICT (by 2TF).

Reports by 5th of each month.

2TF not on the air at present.

BRS62 QRW at Varsity.

London Area.

(By G. A. Exeter, 6YK).

I am wondering if any persons other than those who are interested by virtue of their regular reporting, ever take the trouble to read these notes! Certainly, judging by results, they either totally ignore the pages of the BULL devoted to Traffic Notes, or if they do read them, then all I can say is that the suggestion of a certain

well-known transmitter was nearer the mark than I imagined, and that was that the "fellows were too lazy to write." I sincerely hope that is not the case, but something must be wrong somewhere. I hear quite a lot of you all "perking" away merrily every time I care to listen, and yet the beginning of the month brings nothing to speak of in the way of reports. The Divisional managers have the same tale of woe, and add their appeals to mine. For goodness sake, fellows, buck up and let us hear something of you. By the way, the certain gentleman mentioned above did *not* report himself this month!

By the time these lines appear in print we shall have had the gathering mentioned in last month's issue, and I hope to be able to give you a report of it next month.

I would still like to have some more names and QRA's of members willing to accommodate country members during the Convention. We shall require all the room we can get, so please write me as soon as possible if you have any available.

Will members sending in reports please do so as specified in the BULL, and also ascertain who is their Divisional manager and report to him direct. I have placed some reports under the Division where they belong, that were sent to me.

REPORTS.

Western Division.

(6YK).

5TD has been very busy, and has not been on the air very much. He has had about 20 QSO's during the month, one of which was a French Y.L. (Careful, O.M.). He says that he has been listening on the 20-metre band and logged some good DX.

6WN reports 29 QSO's for May, best being R4 in Spain on 4.6 watts. He has been trying the 23-metre wave, but had no luck so far. He asks for schedules on this band.

BRS86 heralds his first report by sending in one of the heaviest logs of calls heard I have seen for some time, and what is more, the way in which they are arranged in the report is a credit to him. He seems to have heard most stations worth hearing. He sends on some news, which will be found elsewhere.

6YK has had a hectic month getting a M.O. circuit going on 23 metres. Without neutralisation, the darned thing will persist in acting like a direct-coupled Hartley on board a boat in a rough sea. As a special form of circuit is being used, it is hoped to publish details when the time is available. However, it has worked across the "Pond" without any trouble using about 7 watts. Many other stations did not report.

6HP has had 200 QSO's and has crossed the "Pond" for the first time working NC-1DM, and reported R3. He has now a P.D.C. QSB, thanks to the help of 2ZC and 6YQ. After much experimenting on aials he has got a voltage feed Hertz working from 5RZ's article in the "BULL." He says "good old BULL." (Hear, hear, 6YK.)

6CP writes to say that he has been working on 8 metres for the past year. Apparently this wave is O.K. near London, but so far he has had no DX with it, and bemoans the lack of co-operating stations. (What about it, fellows!) He says that 5YC will be on the air shortly and would like reports.

BRS65 has been QRT most of the month, but is listening on 20 metres during the coming months. He reports that NU-izz wants to QSO G's on 20 metres, and has tried to hear some, but has only heard 6YV.

6KM has been working since March with a total number of 15 stations worked, best being EC-2YD R4 on 6 watts. He wants to hear from some of the gang.

2BWR is QRW, and has been trying to find a good transmitting circuit.

6HU has also been QRW exams., but will be on the air again shortly. He has a QRP test for the end of July with 6BB.

6BB has rebuilt to the Armstrong, and with 6 watts has been working most of Europe, best DX being ES-7NB, who reported R4 stedi.

Ex BRS63, now 2BQH has been receiving on the 20 metre band, and has logged all districts USA and several other countries; he has logged 366 NU's altogether.

Southern District.

(By 6PG.)

5RZ has nothing to report. He will be on the Broads for the first two weeks in July, and hopes to book up some of the Norfolk hams.

2CX reports that conditions on 45 metres have been rather poor, though some good DX has been obtained. SMWQ was worked on 1.8 watts dry cell, also D7JO and the usual Europeans. He has raised his aerial to nearly 50 ft. high and finds some improvement, especially at 180 metres.

BRS93 has just got going, and is greatly interested in ham work. He would be glad to get in touch with some other BRS in his district (Fulham, S.W.6) who would help him with his Morse. Letters may be sent via 6PG.

BRS25 has been taking things a bit easy after a strenuous April (he logged 641 stations), but his log for May, besides the usual Europeans, includes 12SB's, 4SA's, 3SU's, and 1SC, also AQ1DH and NR2FG on 30-40 metres and 2SB's and 5NV's on 20 metres.

BRS88 has been doing some useful work with a portable O.V.I. and aerial 20ft. long and 4ft. high. He logged, amongst others, 6AT, 2MJ, 6UZ, 5DC, 5PK, and would be pleased to QSL.

6PG has little to report again, his trouble now being to make his D.C. main QSB lose its "rock crusher" qualities, and is thinking

of taking to dry cells. He is also busy with a combined portable, and is rebuilding his main transmitter à la 6CL.

North London Division.

By 6CL.

Please note:

For the purpose of BULLETIN notes and reports the North London Division covers the North and North-Western postal areas, and that part of Herefordshire situated within a radius of 25 miles of Charing Cross.

All reports to reach me by 10th.

In spite of appeals by 6YK and the other divisional managers, we notice the number of stations reporting is out of proportion with the number licensed.

In North London there are 110 licence holders—reports received are eight. I would like to have a few lines next month, please.

Now for reports.

Congrats to 2BZC who has this month obtained his radiating licence. He is starting with a 2-watter, and has made about 20 QSO's to date. His new call is 6PP.

The "high power twins," 5AD and 5KU, have had another good month. 5AD is now using C.C., and with 45 watts has been R4 with phone in "S.B. land." All DX stations congratulate him on his note; the slight ripple improving readability.

5KU is now W.A.C., and only needs QSO with OA to repeat it on 23. He was reported R4 in Australia recently when on 45 metres, but not readable in Europe except on the ground wave.

6PN has now joined "T. & R." During May he had 27 QSO's with an input of 10 watts. He operates every Tuesday and Friday between 18.00 and 21.00 G.M.T. Circuit is push-pull Hartley.

5GU reports very little DX—22 QSO's in all. Most of the month was spent experimenting with different circuits in an effort to improve his note. The Hartley-tuned plate and grid, with series feed, gave a very good D.C. note which was a great improvement over his old R.A.C. note.

5HS has had another good month on 20 metres; three 5th, four 6th, and three 7th District Tanks were worked besides two OA's and Chilian 2AR. His power was just over 100 watts.

6CL had rather a bare month with his "wee watt," which, by the way, is now only 0.7 watt using a D.E. instead of a B.E. valve.

About 60 QSO's were worked but except for a few SM's, D's and K's all work was confined to distances not exceeding 500 miles. The June "BULL" mentioned he had been QSO 11 different countries—what an insult to the "perker!" The one-watter has percolated into 12 countries, whilst 4 watts went to 25.

Several interesting tests were made with a "Peanut" valve—power at 100 volts being about 0.3 watt. 6RB gave R5.

INTER-STATION VISITS.

6CL to 5AD and 5KU (we saw the finest collection of "effective junk" in London at 5KU).

5AD and 5KU to R.E.F. convention in Paris, May 22.

East London Report.

By 6LB.

6LB is QRW tennis, but still gets on the air a little. Using 1.2 watts dry cells he has raised ET2XQ (Riga) in daylight, but the QSO was ruined by a F station using the usual. This was done on a Hartley. He is still trying in vain to QSO with the Armstrong circuit, and hopes one day to do so. Several hams who use the circuit have tried to make it perk, but have retired defeated. 2ZC, what about you?

2VS is conducting tests with a half-wave Hertz, and has been QSO a few stations 200 miles distant with 2 watts.

6UT has the East London bun this month.

On 10 watts valve R.A.C. he has worked two new countries, EC and EU. The EU station was OS operated by a YL. (Careful, OM!)

He has also worked Danish cruiser D7WC when at Reikjavik, Iceland, and has again worked Danish ss. "Lituanian" while in the East Baltic bound for Danzig.

He has received reports on his signals from New York and Georgetown, British Guiana. FB, OM.

6LL is still doing phone work on 150 metres, but no 45 work.

6TX is doing good phone on 45 metres, using 2 to 4 watts. One report is R5 from Rome.

The QRP Transmitter Society, situated in East London, recently held a very Ham Field Day at Broxbourne, Essex. Portable stations on 150 metres were used, and the "do" was a great success.

The Society recently organised a very ham welcome to Mr. Van Schien, a Dutch amateur, on holiday in England.

They also have plans afoot for organising accommodation for Provincial hams coming up for the Convention.

Please, OM's, report to me by the 10th of each month. I stand 6 ft., so I shall take a lot of snowing under.

Irish Notes.

By 5NJ.

On account of the very considerable space now required to accommodate the reports from the various districts in the British Isles, it is proposed, as an experiment, to make this column as brief, and at the same time as useful, as possible, in the hope that the space so saved may be available for the inclusion of really useful technical articles.

The cutting down of the notes will, of course, depend upon the opinions of members, and I should be very pleased to have opinions upon the idea now to be outlined. Briefly, it is proposed to cut out all "gossip" relative to any station, and to report simply the work done, in a manner which, it is hoped, will be of use to other experimenters who may read this column. At the same time, any facts of general interest will always be included.

Members are asked, therefore, to furnish reports from now onwards (unless they do not agree with this idea) as follows:—

- (1) Call letters.
- (2) Power input and wavelength used.
- (3) Summary of DX or other work done.
- (4) Any observations of general interest in connection with (2) and (3).

It should be clearly understood that this arrangement is only being tried as an experiment, and if members do not like it, I should be grateful if they will let me know. I am always glad to have opinions or suggestions.

The reports are as follows:—

2BB.—10 watts on 45 metres; QSO numerous G stations.

2IT.—Wave in 20-metre band, power not stated. QSO New Zealand, Australia, Indo-China, India, Africa, Brazil, Uruguay, Argentine, Chile, U.S.A., Canada. Signals are R7 in the 6th district U.S.A., words being sent once only, and reports from 1st, 2nd and 8th U.S.A. districts very often give strength of signals as R9. Reports from 3rd Canadian district, 4th U.S.A. district, and from NC9BZ give strength as R8. Singapore has also been worked.

2WK.—10 watts or less on 45 metres. Ready to commence regular work again very shortly.

5HV.—1-2 watts on 45 metres. QSO 50 G stations since start of tests. Reported R5 in Hamburg, R8 in Lyons, and QSO Sweden.

5MO.—10 watts or less on 45 metres. Working only occasionally of late, mainly with G stations.

5WD.—10 watts or less on 45 metres. Working only occasionally; QSO a few Europeans and G stations.

6HL.—10 watts on 45 metres. QSO B, D, F, K, N, T, and many G stations. Reports wanted on tests with aerials. Information required is as follows: QRK, QSB, QSSS, etc., also local weather conditions.

6JA.—10 watts on 45 metres. R5 in most of England. Very good transmission results are being obtained with a small indoor aerial.

6MU.—75 watts on 33 metres. QSO SA, SB, SC, FO, OA, OZ, Tasmania. On 23 metres QSO OA, AI, SB, U.S.A. 5th and 6th districts. Canada to 3rd district, Morocco, Tunis, Indo-China, and Singapore. Crystal control is in use on 44.4 and 22.2 metres.

6WG.—8 watts on 45 metres. QSO 51 stations, including EAR, Danzig, Belgium, France. Reports give strength as R4 in Spain, R5 Germany, R7 Belgium, R8 France.

6YM.—10 watts on 45 metres. Station rebuilding.

