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Vol. 3. No. 3. September, 1927 Price 1/6

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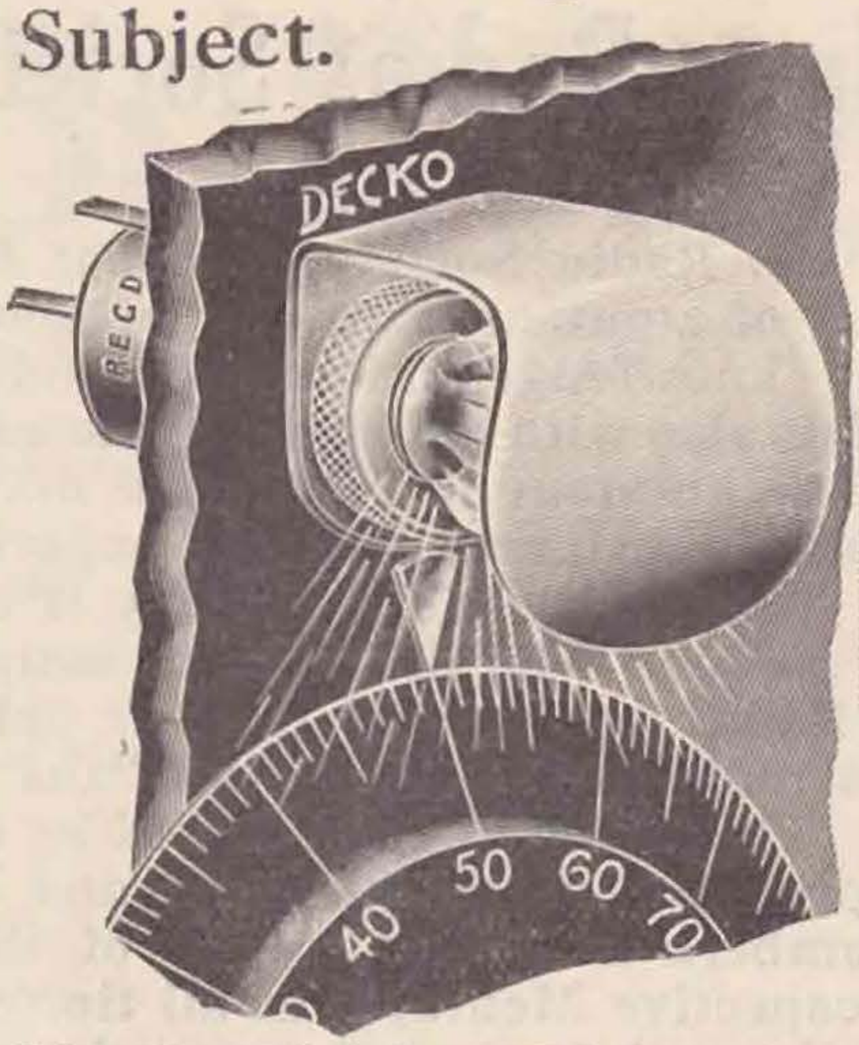

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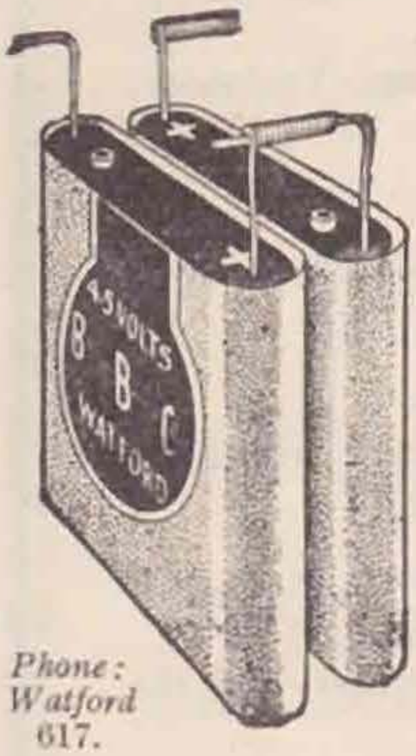