6YW.—7 watts on 45 metres. QSO ED, EM, EK, EF, EN, Latvia, Southern France, EI, EB, and many G stations. On 23 metres, QSO EB, EN, EF, EM, and heard EI at strength R7. A current-fed Hertz antenna is used, the ends of which taper to within 2 ft. of the ground.

5NJ.—75 watts on 32.6 metres. QSO India, Brazil, New Zealand, U.S.A., Newfoundland, Tasmania, Australia. On 23-metre band, tests have just commenced as these notes are being written. QSO Europe, Asia, Africa and U.S.A. A harmonic type aerial is in use now for all wavelengths, the fourth harmonic being used on 23, the second harmonic on 32, and the second harmonic on 45. This seems to give quite satisfactory results.

RECEPTION.

2AFD is still doing excellent work, and will be pleased to submit reports by arrangement on signal strengths, etc.

Mid-Britain Notes.

Area Manager, H. J. B. HAMPSON (6JV).

Conventionette News.

2XV says that entries are coming in nicely now and that the total, including friends (of which there will be plenty of O.W.'s and Y.L.'s) had reached 33 by June 6. The accommodation is limited, and it seems as though those who delay their application for tickets may receive a disappointment. The last day for receiving entries is July 11; and cash at the rate of 5s. per head must be in possession of 2ZV by this date.

It is asked that all attending the Conventionette will pin their call signs (cut from QSL cards) to their manly chests so facilitating the process of recognition. (Formal introductions will be gratuitous.)

Above all, we desire to make this meeting a really "Hammy" gathering, full of friendship and fun, and we are sure that everyone will help us to make the first Mid-Britain Conventionette a day to be remembered—until the next one.

5YX—our QRP wonder—has kindly promised to tell us how he manages to get so much pep out of 10 watts, and there is little doubt that the discussion which will follow should enable all of us to learn something from each other.

The new black and gold T. & R. R.S.G.B. motor emblems will be on sale, and it is thought that these should be a matter of particular interest to Conventionists, who will nearly all travel by road.

SHROPSHIRE.

Reports to 5SI.

5SI has only just returned to business after his recent indisposition. He intends to rebuild his station shortly.

6TD has only managed to keep in touch with DX friends with whom he has schedules. He has been too busy to search for new worlds to conquer.

A report comes from BRS46 enclosing a fine list of calls heard which indicates good conditions.

LEICESTERSHIRE.

Reports to 6WW.

6WW has spent his spare time this month in rebuilding his transmitter and arranging a new power supply system. He is also building new receivers.

6GF would like it known that he will not be operating his station again until the winter. (Pirates please note another "spare" call sign!)

6WW hopes to attend the Conventionette and to bring F8WR with him. Vive L'Entente!

CAMBRIDGESHIRE.

Reports to G2XV by 5th of month.

5YX and 5YK claim the first and second QSO's with Singapore from England on 23 metres—5YX used 10 watts and 5YK used 30 watts. F.B., OM's.

5YX has also worked FOA5X on 23 and AI2KT followed by NC4DU, all on 10 watts, 23 metres. He has also been heard in the 5th and 6th U.S.A. districts on this wave and power. "Some star station!"

5YK handled six test messages for the A.R.R.L.

2DB made one European QSO this month. Hi! YL's?

5JO can still be heard cracking up the ether on 160 metres and needs schedules on this wave either E.W. or phone. Write him, OM's.

2XV has just got going at his new abode, but doesn't like the QSB created with D.C. on the plate and A.C. on the filament. No DX has yet been attempted until things can be steadied. A little local phone work has been done on 160 metres.

HUNTINGDONSHIRE.

Reports to 2XV by 5th of month.

Unfortunately there is nothing to report from this county this month. Now, 2BAX and brothers, are you too busy with writing to the licence department?

NORTHAMPTON.

Reports to BRS30.

2CH has been active with 'phone and would be glad of reports. He works most Sundays at 6.30 p.m.

BRS30 has received the promise of a licence from the P.M.G. and is awaiting his call sign. F.B., OM, and congrats.

WARWICKSHIRE.

Reports to 2BPI.

BRS3 reports uncertain conditions on 20 metres.

2BNB is experimenting with power supply from D.C. mains.

6CI has been working on QRP. He is rebuilding and contemplates a return to R.A.C. power supply.

2BKY has obtained his rectifier tubes and is also busy with power supply.

BRS60 has, we regret to hear, recently lost his father. We offer you our sincere sympathies, OM.

6YD reports very favourably on the 20-metre band, and says that very little power goes a very long way.

2BLM and 2BPP are both awaiting call signs. Congratulations.

5CG-5PX has been away testing his no-aerial outfit. He has been testing this on short waves and has received reports from U.S.A. He hopes to give a full report of his experiments in the BULLETIN shortly.

2BPI finds that there is more in A.C. as a power supply than meets the eye. (Fuses or a "packet," OM?)

5ML has been reported R5 by SACB8. He is changing QRA shortly and will rebuild, using QRO.

WORCESTERSHIRE.

Reports to 6AT.

6AT has been testing radiating systems for 23 metres and 45 metres. The problem of obtaining a pure and steady D.C. note on 23 metres has also been engaging attention.

HEREFORD.

Reports to BRS49.

BRS79 has been doing good reception under difficulties. The log includes Venezuela, Nicaragua, and Costa Rica.

BRS49 reports that Cheltenham College will shortly have a radiating permit. (Who said watch the "Junior op" make the fur fly?)

Will Hereford members write to H. L. Palmer at Cheltondale, Cheltenham, please?

STAFFORDSHIRE.

Reports to 5UW.

5UW was, unfortunately, away on holidays on the date for reports, but those OM's who reported will be chronicled next month.

A fully attended and most successful meeting of the Wolverhampton and District Radio Transmitters' Society was held on May 26, and a professional photograph was taken of the members attending. A copy of this will be sent to H.Q. for publication in due course.

A lecture was given by F. Aughtie, B.Sc. (G6AT), who chose his subject "The Master Oscillator for 45 and 23 Metre

Working." Our best thanks are due to Mr. Aughtie for his clear, concise and admirably delivered paper, which, drawn from 6AT's practical experience, coupled with his thorough understanding of the subject, could not help but be a huge success. 6HT was the host of the evening, and members present were: 2AAD, 2NV, 2OQ, 2WN, 5AF, 5NU, 5PR, 5UW, 5LK, 6AT, 6BH, 6HT, 6PB, 6UZ. Apologies from 2YV, 6OH, 6MZ. After the lecture a most interesting discussion took place, and our sincere thanks are due to Mr. Marlow (6HT) for his kind hospitality throughout the evening.

The following are a few reports received in time for publication:—
2OQ has been QRW on the Continent, and with business, so has nothing outstanding to report.

2NV is working phone with 10 watts on 150 metre band, and is also experimenting with electric clocks.

2BOC is a newcomer to this sub-area, and paid a visit to 5UW. He is testing grid leaks in a QRP transmitter with a frame aerial. He reports good reception conditions during the past month.

2WN reports extreme QRP schedule with N.OWN. Power used, .25 of a watt. He is busy constructing RAC H.T. unit.

6UZ reports very QRW and so no DX to mention, but promises a better report for next month.

5LK reports that his month's work has been confined to phone at week-ends, but reports received from all parts of the kingdom prove greatly improved quality using A.C. for filament heating.

2AAD, 5AF, 5PR, 6BH, 6PB, 5NU are QRT temporarily, but attended the lecture referred to above.

6HT has been "on the air" a little at week-ends, but has been busy with 5UW constructing the H.T. transformer described in May BULLETIN by 2TI, and it is proceeding satisfactorily.

5UW, besides helping 6HT with his transformer, has maintained his many schedules with Argentine and Brazil, QRT usually R6 to R8, with input of 49 watts. QSO's: SB23, SA8, OIC in South Atlantic, 4. NC: One. NU's: Six in 1st, 2nd, 3rd Districts. Also one phone QSO with SB received there R6, and 85 phone QSO's in EG and adjacent countries, using A.C. filaments, reports DC very clear speech. Has just QSY'd to 32-34 metre band and five test calls resulted in four SB QSO's at R7 to R9.

Inter-station visits: 6CI and 2AFS, and 2BOC to 5UW and 6HT.

NORFOLK.

Reports to 6ZJ.

5UF has been using a single valve receiver with which he reports remarkably good reception. He is awaiting authority to use the 90-100 metre band.

6JV has had little spare time this month to devote to radio, and has nothing of interest to report. He is overhauling his Morgan (not before this was needed) with an eye to the Conventionette. Don't forget, August 1, at the Cock Hotel, Kingsthorpe (within easy reach of Northampton by tram or bus). If application is not made at once for tickets to G. A. Jeapes (2XV), Chandos, Gt. Shelford, Cambs, you may be too late to get a chair!

Irish Free State Notes.

By 11B.

This month we have to welcome three new recruits to the GW ranks. They are:—

16C, Mr. Horander, 44, Dufferin Avenue, Sth. Circ. Road, Dublin;

17C, J. B. and R. D. Scott, 9, Upper Garville Av., Rathgar, Dublin;

18C, W. H. Benson, 46, Dufferin Avenue, Sth. Circ. Road, Dublin; who are all now on the air and would welcome reports.

12B and 13B have been testing between fixed and portable stations, and have only the usual European QSO's to report.

14B has nothing to report, having temporarily forsaken wireless for yachting.

15B is off the air having, I understand, returned to England.

16B has nothing special to report. He thinks that he is not getting out as well as formerly.

18B is now on C.C., but is still in trouble with his hand generator, and only getting about half his normal output. He has no DX to report, having been busy with exams. He has, however, been much "bucked" by the receipt of a report from New South Wales of his sigs having been logged twice on January 30 and once on January 31, R3-4 on O.V.1. (F.B., OM.)

19B reports a run of bad luck with his tubes, another having gone west, so that he has no DX to report. But he hopes that his friends will understand that his present absence from the air is only temporary. We hope that he will be on the air again very soon.

11C and 12C have nothing to report, being too busy to be on the air.

14C has been practically QRT, being busy with exams, but he will be on the air again next month, when he hopes to "see" all his old friends again. A report has been received from AI2KX that his sigs were logged by him on April 10.

11B has only European QSO's on 5-6 watts to report, the best being EC4AV (Bratislava) and I1WW (Naples). He has had a card from AI2KX confirming the receipt of his sigs R3 during an attempted QSO on April 10, which was rendered abortive by terrific QRN in India and by bad QRM at this end.

17B, 13C and 15C have not reported.

South-Western Notes.

Area Manager, 2OP.

May I commence my notes by taking this opportunity of thanking 6UG for writing them during my absence and for administering the necessary ginger and generally functioning very heavily and efficiently.

My only grouse this month is the lateness of reports. The latest date to be in my hands is 14th. This time of year one doesn't expect many reports. No one appreciates the fine weather more than I. However, don't let this put you off. I still want many more reports than I get at present, and more members too.

2OP.—I put myself first as I always keep my reports in numerical-alphabetical order. I am glad to be at my station again, but have not been on the air yet.

5FS is QSO all over Europe but not to 6RY (Bath), 12 miles away. Crystal control is used on 90, 45 and 23 metres. A week's rest was necessary to answer the stack of QSL's received. His 5-metre receiver has chiefly turned in QRM from motor-cars. What breed, OM? Ford's, Austin's and Morris' can easily be recognised by their distinctive frequencies.

5VL reports only one or two NU QSO's. Further nightfall tests with BRS84. France and Ireland worked R5, using a 24-in. frame aerial for radiation standing alongside transmitter, beam of 20 degrees from the frame.

6JK has been QSO to 27 stations, G and GI, and reports from France, Belgium and Holland. Best QSO Belfast on 4 watts, R5 telephony.

6RB reports QSO's with about 120 stations. He has found conditions not very good. QRN has been bad nearly every night from about 20.00 onwards. Best QSO's EC2UN, ES7NB, EJ7XX, EI1WW, and several EM's. All these on 45 metres with an input varying from 7 to 10 watts. He hopes to be working on 23 metres by the end of the month. He is still trying to QSO NU, but conditions have been bad for working across the pond on low power.

6UG reports 16 G QSO's, one EN, and one EI, on powers not exceeding 15 watts R.A.C. He is carrying out tests with various aerials, and will be glad of reports.

BRS28 (Bristol) has nothing of interest to report. He is concentrating on 5-metre experiments and would like to hear from G stations with a view to fixing schedules.

BRS80 reports schedules with 5OD, 2DL, 5QV, 5UY. He cannot do much late listening, but usually works regularly at week-ends, and will be pleased to co-operate with any transmitter requiring reports. Address:—A. J. E. Forsyth, St. Aubyns, Gold Tops, Newport, Mon.

Great Britain—India.

"A few nights in February on an Indian Station."

Ai-DCR.

FEBRUARY 2.—Weather cold and cloudy, ideal for QRN, switching on the old Reinartz 0-V-1 I am greeted by a whole broadside of QRN, bad luck, but may be there are a few G's on the air. Up on to the 44/46 band and the first signal through at 17.37 G.M.T., GC6NX calling "Test," rather weak, R3 but good steady RAC. At 17.50 G5BY in very clear R6 calling "Test," fine D.C. note, gave him a call but ND. Hello! 18.00 hours already, time for schedule with "ole" G6MU, ah! there he is calling, not too good night, only R/45, but quite steady and clear. Gave him a call and in he came at once giving me R4 good D.C., had nice chat and sent list of G stations heard during the past three days, signed off at 18.29 hours.

Not much doing now with the G's owing to the BCL's Hi, tried a CQ at 19.43 and immediately answered by G2NH who was a little wobbly at first and R4. Was very pleased to QSO as we both had been trying for some time to hook up, perfect working for exactly one hour, fixed up schedule. Called CQ at 20.55 and answered by G6QH, very weak R2/3 but good steady RAC, with luck could copy him OK. Gives me R4 D.C., was able to copy him throughout the QSO, FB as he stated his power as 9 watts, good work OM, signed off at 21.28 and called CQ. Another immediate reply, in spite of QRN the G's are up to scratch to-night, wonder who this one is, ah! good old Ireland, it was GW18B calling me, he was quite steady D.C. and R4. Perfect QSO for half an hour, 18B got quite sympathetic when I told him that the time here was 03.30 hours and said he would let me get to bed. However, the lure was too great, and I stuck it out a little longer.

No more QSO's to-night, but logged G2RG calling U.S.A. at 22.20, his sigs being very FB, R6 steady D.C., not much good giving him a shout as he is after 'Yanks' Hi! 22.25, G2IH calling "Test" strength R3 steady RAC, gave him a call but ND. 22.40, G2AO calling "Test" strength R5 good D.C., also gave him a call but again ND, so off to bed well content with my bag of two G's, one GI and a GW.

FEBRUARY 5.—Weather rather warm and very cloudy, no QRN to-night though, wonder if any G's are audible yet? First G logged is 5BY calling test at 17.50, quite QRZ to-night only R5, he is usually a good R6. A CQ tried and immediately answered by G5BY, fine QSO for a quarter of an hour then GB for some DX Hi!

18.00 G.M.T., time for old G6MU, he is never late, ah! there he is calling now, a steady R6 with a fine clear D.C. note, he gives me R5 steady and pure, FB, would I listen for QRH test? Sure. Tested out various waves with him and all successful, sent along the latest list of calls heard for the "BULL" and then good night. An hour or so spent with a few Continental stations and then a CQ G with an immediate reply from G2RG, first time I have heard him too, wonder who he is? Gives me R5 to R6, FB OM, his own sigs being steady R5 with good steady DC, an exchange of QRA'S and a few words and signed off. G's beginning to come in strong now, so no bed to-night Hi, lucky G's, here it is 05.30 and only midnight at home. G2JP logged at 01.00 G.M.T. calling test, sigs R4 to R7, bad QSS but good D.C. A CQ G at 01.22 immediately answered by "ole" 5BY again, wonder what he wants Hi! His sigs now up to a good R6/7 and he gives me R6. Would I like a QSP to U4WJ? Sure OM; will now QRX while you call him. 5BY begins to pound away after U4WJ, fails to raise him, but hooks up with U4BK and ropes him in for the test. I make several calls to U4BK but ND, QRM from some awful A.C. stations on 38/40, just awful, at 02.00 G5BY just manages to "gasp" out "my batts failing" and dies out with a quite pathetic note, bad luck, OM. I log G2VR calling "Test" at 02.03 strength R4 steady D.C. and give him a call but ND so off to bed at 07.30 hours Hi! Hi!

FEBRUARY 6.—Opened up station at 17.30 G.M.T. and make my schedule call to G5BY, he comes in at once, a good R5 D.C. and gives me R6 steady D.C., FB OM. A perfect QSO and I just have time to log G2CC at 17.59 calling test, sigs R5 steady and good RAC when schedule time for good old G6MU, who must not be kept waiting because he is always on the spot himself. There he is, dead on time and a good steady R6 with his usual pure DC note. I am QRP now to 20 watts and batteries down, wonder if he will get me? I give him a call and in he comes, giving me R6 Hi! Hi! I shoot the usual list of latest G calls heard here and fix up a schedule for U2CVJ who has been QSA here lately, sign off at 19.00 for schedule with G5TZ. A QSO immediately affected, R5 each way FB ON, 5TZ lives quite near my home in the Isle of Wight so very FB, greeting to the Y L Hi!

I sign off with 5TZ at 19.35 and log G's 6UZ R6 with very fine QSB, 5UP R5 good RAC, and 6BD also R5 good RAC. At 20.10 I answer a "Test" call to G2RG and we QSO being R5 steady each way at first by slite QSSS at 2RG at the end of the QSO but still very FB OM. I log G2DX at 20.30 calling Test, sigs R6 steady RAC, too late to give him a call so off to bed dreaming of QSO's with Mars perhaps.

My bag of G's for the three nights is 20 logged and 9 QSO's, against this I log 28 other foreign stations and QSO 12! Well done G's, you are sure "Top Dogs" on the ether, and with your fine QSB's are a pleasure to listen to and work with.

Dutch Notes.

Prepared by EnOCX.

For this month we only have very little to tell. Don't think that we have put away our set, but news is collected very difficult, as inter-station communication by post practically does not exist. Most of us don't know the QRA's of each other. Hi!

EnOWM is still doing good work with his very dry battery of some 90 volts. Worked GI2IT and SMUA with about 1 watt on his Telefunken R.E. 504.

EnOGA worked a heap of NU and SB stations. Also worked four New Zealanders. He uses 500 volts raw A.C. (!!!) on a single Philips TB 04/10.

EnOCO is building a special short-wave receiver, and hopes to make many QSO's, while on the second floor a second set is perking on Daventry and Hilversum wavelengths. Hi!

EnOC9C blew his tube and therefore had to stop his work on indoor aerial. Is now putting some 80 millies in his big outdoor aerial. Worked gc6NX and gc2WL, and was reported R5 and R4. Input about 2 watts pure D.C.

Danish Notes.

By ED7MT.

Only a very little work has been done this month because most of our hams are QRW for their exams. The working conditions have been very poor here owing to the terrible QRN. We expect good DX conditions in the following months.

Ex ED7EC works now from Bruxelles as EB7EC. His power is 50 watts and the note is good RAC; his DX on 45 metres is U.S.A. 1, 2, 3, 7. He usually works on 45 metres, 32 metres, and 23 metres at 16.00 and 17.30 G.M.T., and every Saturday night. He daily works his old friends here in Denmark.

7EW has nothing of interest to report.

7LK is a newcomer. He has worked many Europeans. The transmitter is a coupled Hartley; power, 50 watts D.C. His QRA is AARHUS.

7MT has worked several schedules, but had no DX on the "five-watter" this month. He has worked several Europeans on phone with excellent results. It seems to be rather easy to raise an Englishman on phone alone. The modulation circuit is a home-made affair (Hi!), but all stations report the quality of the speech as very good. He will appreciate all reports on his phone tests

very much. Later on in the year he will QRO to 50 or 100 watts, so regular D.C. work can be done.

7ZM has done a lot of pretty work. On 100 watts he keeps a regular schedule with SB1IB. He is also doing laboratory work with quartz crystals.

7ZG, using 40 watts, has worked U.S.A., and got a report from British Guiana. On 12 watts he has worked 2DKA (Spitzbergen), Moscow and OIC. He was the first "D" to work Hungary.

7JO has no DX to report; he makes tests with different aerials. The best system he yet has tried is one "a la" G5MQ! He works still occasionally after 22.00 G.M.T.

French Notes.

By EF8PY.

The first French convention has been held in Paris on May 22. It was a FB one, and numbered many guests. The headmen were 8AB, 8BF, 8JN, 8GL, 8CA, etc. We had the pleasure to see amongst us Mme. Jamas, wife of AF1B (her husband had sent to 8YOR two days before a long message for the convention, counting 640 words, sent single!); we shook hands, too, with EG5AD, EG5KU, AIDCR, NU1RD, OP3AA. The latter came with his motor car especially equipped for radio, with a tubular metallic mast FB. Members had come from every part of the country, also AR8LHA of Beirut and FM8AY of Algiers. During the afternoon, we heard interesting talks, and a token, a silver cup, was offered 8YOR for his QSO France-Hawaii. In the evening a banquet grouped us all, under the presidency of M. Mesny. Several tests were made: 8FT, the DM for Paris, offered 8YOR a new token, which was an anana; when opened, it showed a pet oscillator, which worked, on a wave-length of 18 metres. At midnight the Convention came to an end.

Several interesting results mark the preceding month.

The R.E.F. did new tests on underground transmission in a quarry 8 metres deep. The call was 8REF, and this time the results were better than the precedent made in the coal mine in Bruay. The best DX realised was a QSO held between the ops and a station in Montluçon (Allier). The party was established with 8FC, 8JN, 8CA, 8DQ, 8DI. Every R.S.G.B. member having heard 8REF may QSL, as a special card waits for him.

8YOR has QSO with A12KT, who is Lt. in the British Army; 2KT would be very glad to QSO his English friends; 8YOR can QSP, all Sundays, at 16.30 G.M.T.; the QRN of 2KT is 19 metres.

8CT has got in touch with NU6CKV, NU6ZAT and NU6CDW, being received from R8 to R8.

8FK is the first French to have a QSO a Venezuelan station.

8JF and 8FIZ are QRT owing to school QRM; but after the exams 8FIZ will try the 20 metres band, while 8JF will make a lot of tests with balloons.

8JN and 0CMV have succeeded in getting into touch with a comparatively small power on 5 metres; the distance between the two stations is 28 miles.

Any member of the R.S.G.B. living in the British Dominions is requested to send me, either via R.S.G.B. or the R.E.F. regular lists of "EF" calls heard, which are to be published regularly in the *Journal des 8* and my paper *Radio-Amateurs*: so many thanks in advance.

Belgian Notes.

By EB4FT.

The general work of the Belgian hams is going on with the same spirit, and the DX's come in in full. Several amateurs have built a Levy aerial, and all find a great improvement. But since the Zeppelin aerial seems attractive to our "aces," we expect to be soon fixed on the value of this aerial.

4AU has taken an active part in the American contest, and we think he will get the head for Belgium.

K5, who devotes himself only to QRP, has been received R2 in Melbourne, while his input didn't exceed 50 volts on the plate. He has got several QSL's from U.S.A.

4CK is one of our best traffic men, and QSR all messages for everywhere. He is the first Réseau Belge station to have been appointed O.R.S.