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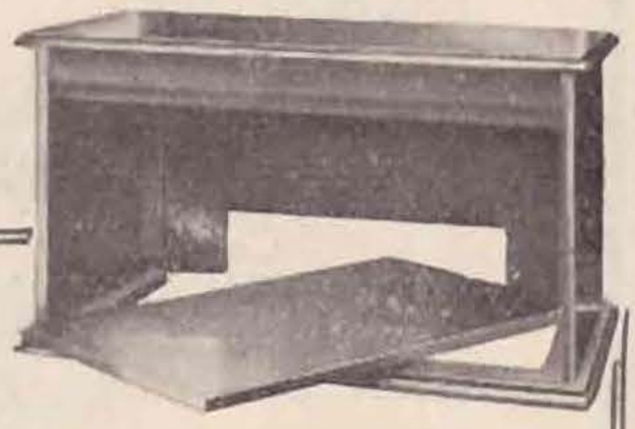

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Inc. Radio Society of Great Britain.

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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Area Manager : J. WYLLIE, Esq. (5YG), 31, Lubnaig Road, Newlands, Glasgow.

Consisting of the whole of Scotland, including the Hebrides, Orkney Islands, Skye, and the other smaller islands on the coast of Scotland, the boundary on the South being formed by the River Tweed and the Cheviots. The town of Berwick is included in the Scottish Area.

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T. & R. Bulletin

THE INC. RADIO SOCIETY OF GREAT BRITAIN,
53, Victoria Street, S.W.1

T&R BULLETIN.

The only British Wireless Journal Published by Amateur Radio Experimenters

SEPTEMBER, 1927. Vol. 3. No. 3

EDITORIAL

Visit Stations, OMS!

Nothing seems to appeal more to the average "ham" than the ability to visit his fellow and compare notes with him and incidentally become reasonably acquainted with the man at the other end of the QSO.

No matter where an amateur transmitter may find himself, he is sure of a welcome in the home of a fellow member of this ever-growing fraternity.

The "ham" spirit is everywhere becoming more marked—wherever two or three amateurs can get together to discuss and criticise, help or advise, the spirit can be found.

We in London are more fortunate than our provincial brothers, because in so large a city opportunities are more readily presented to get together, but even out in the provinces the same keen desire to meet one another is in evidence, and it is almost unnecessary to point out that any London ham who goes out of town is sure of a welcome in almost every large town and many smaller ones through this land of ours.

Brother amateurs, wherever you are, make it your rule to look up every other friend of the ether within reasonable distance of your home; when you are away on business or on holiday, seek out the nearest ham you know—he will give you welcome and probably take you along to see others who are keenly interested in the great game. London hams especially, look out your provincial friends, they are always anxious to have news from the centre of activities; and country hams, whenever you chance to wander our streets, let us know of your whereabouts. There are many of us in town who will meet you and take you around.

Convention.

Here we are again, on the eve of a Convention, the second British National Convention, and this is going to be far better than last year's, although there are many who aver that last year's was well worth attending. This year, however, we have one or two little surprises in store, which will help to brighten up the proceedings to a very great extent, and we look forward to meeting you all at this, the greatest ever in this country.

SYLLABUS, 1927-1928.

We published a paragraph under this heading last month, in which we asked members to contribute papers on certain aspects of amateur radio. It seems that we were none too clear in what we asked, and for the benefit of those who are waiting, pen in hand, to dash off an article at a moment's notice, we would say that such articles come under two headings, one for direct publication in the BULLETIN, and the other to read before the Society at the I.E.E. before publication. The former should be limited to about 1,500 words and be accompanied by rough drawings and good photographs, if possible, whilst the latter may be up to 4,000 words, also accompanied by sketches, etc., which it is proposed should be projected from the lantern.

Also, as regards the former, some of these will, in the first place, be utilised for discussion evenings to be held in London, and the results of such discussions will, in due course, be published in the BULLETIN, together with the article.

By this means we hope to be able to prepare a syllabus attractive to all concerned, and country members will have the advantage of being able to read all the proceedings of the Society, which has not hitherto been possible. Another feature of the BULLETIN will be the publication from time to time of brief descriptions and photographs of amateur stations. We receive quite a number of photographs of stations, but rarely are they accompanied by descriptive matter. Descriptive matter is essential in order to secure general interest in the photograph, and this should be of about 500 words (not more).

Conventionettes.