4CO, one of our best experimental stations, studies the Levy aerial coupled to a Mesny oscillator; the DX's made being very interesting.

4WW pursues his schedule with AQE, whose operator announces her arrival soon in Antwerp with ARCX and ARDi. 4WW has made the first contact Europe-Canal Zone in working NZEZ5.

All our hams are in general very active, and it would be tedious to compile all their results.

QSL Section Report.

This section has not been so busy during the last month owing, it is supposed, to the decreased activity of members during the summer. We are glad to state that cards from foreign countries are coming very regularly and the utility of the system has become recognised by all countries. Will members please show more

thoughtfulness when sending cards to be forwarded to countries not on the "Free Post" list. It is no use sending cards for a country where all QSL's have to be under cover and sticking stamps on each card.

The following stations have no envelopes at the section and cards are waiting to be claimed. Will they please send stamped, addressed envelopes with their call sign indexed in the top left-hand corner:—

2au, 2aci, 2ag, 2amb, 2am, 2aj, 2ay, 2as, 2awl, 2av, 5au, 6au, 6ai, 2boc, 2bk, 2bom, 2bpp, 2bnu, 2bz, 2bb, 2bog, 6by, 6bh, 6br, 2cs, 2ch, 5dy, 2dx, 6ds, 6dp, 5dl, 2gb, 5gs, 5gg, 5go, 6ga, 6gv, 6gs, 6gh, 5ha, 6hz, 6hu, 5is, 6ig, 6ia, 6iy, 6iz, 2ju, 2jp, 2kt, 2kx, 6ks, 6kr, 5ls, 5lb, 5lq, 5lx, 6lr, 2mw, 5ma, 5mu, 6mk, 2ng, 5nw, 2od, 2og, 5og, 6ot, 6ou, 6oh, 6ou, 2pa, 2pg, 2pq, 2pz, 2pp, 5pg, 6pg, 6pb, 6pu, 2qx, 2qm, 5qq, 5qz, 6qb, 6qv, 6qw, 2sh, 2sw, 2sz, 2st, 5so, 5sw, 6sm, 5td, 5tx, 6td, 6tv, 6tw, 6tz, 2up, 5us, 5ur, 2vq, 2vn, 6vt, 2wr, 2wx, 5wq, 6ws, 6wt, 6wd, 6wl, 6wf, 2xq, 5xd, 5xs, 5xo, 5xr, 2yn, 5yz, 6yq, 2za, 5zc, 6zc, 6zq, 6zm, 5fy, 6ha.

Calls Heard.

Calls heard on 20-metre band from May 22, 2235, to May 23 (BST).

| Time, BST. | MAY 22. STATIONS. | STRENGTH. |
|------------|----------------------|-----------|
| 2235 | 5BY egei 1bd | R6 |
| 2240 | 6fr NU 2ch | R5 |
| 2244 | 5LFG NU1AW | R5 |
| 2247 | NU1AJ | R5 |
| 2250 | cq SB1AW | 67 |
| 2300 | cq NU-1UW | R6 |
| 2305 | 2rq G NU 1rf | R5 |
| 2310 | cq NIDK | R6 |
| 2314 | cq NUSA cy | R8 |
| 2316 | 4au EBNU 1PY | R7 |
| 2325 | 6yv GSB1AJ | R8 |
| 2328 | GNU 8avd | R7 |
| 2330 | cq EI 1CR | R7 |
| 2331 | 1BRS BNU8dG | R5 |
| 2350 | fc 6SAMU 8ahe | R4 |
| 2354 | 4Oa EBNU 2ahm | R6 |
| | MAY 23. | |
| 0000 | NU 1adm | R5 |
| 0002 | dx NU 2nm | R7 |
| 0005 | 6YVEGSC 2ar | 67 |
| 0012 | ISR ? NU 1ch | R7 |
| 0015 | 1AK SB NU1SW | R8 |
| 0019 | 8qI EF NU1 aff | R6 |
| 0022 | cq SC 2BL | R3 |
| 0027 | k4 AEK NU4RR | R6 |
| 0045 | cq NU 1am U | R6 |
| 0046 | cq SC 2ah | R7 dc |
| 0057 | cq NC 1ap | R23 |
| 0107 | 2ch NU SC 2ag | R7 |
| 0110 | U2 XAD (WGY) | R10 |

May 6 to 20:—

eg5by, eg6rw, ea-gp, ea-jz, ef8oeo, ef8gi, ef8jf, ef8jj, ep3fz, ep3gp, ek4oa, ek4uab, eb4ww, eb4ac, eilno, enoja, fo-a3b, oa2rc, oa2sh, oa2yj, oa3jk, oa3ac.—JULIUS BERNSTEIN (NU2AVR), 7708, Bay Parkway, Brooklyn, N.Y., U.S.A.

Calls heard by BRS86:—

AUSTRIA.—EA—(ES), FA, (FK), FP, GP, (HB), (JZ), (MP), OHK.

BELGIUM.—EB—30a (4AR), (4AI), 4bd, 4bg, 4bl, 4cb, 4ck (4CM), 4dd, 4rk, 4rs, 4uum, 4xs, 4xx, 4yz, 4zo, h5, k6, k9, n33, v33, (W7), O2 (O8), 82, 9L.

CZECHO-SLOVAKIA.—EC—1ab, (2un), (2yd).

DENMARK.—ED—7bd, 7bj, (7lo), (7ni), (7zg).

SPAIN.—EE—(ear4), (ear6), ear10, (ear11), (ear15), (ear18), (ear28), ear29, (ear42), (ear44), (ear45), ear47, (ear48), (ear54), ear55, (ear60), ear61, earc2, ear35.

FRANCE.—EF—8aa, (8abc), 8aki, 8apo, 8arm, 8ay, 8bf, (8bri), 8brn, 8ca, 8ci, (8cp), 8ded, 8dd, 8ddh, 8ds, 8du, 8dx, 8ef, 8eip, 8eit, 8es, 8esp, (8est), 8ez, (8flm), (8fr), 8fx, 8fy, 8gam, 8gdb, 8ger, 8hip, 8ho, (8il), 8jdz, 8jj, 8jk, (8jnc), 8jrk, 8jz, 8kk, 8kmz, 8koa, 8kp, 8kw, 8ks, 8kz, 8ll, 8lz, 8msm, 8ncx, 8nor, 8nox, (8oeo), 8ogp, 8olu, 8orm, 8oqp, 8ow, 8ocx, 8oul, 8pgn, (8pme), 8py, (8rec), 8rit, 8rld, 8rlh, 8rlt, 8rsn, 8rv, 8ren, (8sm), (8sac), 8sis, 8ssr, 8sst, 8ssw, 8ssy, 8ssz, 8tis, 8tkr, (8trv), (8tsf), 8uc, 8uda, 8uix, 8ut, 8vip, 8vvd, 8vx, 8xix, 8xuv, (8ya), 8ynb, 8ypm, 8yy, 8yye, 8yz, 8zai, 8zc, fw, 8nn, 8vvz, 8gyd.

SWITZERLAND.—EH—9xd.

ITALY.—EI—1acm, 1al, 1ax, (1ay), (1cy), (1da), 1db, 1di, (1do), 1dr, 1dm, 1gn, (1pl), 1pn, 1rt, 1iu, 1uvz, 1ww, 3kik.

YUGO-SLAVIA.—EJ—(7dd), (7xo).

GERMANY.—EK—(4aap), (4aao), 4aau, 4ab, (4abf), (4abr), (4adi), 4aeo, (4aeu), 4al, (4dka), 4jk, (4jl), (4ka), 4kbl, 4nw, 4ol, 4sa, 4sar, 4u (4uac), 4uah, 4uak, 4ul, (4wl), 4xae, 4xb, (4xc), 4xr, 4xu, 4xx, (4xy), 4yab, (4uh), agb, age, lp, 4cv.

NORWAY.—EL—LA-1R, LA-1X.

SWEDEN.—EM—smgk, smia, smsh, (smua), smuf, (smuk), (sinuv), smxr, smxu, (smyg), smrv, sab, sad, smzf.

HOLLAND.—EN—Obx, Odg, Ofj, Ofix, Ofw, Oga, Ogb, Oja, (Onm), Opw, (Orm), (Ost), Opm, Owe, Oze, Orz, pa9, 2pz, pcmm, pcit.

IRISH FREE STATE.—EO—3xo, 3zg, (18b).

PORTUGAL.—EP—(1ae), (1aj), 1al.

ROUMANIA.—ER—5ab.

FINLAND.—ES—2nd, (7nb).

LITHUANIA.—ET1—(lit1b).

LATVIA.—ET2—2xa, 2xq.

POLAND.—ETP—pai, par.

RUSSIA.—EU—O8ra, lua, ud.

HUNGARY.—EW—ki.

LUXEMBOURG.—EX—1as.

BALEARIC ISLES.—(eas2—now ear62).

CANADA.—NC—1cx, 1ad, (2fo), 8azs.

U.S.A.—NU—(1aac), 1aao, (1ach), (1adm), 1aen, 1afn, 1ajx, (1als), 1alr, 1amd, 1amp, 1amu, 1aur, 1axa, 1axl, 1axx, 1acv, 1agr, 1bjd, 1bvl, 1bke, (1bhm), 1buy, 1cab, 1ch, 1cjc, 1cjh, (1cmx), (1cmf), 1cnz, (1cpb), 1cew, 1ekp, 1edw, (1eqd), 1dee, 1ga, (1gh), 1et, (1id), 1li, 1ja, (1jz), (1lj), 1lu, (1mv), (1rd), (1rf), 1rp, 1ri, 1uu, 1xj, (1xm), (1yb), 1zs, 1on, (2agn), (2ahm), 2ahn, 2akv, (2akz), 2amj, 2amp, (2apd), 2aqw, 2arm, (2atx), (2ayj), 2bj, 2bum, (2buy), (2bxu), 2ck, 2ctn, 2cuq, 2czr, 2cjd, 2md, 2ddx, 2dq, 2fg, 2wh, (2fj), 2fo, 2gv, 2mt, (2tp), 3abr, 3afw, (3agu), 3ahl, 3bhv, 3bms, 3buv, 3eah, 3gj, (3gp), 3ut, 3jo, (3ld), 3mb, (3pf), 3xay, 3yf, (3ui), (4aar), 4iz, 4lk, (4oc), 4ok, (4ry), (4tk), 4tu, (8adg), 8adh, (8box), 8cjb, 8cln, 8ck, (8dei), 8don, (8dmd), 8eh, 8zae, nkf, wiz.

ARGENTINA.—SA—aa1, bg8, (cb8), en8, (hd4), hg1, (ha2).

BRAZIL.—SB—1aa, (1ad), 1aj, 1af, 1ag, 1ak, 1al, 1ao, 1ap, 1at, 1aw, 1ay, 1aq, 1bc, 1bk, 1br, 1bu, 1bo, 1by, 1ca, 1ck, 1ib, (1ic), (1id), (1ig), 1bw, 2aa, 2ab, (2ad), (2ag), 2am, 2ao, (2aj), (2ar), 2ap, 2av, (2ax), 2aq, 2eg, 2ia, 2id, 2ie, 2ig, 5aa, 7aa, 1ax.

CHILE.—SC—2ah.

URUGUAY.—SU—1cv, 1cx, (2ak).

ALGERIA.—FA—(8jo).

EGYPT.—FE—egez, suc.

TRIPOLITANA.—FI—(1cw).

SOUTH AFRICA.—FO—(A3x), ca5z, a8p.

MOROCCO.—FM—8ju, 8ocm, 8pmr, 8vx, ocrb.

INDIA.—AI—2kx.

ARABIA (OMAN).—AO—dnr.

SYRIA.—AR—8lha.

JAVA (DUTCH EAST INDIES).—anc, and, anf.