Details of the Mid-Britain Area Conventionette are published on other pages and according to all reports this was a huge success from every point of view. A member who was present gives it as his opinion that such meetings do more to hold the amateur radio movement together than any other held in the country and to this we would add, excepting *the* Convention. However, we feel that this is an opportunity to pass a few words of advice to those who have the cause at heart and to ask

them to seriously consider whether or not similar meetings are possible in their respective Areas. We feel that the main London Convention is all very well but that there must be many members who for various reasons are unable to attend this meeting and that comparatively local Conventions would be some solace for this lost pleasure. Now then, Area Managers of all tongues and creeds—don't you think that you might manage to organise just one little Convention in the year? If so, seek out your trusty helpers and see to it. Let us hear more of the social side of your respective Areas.

Our Publishing Date.

We are about to grumble again! Never mind, you have your share and this is the only opportunity we have to hit back! This time we want to direct the attention of all members and also some Area Managers to the fact that early in June we took the trouble to send out a special circular letter headed "Special Notices for June," and in this we said amongst other things that our publishing date would in future be the 14th day of the month. Every month since then we have received numerous letters saying that the BULLETIN is late, whereas it fact it has been produced to the day each month. If we take the trouble to send round these letters, and they cost a lot of money, we do expect members to at least take the trouble to read them over and note the contents. We should not send them if it were not necessary, but, after all, June is a long time ago now, isn't it? It may be, however, that some members think that we are our after their subscriptions and so do not trouble to read them, but in confidence we use quite a different envelope now for that purpose!

Copy Date.

Also some Area Managers still seem to be a little hazy about the date by which their copy for the next month's BULLETIN should be at headquarters. The date is the same as ever—the 16th of the month, but owing to certain circumstances we have now altered the date to the 20th. Any copy received after this date cannot possibly go in as we print about a month in advance of issue. Please note the date carefully—the *20th*—a round figure for poor memories!

Get that "Bulletin" Feeling.

It is a year or so ago since last we ran an Editorial under this heading (we are getting quite old now!) and we make no apology for dragging it out once again for the benefit of all members, especially those who are new to our manners and methods, both of which we know will bear improvement; but let this pass. We want quite a lot of things from you all, many things we do not expect to get, but many we know are capable of accomplishment. First of all we want every member to imbue into his system that generous, benign, kind-hearted Dickens feeling and tell all who are interested in Radio that this Society is going along well and that we are just bursting to do more. Let them all know about the BULLETIN and what it is; don't be selfish and keep your membership in a treasure cupboard and try to frighten away others who would like to join us by tales of terrible questions to be answered on the application form. Be generous and help them all into the crowd and incidentally benefit yourself.

Then as regards advertisers, we know that a large sum of money is spent yearly by our members on gear for the super super set or the ether walloper of ten mighty watts, but does it all go to those who are supporting us? We know that sometimes the advertiser is a long way off and it is easier to drop into a local shop and buy what you want, especially if it is merely a valve or a terminal or so, but you would help us ever so much more if you insisted on writing to one or other of our advertisers for the goods and let him know that you are an R.S.G.B. member. Even the smallest order will be appreciated by any one of them, and if they cannot supply they will tell you so. You will at least have the satisfaction of knowing that you have scored a point for the BULLETIN in doing this, so please do do it, not only once but every time. Thanks awfully—you will be helping us a great deal.

Finally, if you have a good stunt in radio work—something that is worth knowing, let everybody else know it also. Send it along to the BULLETIN and let us publish it—no article is too small or too big for us. Again, thank you in anticipation.

Trade Notes.

From the Marconiphone Company, Ltd., we have received details and characteristic curves of their new 610 and K.H.I. type valves.

These are as follows:—

NEW MARCONI 6-VOLT VALVES.

This new Marconi series comprises types D.E.H.610, D.E.L.610 and D.E.P.610, all of which consume only 0.1 ampere at 6 volts in the filament.

Type D.E.H.610 is a high magnification valve for neutralised high frequency, anode bend detector and resistance coupled low-frequency stages, where it may be used with up to 150 volts high tension.

Its characteristics are as follows:—

Filament volts	...	...	6 max.
Filament current	...	...	0.1 amp.
H.T. volts	...	...	150 max.
Impedance	...	...	70,000 ohms
Amplification	...	...	40

Type D.E.L.610 is a medium impedance valve with a magnification factor of 15, suitable for neutralised high-frequency gridleak detector and a first transformer coupled low-frequency stage, with a good medium ratio transformer.