MISCELLANEOUS.—lp1, gla, glq, (bvj), gsy, gfy, gbm, vnb, kdka, 2xaf, spw.

SHIPS.—SIC—ss. Masilia.

SDK—ss. Kiruna.

SFV—ss. Kronprins

(NIDK)—U.S.S. Modoc.

Gustav Adolf.

XEF—Omega.

GLKY—ss. Carinthia.

GBJ—ss. Benalla.

Calls underlined, eg., NU lamp, hrd on fone. Parentheses () means crd red. TNX OM's. Pse QSL to BRS-86.

Calls heard by R-1AK (Russia):—

11—F8SS R-3, 42 mts.; F8IP R-2, 47. 21—F86DB R-2, 42
TICE R-3, 39; K4ABF R-3, 41; NOGA R-4, 45; K4ABG R-4,
42; FA8RRA R-4, 45. FI—NORL R-4, 38 mts.; F8JJ R-5, 38;
WIZ R-3, 40; PTIDL R-3, 35; NOWR R-3, 44; B4YZ R-6, 45.5;
SMWR R-3, 40; WOPM R-3, 42; G5DH R-4, 45; PIAJ R-4, 44.5;
S2NM R-5, 7. 81—RK8 R-8 62 mts.; TIDR R-4, 39; OCTU R-5
46; OCMD R-3, 56; F8ST R-3, 33. 91—9YU R-3,
39.5; RIMA R-6, 37; 14I—8VA R-2, 7; CS2YD R-5, 41; OPY
R-4, 72.5; YS7DD R-4, 43. 16I—SMUA R-3, 45.5 mts.; NOPM
R-4, 41.5; F8ET R-4, 45; TPAV R-4, 46; F8VV R-3, 41.5; TICE
R-3, 45; OGP R-4, 39; G5LB, R-3 40; F8FJ R-3, 43. 23I—
R2WD R-4, 38 mts.; F8OEO R-4, 45.5; NOTH R-3, 43;
EAR44 R-2, 46; F8FLM R-3, 45; G6BT R-3-4, 46;
F8MC—R-3 37; K4ACI R-4, 41.5. 25I—F8AY R-4, 44 mts.;
F8UT R-4, 43.5; F8AF R-4, 43; TPAI R-4, 49; 25I TIDR R-4, 39;
OKL R-3, 55; EMXT R-3, 58; OFA R-6, 58.5; F8GDB R-4, 45.5;
BA4 R-3, 45. 26I—TPAE R-6, 48 mts. 27I—G5BY R-4, 43 met.
29I—NOUC R-4, 43 mts.; OHK R-4, 40; UB4AR R-4, 42; OKE
R-3, 41.5; TPAI R-5, 47; K4AAY R-3, 45.5; NOLY R-4, 45.5;
TICE R-3, 45; OKL R-3, 57; F8UT R-3, 40.

Calls heard by RIVA:—

RUSSIA.—R2WL R-9.

FRANCE.—F8GDB, F8YOR, F8RSN, FOCMV, F8UGA, av. str.,
R-5-6.

GERMANY.—K4XW, KBYKK, K4WI, K4AF, K4ACT, K4KBR,
average strength R-6.

SPAIN.—EAR28, R-6.

AUSTRIA.—OYZ, OPY, OGP, R-9 and steady!

FINLAND.—S5NF, R-7.

CANADA.—CA2KY, R-4.

BELGIUM.—BU3, R-7, BK44, R-7.

ENGLAND.—G5MS, G6YV, G2YP, G6CL, G2VQ, G6OO, G2NT,
G5OC, G5BY, av. str. R-5.

DENMARK.—DY, XF, R-5.

SWEDEN.—SMUK, SMVL, SMZN, R-3 to R-8.

Calls heard by P. MAYER (EAMP), Martinostrasse 71, Vienna 18,
Austria. Receiver: Reinartz-Leithauser, O—V—2. G—2vq (r7),
2cs (r3), 2un (r4), 2gf (r5), 5da (r6), 5tz (r4), 5j (r4), 5xy (r3), 5by
(4r), 5xy (r3), 5by (r4), 5ad (r4), 5yx (r4), 5bd (r3-4), 5mq (r4),
5ku (r4), 6fu (r5), 6ut (x5), 6rw (r4), 6br (r4), 6yvb (r4), 6ty (r3),
6ia (r3), gfy (r5), Gc-5y (r5-6).

Calls heard from EC-2YD (T. & R.) unlicensed, Moravia, Czecho-
Slovakia, during March 15 and April 20, 1927. Receiver: Reinartz,
O—V—1. G—2so, 2dl, 2fc, 2yu, 2jb, 2od, 2ay, 2qv, 2cs, 5uy, 5au,
5us, 5fg, 5ms, 5td, 5ku, 5yx, 5ym, 5od, 5ls, 5vl, 5gq, 6td, 6da, 6ty,
6fd, 6hz, 6km, 6yd, 6dr, 6iy, 6hp, 6xp, 6vp, 6up. Gc—6ko, 6iz,
6js. GI—2it. GW—14c, 1lc, 18b. AI—2kx.

Calls heard by EA—FK, Vienna. G—2cs (r4), 2un (r4), 5ad
(r6), 5bd (r4), 6ut (5), 6rw (4), 5tz (r), 5ds (5).

Jose Ruez de Las Cuevas, Aguilar De Campoo (Palencia), Spain
(EAR52).—February: EE—earc2, ear28, ears2, ear4, ear19, ear44.
NU—1ro. March: G—6gt, 5ku, blq, 5ad, 5ms, 2od, 6rw. Gc—
6ko. April: EE—ear19, ear16, ear18, ear28, ear45, ear8. EF—
8k, 8pgr, 8brn, 8afn, 8rrn, 8zaz, 8bri, 8kz, 8bra, 8uga, 8jo, 8rid,
8olu, 8raf, 8gnb, 8est, 8ssy, 8fad. G—2axo, brs, 2gy, 6ta. May:
EE—ear3, ear19, ear18, ear28. EF—8rid, 8mb3, 8rio, 8jcb, 8ssw,
8kk, 8akl, 8zaz, 8bri, 8bra, 8ar, 8gdb, 8gyd, 8pme, 8kz, 8jcb, 8fad,
8gy, 88jyb, 8gyb, 8xuv, 8ddh. G—gfy, 2cc, 5ls, 6oo. EN—pcj
(Philips Radio Lab., Eindhoven) RD.

EAR52 would welcome G QSO's. Please OM's.

Correspondence.

Instructions to Correspondents.

We are always glad to hear from members. Correspondence published in these columns should be written clearly on one side of the paper and marked "For Publication."

All correspondence should be addressed to the Editor, T. & R. BULLETIN, who reserves the right to refrain from publishing any material which is lacking in general interest or for other reasons. Correspondence for publication will not be acknowledged.

Correspondence must be kept reasonably brief.

QRP SCHEDULE.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—6HU and 6BB propose to carry out a series of
tests from July 27 to August 4, using an input of 60 volts. It is
hoped to accumulate some useful data with regard to transmission
on this very low power, and would everyone hearing signals from
either of these stations please either QSO or send full particulars
of the transmission received either to the QRA or 6BB (below)
or 6HU, 7, Eynella Road, Dulwich, London, S.E.22. If both
stations are received, a report on each would be exceedingly
welcome. All reports received will be replied to.

Yours faithfully,

6HU and 6BB.

31, Court Lane, Dulwich, S.E.21.

A NOVEL METHOD OF MODULATION.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I hope the following may be of interest for low-
power stations who work with phone transmissions. Several
stations have asked me to tell which method of modulation I was
using when I 'phoned them. I wanted to try a better modulation
than the absorption method, and I wonder why I made the fol-
lowing unorthodox circuit, but it is a fact that it is much better
than the absorption modulation, and, I think, with a special modula-
tion valve. I have worked several stations with nice result on
5 watts. The transmitter circuit is a Hartley (please observe
that no grid resistance and condenser is used!). The whole affair
for 'phone is quite simple. You take a lead from the grid through
a little condenser, a H.F. choke and the microphone to the negative
end of the filament. The condenser is about 200 cm. The H.F.
choke need 200 turns on a one-inch test glass. The microphone
is a generally carbon type. As I worked G2YR with 'phone, could
he easy copy each word when no QRM. (He answered me on my
'phone questions!) Of course, I will not tell that it is an orthodox
circuit, but it works remarkably well here on my station. Please
try the game OM's and I am sure you will be astonished. I should
be glad to hear what you mean about it.

I will appreciate all detailed reports on my fone signals very much.

Yours faithfully,

E. POULSEN.

6, Virginiavej,
Radio D7MT.
Copenhagen, F.



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T. & R.

THOSE QSL CARDS!

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I have noticed several letters recently on the subject of QSL cards and the failure of many foreign stations to have the courtesy of sending a reply. Prompted to investigate by these letters, I analysed my log and examined the results (from a QSL point of view) of 200 consecutive QSO's, the most recent of which was six months ago, and I find I have received 185 cards out of a possible 200! This, I think, is a remarkable number, considering the fact that they come from 26 different countries, the possibilities of being lost in the post, unintentional failure to QSL, etc. The missing cards from the various countries might be of interest: British 9, U.S.A. 1, Holland 2, France 1, Finland 1, Czechoslovakia 1.

I will only name two stations of the 15 as being on my blackest of lists, viz., EC-OK1 and NU-2AGQ. Repeated requests have failed with both these stations, even when I explained to the latter that the card was urgently needed for the "QRP" test returns.

If any station has not received a card from 6YW, I should be glad to know and to forward one immediately.

I was glad to see in the "Dutch Notes" that En OCX will not work any raw A.C. stations, and I think this might be a solution of the A.C. QRM question.

I suggest that every British station which is willing to help to put down these QRM factories should send a postcard (QSL card) to me to the effect that it will not work raw A.C. stations *anywhere*. I will send the figures to the Editor for publication in the BULLETIN, and the publication in foreign journals should do good. If the figures are small, it will show that we do not object to this raw A.C. QRM. Do you? If so, drop a card to me now, before you forget, and say if you object to your call-sign being published.

The moral effect of a large vote against working them will, I am sure, have its effect.

I suggest sending the cards to 6YW after reading the Editorial of May, in order to avoid extra work for the H.Q. staff.

Make your resolution now before you forget, and post it to 6YW as soon as possible.

Yours sincerely,
T. P. ALLEN (2BX, 6YW).

THE MOON'S INFLUENCE ON RADIO.

To the Editor of T. & R. BULLETIN.

SIR,—Mr. Derek Shannon's interesting article in your March number would seem to prove definitely that the position of the moon in regard to the earth has an effect on the received intensity of radio signals. With regard to the hypothesis, he advances to account for the cyclic changes—need we look much further than a possible tidal effect in the Heavyside Layer. There seems to me no physical reason why there should not be spring and neap tides in this layer, the existence of which would now seem to be firmly proved.

But, as Mr. Shannon hints, the changes in signal intensity which follow the phases of the moon may be, and frequently are, completely masked by other conditions. Most amateur experimenters have other claims which prevent anything like a consistent watch being kept. My own observations are affected by these other claims. I have, however, been able to keep watch on the United States amateur band, from 22.30 to 00.30 or 01.00 on all but three nights between March 1 and March 17, corresponding to a period between new and full moon. The following notes on the conditions may be interesting:—

March 1.—An exceptionally good night both for reception and transmission of signals across the Atlantic. My signals reported as exceptionally strong. Much QRM.

March 3.—Fair for reception, apparently not good for transmission from this side.

March 5.—Fair for reception, not good for transmission.

March 10.—A good number of NU stations heard but all very weak. Not good for transmission.

March 11 and 12.—Conditions very similar.

March 14.—A very good night for transmission from this side and for reception. Much QRM and QRP both sides.

March 15.—Good night for transmission and reception. Very little QRM.

March 16 (about full moon).—Completely "dud" night. No NU stations could be read or identified. North African stations were coming in at more than normal strength. The anticyclone over the British Isles, which had extended well out over the Atlantic, was moving slowly eastward, and an intense depression coming in from the South-west. Gale warnings were out over West and South coasts.

I am quite convinced that an intelligent reader of weather charts and forecasts will enable us to anticipate the conditions on any particular night. Several British and Continental stations have, I understand, been collaborating for over a year in observation work. I hope that we shall soon be able to hear the result of their labours.

Yours, etc.,
ERNEST H. ROBINSON (G5YM)

SHORT WAVE PHONE.

To the Editor of T. & R. BULLETIN.

SIR,—With regard to the remarks by 6WW in the JUNE BULLETIN about short-wave phone, I venture to suggest that this branch of the subject deserves quite as much attention as any other.

It is much more friendly and satisfactory to conduct local QSO's in phone and for British work 10 watts is ample power.

The QRM trouble arises from long phone transmissions by QRO stations, which, unfortunately, seem to occur during the busiest periods.

By far the most serious QRM is caused by spacer waves, unsteady signals, and flatly tuned I.C.W. and QSB's, which are anything but pure D.C.

With regard to spacer prevention, I would like to draw attention to the suggestion in the correspondence columns of the May BULLETIN, which has proved very successful at my station.—Yours faithfully,
BRIAN C. CHRISTIAN.
G5XD.

SCHEDULE WITH AUSTRALIA WANTED.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I have just received a letter from Aust. Mr. W. N. Bullivant, OA, 2WB, wishes it to be known that he is very anxious to QSO G stations; he has asked me if I can arrange a sked. with any British amateurs whose signals get through to Australia O.K. OA2WB states that he transmits every Monday morning at 07.00 Aust. time, and frequently in the week. I shall be only too pleased to hear from any T. & R. transmitter who cares to co-operate in any transmissions, or if any amateur can write to OA2WB direct, giving full particulars of working hours and W.L's, Mr. Bullivant will very much appreciate same. He says that few G stations are received out there, plenty of EF's. Incidentally, sigs. from OA2WB have been received here when the input was 15 watts R.A.C. Hoping these few remarks may come to the notice of other T. & R. members through the "BULL," thanking them in anticipation.—Yours faithfully,
H. E. COOK,
BRS17.

QRA, OA2WB: Mr. W. N. Bullivant, Charles Street, Albury, N.S.W., Australia.

"Bessemer," Tyttenhanger Green,
St. Albans, Herts.
June 14, 1927.

REPORTS WANTED FOR GERMANY.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I wish to advise you that I have been invited by the German Short-Wave Amateur Transmitters' organisation—D.F.T.V.—to prepare monthly brief notes concerning British activities on the lower wavebands (45, 32, 23 metres).

I shall be glad, therefore, to receive from any G stations a few remarks which may interest the German hams. All reports by the 12th please. Lists of calls heard, and suggested schedules will be welcome.

The official organ of D.F.T.V. is "C.Q.," published monthly. Full particulars can be obtained from 6CL or any licensed German station.—Yours sincerely,

J. CLARRICOATS
(G6CL).

107, Friern Barnet Road,
London, N.11, England.
June 8, 1927.

STATION PROCEDURE.

To the Editor of T. & R. BULLETIN.

SIR,—I would like to associate myself with the scheme of Procedure outlined by G6CL and realise that here we have a means of standardising amateur practice.

There is just one suggestion I would like to make.

Stations signing off with the VA to send VA—QRX if they are continuing listening, and VA—QRT if closing down entirely. In the former case stations could then call up if QSO desired. Thus a considerable QRM and waste of time would be avoided.—Yours faithfully,
BRIAN C. CHRISTIAN
(G5XD).

AN ENERGETIC B.R.S.

To the Editor of T. & R. BULLETIN.

Have logged 41 countries in the past two months. The Brazilians have been coming over very well; easily the best batch to log (at this station) outside Europe. I have had a card from NIDK U.S.S. Modoc, confirming reception of his signals when he was off the New England coast on Ice Patrol. He was R7 here.

I have the following news to forward:

EARC2 wishes to get in touch with G stations and wants reports from BRS's. He is on the air every evening between 2200 G.M.T. and 2400 G.M.T. on 43 metres.

German UHU, who comes over very well on 42-metre fone, also wants reports.

NU1JZ and NU1CPB want QSO's or reports from G stations. NU2PF has been trying to SQO 6GNK for some time, but can't hear him.

I have just received the following information from EC2YD concerning stations in Czecho-Slovakia.

They are divided into five districts (i.e., 1 to 5), and the EC stations

use the number of their district, followed by two letters for their call-signs.

Examples: EC2YD, 2nd District, Moravia.

EC1AB, 1st District, Bohemia.

The following are the districts and their numbers: (1) Bohemia; (2) Moravia; (3) Silesia; (4) Slovakia; (5) Karpathia Russia. All are unlicensed, and Q.S.L's should be sent under cover.

Just a late piece of news: Operator C. E. Himoe, of NU1XM will be on board WNP this summer for 15 months, and would like reports of his signals on 33 metres.

I should think QSL's should be sent to him via NU1XM, but I have asked for more information.

This is all the news for the time being OM.—Yours faithfully,

A. G. BURGESS, B.R.S.86,
(T. & R.; R.S.G.B.; A.R.R.L.)

26, Gunnersbury Park Gardens,
Acton, W.3.
June 10, 1927.

ANOTHER SCHEDULE WANTED.

To the Editor of T. & R. BULLETIN.

DEAR OM,—I have a message here for G's:—FOA4F works on 20 metres and would appreciate reports, etc. His times are from 20.00 G.M.T. onwards, every Sunday calling "CQ Test." He also transmits at random times on other days. Please QSL. Hoping you can find room to publish this.—I am, Yours truly,

T. W. FENBY, G2BNB
(T. & R.), R.S.G.B.

"Hughenden," 546, Chester Road,
Erdington, Birmingham.
May 29, 1927.

Bulletin Standing Notices.

All members are asked to read carefully the following notices before writing.

Always write your letters relating to different subjects on separate sheets of paper. Do not send in an order to the Sales Department and ask somebody else a question in the same letter or ask a question about your licence.

When sending cheques or postal orders do not embody payment in respect of several items in one sum, but make out separate sums for the various items.

Orders for all articles except enamelled emblems should be addressed to the Sales Manager and nobody else, and cheques should be made payable to Sales Department, T. & R. BULLETIN. Cheques and orders for enamelled badges should be made payable to the Secretary, Radio Society of Great Britain, and also subscriptions.

Questions concerning licence matters should be addressed to the Hon. Secretary.

Reports concerning ether activities should be addressed to your Area Manager.

Changes of QRA should be addressed to C. A. Jamblin, Esq., QRA Manager, 82, York Road, Bury St. Edmunds, Suffolk, and these will be embodied in a monthly report in the BULLETIN, and will be noted by Headquarters.

QSL cards should be forwarded properly addressed and stamped in the case of known QRA's to QSL Manager, Radio Society of Great Britain, 53, Victoria Street, S.W.1. In the case of the free delivery countries, however, it is only necessary to address the card and not to stamp it.

When corresponding with the Editor T. & R. BULLETIN, and if a reply is required, always send a stamped addressed envelope unless you are sending an article for publication. Replies cannot be guaranteed unless this rule is observed.

Proceedings of the Incorporated Radio Society.

Ordinary meeting June 22, 1927, at the Institution of Electrical Engineers.

Sir Capel Holden, F.R.S., M.I.E.E., took the chair at 6 p.m.

The minutes of the ordinary meeting held on Wednesday, May 20, 1927, were read and confirmed.

A paper entitled "Fading of Wireless Signals" was read by Mr. H. A. P. Littledale, F.R.Met.S., Associate I.R.E., and a vote of thanks passed to the lecturer after a prolonged discussion. The meeting terminated at 7.45 p.m.

A list of candidates for membership had been suspended in the Hall of the Institute, and the following were elected as Sectional Members:—

J. Speakman, 33, Walton Road, Stockton Heath, Warrington.

A. B. Whatman, The Cottage, Twyford, Winchester.

John Parish, 34, Victoria Park, Cambridge.

Capt. Chas. R. Pinney, Land's Department, Port Moresby, Papua, Australia.

John Guy Ainsworth Roe, 24-26, Bore Street, Lichfield, Staffs.

John Sydney Collett, Colombo, Ceylon.

Lewis Rogers, "Hillsborough," Aldenham Ave., Radlett, Herts.

William Hibbert, "Goathland," Bushey Wood Road, Totley Rise, Sheffield.

Reg. L. Varney, "Fairview," The Avenue, Sunbury-on-Thames, Middlesex.

Colin Pidd, 16, Horncastle Road, Boston, Lincolnshire.

Sture A. R. Malmberg, Apoteket, Falkenberg, Sweden.

P. J. Blackwood, No. 2 Wireless Company, "A" Corps Signals, Karachi, India.

Walter Scott Hughes, FitzWilliam House, Cambridge University, Cambridge.

N. C. Hardman, "Mayfield," Cloughfold, Rossendale, Lancs.

Cyril Lawrie, B.Sc.(Glas.), The Ochils, Ightenhill Park, Burnley, Lancs.

Cyril Fagan, 2, Upper Leeson Street, Dublin, Irish Free State.

P. Painton, 36, St. Mary's Avenue, Finchley, N.3.

W. A. H. Atkinson, 39, Roose Road, Barrow-in-Furness.

Capt. G. C. Wilmot, 20, Parkfield Road, Sefton Park, Liverpool.

F. P. Crowther, Caldecot Cottage, Caldby, near West Kirby, Cheshire.

W. H. R. Radford, The West Lea, Cropwell, Butler, Notts.

Julius Kyller, 7, Vesteralle, Aarhus, Denmark.

Lord Egerton of Tatton, Tatton Park, Knutsford, Cheshire.

Clifford W. Therington, "West Lodge," Moigne Combe, Dorchester, Dorset.

A. L. Royer, 10, Parolles Road, Highgate, London, N.19.

M. J. Wright, "Coveney," Valley Road, Edwalton, Notts.

Chas. H. Dyke, Balsall Street, Balsall Common, near Coventry.

Robert Campling, 19, Salisbury Road, Dalston, London, E.8.

Bertram O. Goddard, "Brinkcliffe," Sandown, I.O.W.

A. E. S. McDougale, Ingram House, Bamburgh, Northumberland.

Leslie Henry Cordon, "Garrick a Rede," 1, Central Avenue, West Bridgford, Nottingham.

R. E. Wilkinson, 64, Western Road, Crooksmoor, Sheffield.

Alphonse Depuydt, 6, Antwerp Street, Ostend, Belgium.

Donald McInnes, Reform Square, Campbeltown, Argyll.

J. P. McVeigh, 84, Edward Street, Lurgan, Co. Armagh, N. Ireland.

ASSOCIATE.—R. W. Burgess Henderson, 59, Canning Road, Highbury, N.5.

Trade Note.

We have to hand details of a very excellent wave-meter manufactured and marketed by Messrs. Gambrell Bros., Ltd., of 76, Victoria Street, S.W.1. The Type "D" wavemeter has been built to meet the requirements of those amateurs who desire an instrument of low price and embodying a high degree of accuracy. The instrument is totally enclosed in a cabinet, and a battery and buzzer enables the wavemeter to be put in and out of operation as required. The new Gambrell Buzzer is incorporated in the design, and this gives a high and constant note.

The complete wavemeter with coils to cover wavelengths of from 20 to 7,000 metres for £8 13s. 6d. Heterodyne Wavemeters are also marketed by the same firm, and these cover a range of from 50 to 7,000 metres with suitable coils which, by the way, are the well-known Gambrell type, each set being calibrated with a separate chart.

Radio in Russia.

By R-?-WAG.

Russian calls of unlicensed stations are made up as follows. The amateur ordinarily takes the prefix "R" after which goes a figure and two characters—the initial call of his name, e.g., R-1FL=Fedor Lboff. If another amateur shows himself with the same initials he augments the number—R1WP, R2WP, etc.

Official calls are assigned in the following manner: O1RA, O2RA, etc. There are about 15 RA's.

Both systems are considered inconvenient ones by the users because with the issue of new international intermediates it is necessary to change to E.U. or A.U. Listeners are also organised and are assigned RK, followed by a numeral.

On the whole there is a tendency on the part of the Russian amateur to use an unlicensed call, whether he is licensed or not, because by this means he and he obviates the use of the two-letter intermediate.

**WE STILL WANT
TECHNICAL ARTICLES!**

QRA Section.

I have no news of importance this month, so I would like to take this opportunity, under my own pen, of thanking all those members and members of the Northern Ireland Transmitters' Union, who have so very kindly sent me a most delightful present, in the form of a first-class tennis racquet, complete with press and case. I hope it may long stimulate my efforts to "serve" in all senses of the word.

QRA's Found.

NR-2FG.—Box 384, San José, Costa Rica (Inf. G5KU).
 OA-5AX.—A. H. Traeger, Brigalow Avenue, Kensington Gardens, South Australia (Inf. B.R.S.29.).
 OIK.—Danish S.S. Lituania, QSL to Holbergsgade 2, Copenhagen (Inf. G6UT).
 ED-7WC.—Danish Cruiser Fylla, c/o Post Office, Copenhagen (Inf. G6UT).
 PI-1HR.—Capt. T. E. Boudinot, 12th Signal Corps, Fort MacKinley, P.I. (Inf. B.R.S.29).
 NI-3LT.—T. Lilliendahl, Box 105, Akureyri, Iceland (Inf. B.R.S.6).
 NI-3GB.—B. Gardarsson, Box 354, Reykjavik, Iceland (Inf. B.R.S.6).
 SH-BZL.—A. E. Gagan, Govt. Wireless Station, Georgetown, British Guiana (Inf. G5MQ).

G.

2ABA.—E. P. Allen, Meadowcourt, Radcliffe-on-Trent, Notts.
 2ALY.—N. Stamford, 118, Bulwer Road, New Barnet, Herts.
 2APQ.—J. A. Cornell, 53, Trent Road, Brixton, S.W.2.
 2AWJ.—P. Lacon, 19, Merridale Lane, Wolverhampton.
 2AZP.—L. Sanderson, 39, Bonham Road, Brixton Hill, S.W.2.
 2BKF.—S. H. Godwin, 93, Grant Road, London, S.W.11.
 2BKY.—L. F. Birch, 13, Winifred Avenue, Earlsdon, Coventry.
 2BQA.—A. Cawley, "Sunnybank," Church Street, Frodsham, near Warrington.
 2BQH.—G. G. E. Bennett, 26, Blenheim Park Road, Croydon, Surrey.
 2BVC.—E. J. Humphries, Craigside, Dyserth, North Wales.
 2CX.—J. D. Chisholm, 27, Gresham Road, London, S.W.9.
 2LW.—F. H. Lawrence, "Lyncroft," Albion Road, Sutton, Surrey.
 2OW.—E. L. Owen, 43, Mount Park Road, London, W.5.
 5HV.—W. H. Martin, "Lynwood," Myrtlefield Park, Balmoral, Belfast.
 5PH.—B. F. Phillips, 21, Byng Street, Landore, Swansea.
 5PR.—H. Porter, 141, Waterloo Road, Wolverhampton.
 5YC.—City and Guilds Radio Society, Exhibition Road, S.W.7. (Hon. Sec.: C. L. Champion, G6CP.)
 5YD.—H. C. Daynes, 15, Elton Street, Stretford, Manchester.
 6BY.—W. R. Bottomley, "Glynwood," Brighouse, Yorks.
 6LY.—J. H. Blakeley, 5, Hazel Grove, Blackpool.
 6NB.—L. H. Sloggett, 34, Duke's Avenue, New Malden, Surrey.
 6PB.—H. Berry, 156, Lea Road, Wolverhampton.
 6PP.—M. W. Pilpel, 38, Purley Avenue, Cricklewood, London, N.W.2.
 6WD.—G. A. Woods, 81, East Parade, Harrogate.
 6XG.—A. C. B. Smith, Bryn Rodyn, Tan-y-Bryn Road, Colwyn Bay, North Wales.

G.I.

2BB.—(GX-2BB Portable) E. Beat, 4, Eton Street, Belfast (Inf. G2ZC).

G.W.

16C.—G. Horrander, 44, Dufferin Avenue, South Circular Road, Dublin.
 17C.—J. B. and R. D. Scott, 9, Upper Garville Avenue, Rathgar, Dublin.
 18C.—W. H. Benson, 46, Dufferin Avenue, Dublin.

CHANGE OF QRA.

GI-2BLQ now Sandes Soldiers' Home, Catterick Camp, Yorks.
 2BHW " 3, Carlton Road, Sunbury-on-Thames.
 2JD " 2A, Salisbury Road, Seven Kings, Essex.
 2TP " 4, White Horse Drive, Epsom, Surrey.
 5DI " 81, Lyndhurst Terrace, Taunton Road, Bridgwater, Somerset.
 GW-16B " 2, Albert Road, Sandycove, Co. Dublin.
 ED-7ZM " Royal Technical College, Farimagsgade, Copenhagen.
 EF-8FT " 2 bis rue J. Deville, Colombes (Seine) (Inf. D. J. Beattie, T. & R.).

CHANGE OF CALL SIGN.

| | | | | |
|--------|-----|-----|-----|--------|
| 2AVR | ... | now | ... | 6UO. |
| 2BWF | ... | " | ... | 5PH. |
| 2BWO | ... | " | ... | 6LY |
| 2BZC | ... | " | ... | 6PP |
| BRS63 | ... | " | ... | 2BQH |
| 6RQ | ... | " | ... | 2BZG |
| IC-SNI | ... | " | ... | NI-3SN |

QRA'S WANTED.

G—2BL, 2BJR, 2BV, 2GM, 2MA, 2MW, 2WX, 2YD, 2ZF, 5AL, 5LX, 5PG, 5WG, 5YU, 5YV, 6AZ, 6DL, 6WD, EZ-66C, URCC, ED-7HM.

The QRA recently given for G6JK was correct, but Mr. Jopp informs me that he more often transmits with this call-sign from "St. Peter's," Weston-super-Mare.

EXCHANGE & MART.

Many amateurs are on the look-out for second-hand apparatus at a moderate figure. Look through your junk and see what you have worth selling and turn it into money. This is your best medium for disposing of your surplus experimental gear.

NEWTON GENERATOR, 1,500volts 100m.a., also quantity of Transmitting and Receiving Gear. Offers Wanted, Perfect condition, State requirements.—2N.V., 33, Hazelbrouck Garden, Hainault, Essex.

CONFIDENCE!!!

'Here are some reasons why firms of repute

ADVERTISE

in the only British Wireless Journal Written and Published by Amateurs.

They know that in placing before you their various radio products they are communicating with an intelligent section of radio enthusiasts who through their intimate knowledge of radio transmission and reception are alive to the advantages of each instrument, component or accessory mentioned in their advertisement.

They are confident that even if members of the R.S.G.B. do not always need the lines they display, they are not backward in advising their less technical friends and acquaintances to purchase, because any line advertised in the T. & R. BULLETIN can be relied upon to give real satisfaction.

They pay to advertise in the T. & R. BULLETIN because they value the orders which readers send them, and, as sound business people, they want their business to go ahead and prosper just as much as you want to see advancement in the science of radio engineering.

WILL YOU STRENGTHEN THE CONFIDENCE OF THE ADVERTISERS BY PURCHASING THEIR PRODUCTS?

It will help, too, if you always mention the "T. & R." even when you only write for further details of any line advertised or when applying for Catalogues. **THANK YOU!**

A note to those who wish to advertise—!

Specimen Copy and Rates will be sent to all who apply to the Advertisement Managers,

PARRS,
Advertising Ltd.
 GRAVEN HOUSE,
 KINGSWAY,
 LONDON, W.C2

WANTED.—A thousand or so members to advertise their surplus gear for sale in these columns.

"Gambrell" signifies "Efficiency"

WHEN you buy a "Gambrell" product you have the satisfaction of knowing that it has been produced by scientific instrument manufacturers with a long standing reputation for accuracy, quality and efficiency—a lasting source of satisfaction to yourself. The following products are chosen for illustration as each is of special value to the serious experimenter:—

GAMBRELL TYPE "D" WAVEMETER

This Type "D" Wavemeter meets the needs of those experimenters requiring an instrument low in price and of a high degree of accuracy. When not in use the instrument is totally enclosed in its cabinet—a Battery is incorporated within same, and a switch enables the buzzer to be put in and out of operation without disconnecting the battery leads. The buzzer used is the new Gambrell Buzzer—a very great improvement over any other yet placed on the market.



PRICES: "WAVEMETER TYPE D" (as Illustrated):

Complete with two coils and two Charts
For 50 to 500 metres and 4½-volt Battery

£5 : 0 : 0

With Coils and Chart for 20 to 500 metres

£5 : 13 : 6

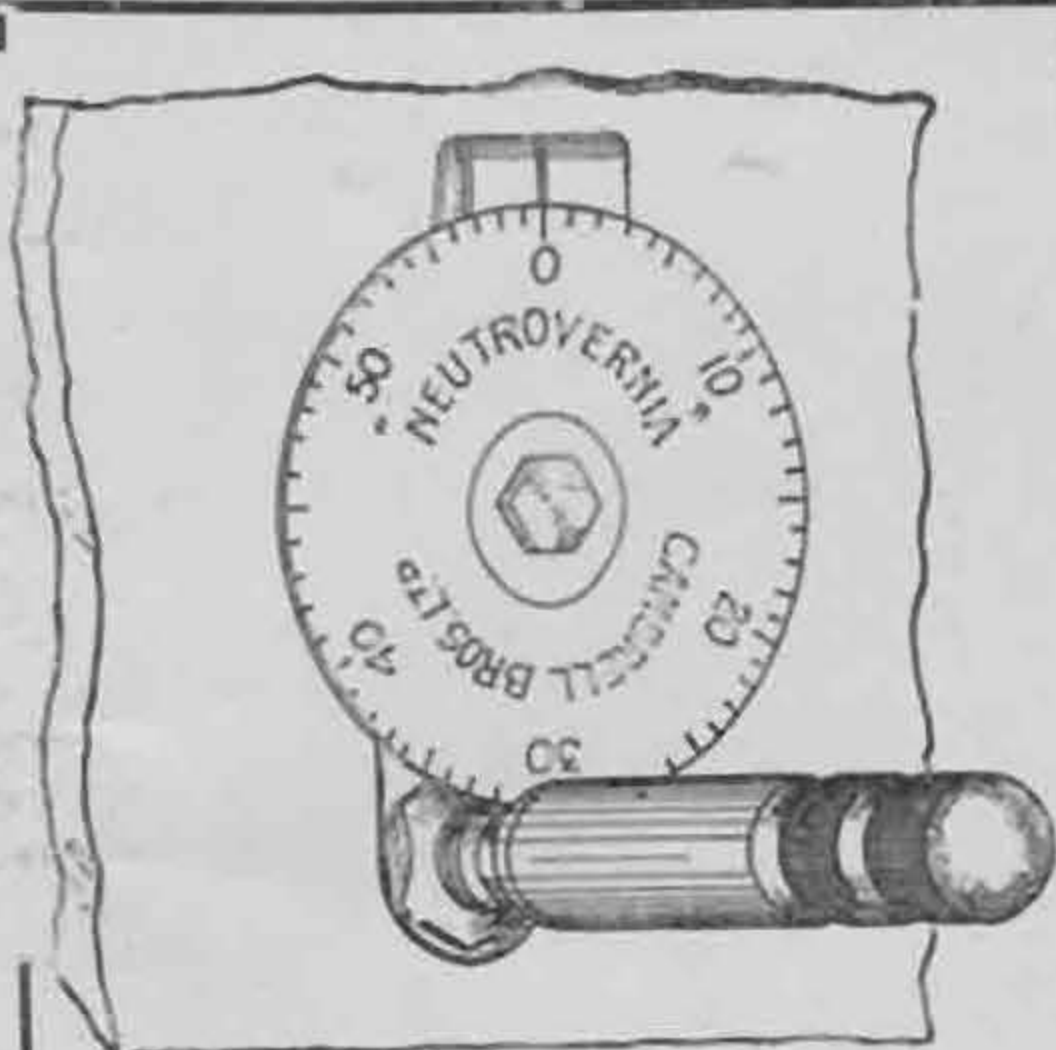
Can be calibrated up to 7,000 metres
if required.

(HETERODYNE WAVEMETERS TO ORDER)

NEUTROVERNIA CONDENSER



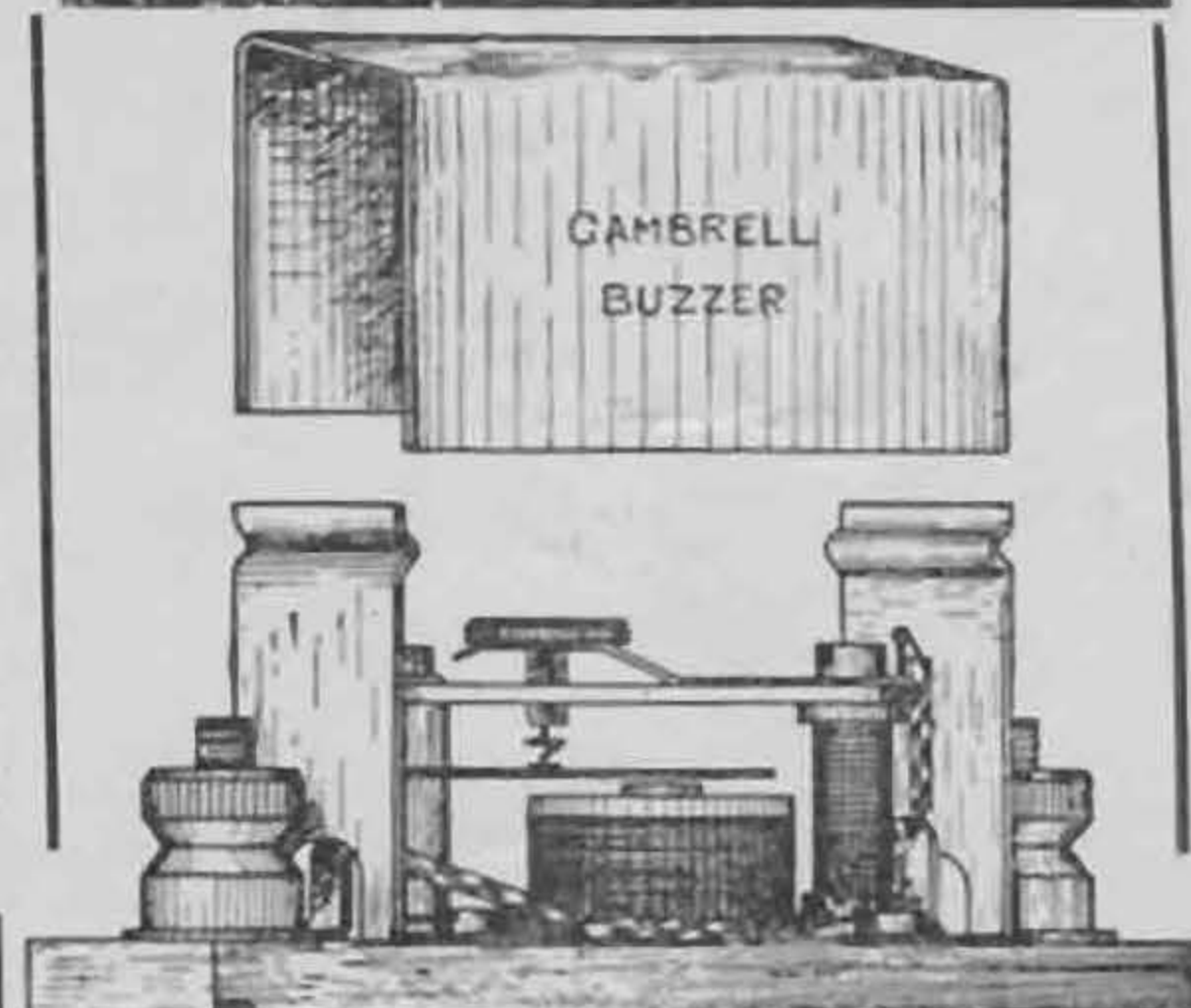
The best because—It has the widest capacity range approx. 2/38 micro microfarads. It is ideal for use as a balancing condenser, a capacity reaction control, or as a vernier condenser. It cannot short—has ebonite di-electric. It is all enclosed, and, therefore, dust and damp-proof. It is a precision instrument throughout. It can be fitted with direct reading dial (see details and separate illustration). It can, as supplied, be used for either baseboard, on panel or through panel mounting. Price **5/6**



If you fit this DIRECT READING DIAL

to the Neutrovernia Condenser (see details and separate illustration), it will enable you at any time to return to the Exact settings previously logged. This extremely useful Direct Reading Dial costs

1/8



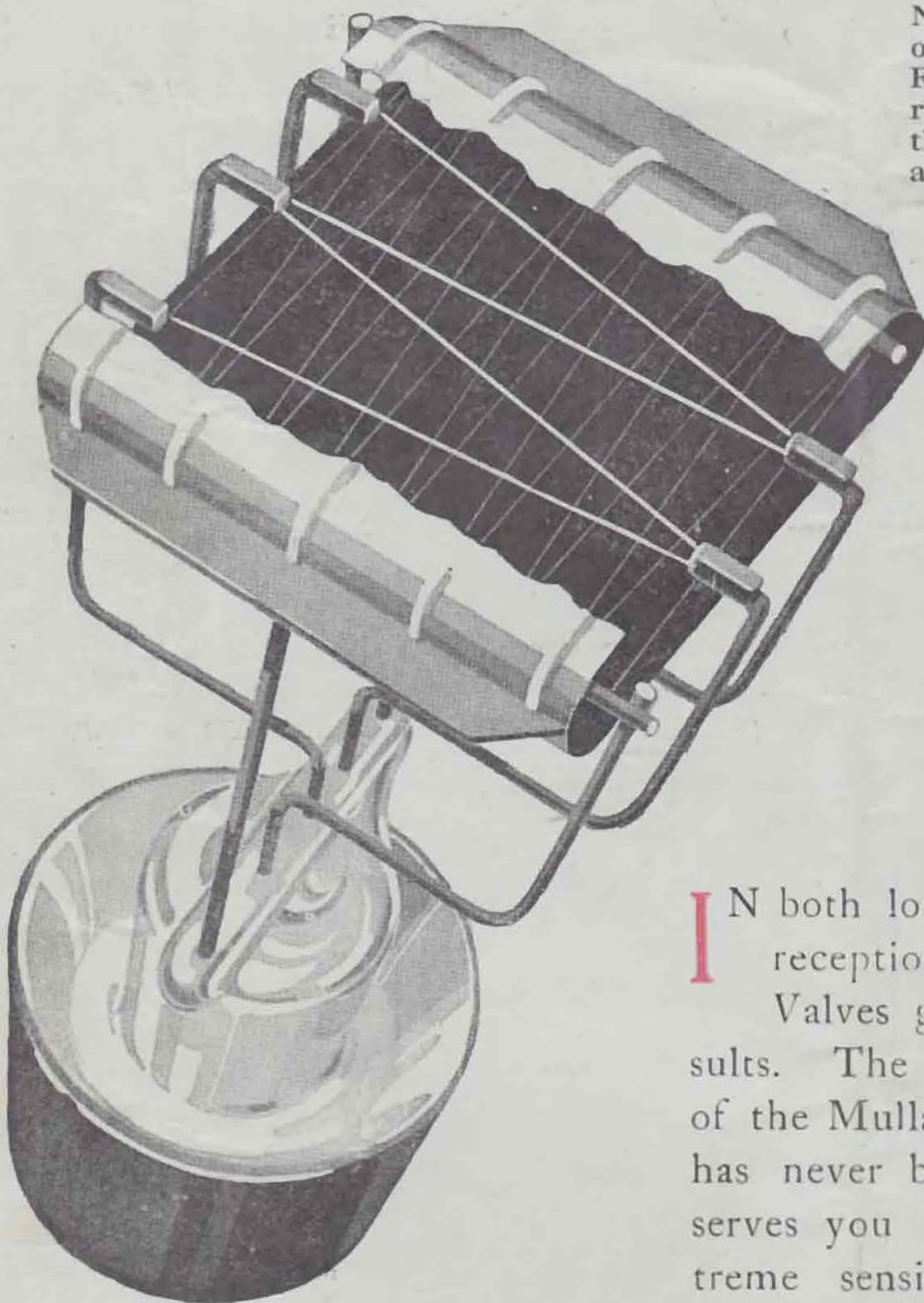
GAMBRELL BUZZER

Here is the new Gambrell Buzzer—a first-class component, embodying a high and constant note with simplest form of adjustment, and yet compact. Mounted on ebonite and complete with shunt and terminals. Really good note. The best position is easily found by finger adjustment of the one knurled screw. Complete with dustproof cover, as illustrated

10/6

GAMBRELL BROS., LTD., 76 VICTORIA STREET, LONDON — — — S.W.1,

Built for better reception



Note the great length of the Mullard P.M. Filament supported by resilient hooks within the field of the grid and anode.

IN both long and short wave reception Mullard P.M. Valves give improved results. The copious emission of the Mullard P.M. Filament has never been equalled. It serves you longer, gives extreme sensitivity and pure, strong amplification. Ask for particulars of the complete range of Mullard P.M. Valves.

Mullard

THE MASTER VALVE

For 2-volt accumulator
 P.M.1 H.F. 0.1 amp. 14/-
 P.M.1 L.F. 0.1 amp. 14/-
 P.M.1A
 (Resist. Capacity)
 0.1 amp. 14/-
 P.M.2 (Power)
 0.15 amp. 18/6

For 4-volt accumulator or 3
 dry cells
 P.M.3 (General Purpose)
 0.1 amp. 14/-
 P.M.3A (Resist. Capacity)
 0.1 amp. 14/-
 P.M.4 (Power) 0.1 amp. 18/6

For 6-volt accumulator or 4
 dry cells
 P.M.5X (General Purpose)
 0.1 amp. 14/-
 P.M.5B (Resist. Capacity)
 0.1 amp. 14/-
 P.M.6 (Power) 0.1 amp. 18/6
 Super power valves for last
 L.F. Stage
 P.M.254
 (4 volts, 0.25 amp.) 22/6
 P.M.256
 (6 volts, 0.25 amp.) 22/6

The Mullard Wireless Service Co., Ltd., Mullard House, Denmark Street, W.C.2

Printed by LOWRY BROTHERS LTD., 50, Southwark Bridge Road, S.E.1, and Published by the TRANSMITTER AND RELAY SECTION OF THE RADIO SOCIETY OF GREAT BRITAIN, 53, Victoria Street, Westminster, S.W.1.