Its characteristics are as follows:—

Filament volts	...	...	6 max.
Filament current	...	...	0.1 amp.
H.T. volts	...	...	120 max.
Impedance	...	...	13,000 ohms
Amplification	...	...	15

Type D.E.P.610 is a low impedance power valve for use in the last low-frequency position of an average receiver, where, with 100-volts H.T. and 6-volts grid bias, it will handle enough power for a large room.

Its characteristics are as follows:—

Filament volts	...	...	6 max.
Filament current	...	...	0.1 amp.
H.T. volts	...	...	100 max.
Impedance	...	...	4,500 ohms
Amplification	...	...	7

MARCONI K.H.I. VALVE.

This new valve is similar to the well-known Marconi K.I.I., and is designed for operation from A.C. mains.

It has a magnification factor of 40, and an impedance of 30,000 ohms, thus being suitable

for use in high-frequency stages, as an anode bend or cumulative grid rectifier, and for the first low-frequency position in a receiver, where it may be used with resistance capacity coupling, or with a good low ratio transformer having a high primary impedance, such as the 2.7 to 1 Ideal.

In combination with the K.L.I. it brings the batteryless receiver up to the highest pitch of efficiency.

CHARACTERISTICS.

Filament volts	3.5 max.
H.T. volts	150 max.
Impedance	30,000 ohms
Filament amps.	2 max.
Amplification factor ...	40.
Normal slope	1.33m. a. volt

The valve will be issued on September 1, 1927, until which date these particulars are STRICTLY CONFIDENTIAL (unless notification of earlier release is received).

* * *

From Messrs. Ferranti, Ltd., we have had details of two new output transformers, Types O.P.1 and O.P.2, the former having a 1 to 1 ratio for diaphragm and cone type loud speakers, and the latter having a 25 to 1 ratio for the coil-driven cone type of instrument, both being very efficient pieces of apparatus. The price in each case is 21s. retail.

* * *

From our well-known advertisers, Messrs. The Weston Electrical Instrument Co., we have received a useful and up-to-date booklet describing their new 2-in. panel instruments and many other types. It also contains some very handy information on "Radio Control," which is the title of the book.

* * *

From Messrs. Rothermel Radio Corporation of Great Britain we have received details of a large number of American instruments, kits of parts, and miscellaneous accessories.

* * *

From Messrs. M.L. Magneto Syndicate details of their well-known M.L. anode converters, these being very fine examples of British manufacture and enterprise. Type D gives a range of 12-550 volts 25 m.a. to 30 m.a., and Type E 600 volts at 60 watts, or 600 and 1,000 volts at 50 watts. The price is just right for the amateur, and the goods leave nothing to be desired.

* * *

From Messrs. Marconiphone Co., Ltd., details of their new Three-Valve Receiver, Model 32, and a new A.C. power unit, Model A.C.2, for reception purposes.

* * *

It is interesting to note that during the eclipse on June 29, Mullard P.M. valves were officially used in a radio receiver installed at the King George V. School, Southport. Professor Turner, the famous astronomer, conducted his observations from this school, relying upon the receiver for the reception of time signals.

Tests from 2VJ.

It is proposed to carry out shortly a series of short-wave transmissions from G2VJ, Wembley, on various wavelengths. The object of these transmissions will be to try and obtain data as to how skip-distance, fading, and signal strength are affected by variations in wavelength, time of day, season and weather. Also to observe the different distribution of points of best reception with different aerial systems.

In order to make the results as informative as possible, it is desired to have the co-operation of as many listening stations as possible, especially within a radius of 200 miles, to ascertain, amongst other things, the ground-wave limit.

Will all short-wave enthusiasts who are willing to take a serious interest in the experiments kindly send a postcard to Mr. B. J. Axten, 78, Ealing Road, Wembley, Middlesex, indicating their willingness to help, and giving the times at which they can listen. The work will take up very little of their time; all that is required is the ability to listen fairly regularly, and to send in a concise report once a week. Co-operation will be especially welcomed from those stations who have kindly assisted in the past by reporting on tests from 2VJ, and it is also invited from listeners abroad.

Final arrangements will be completed when a sufficient number of listeners have been obtained, and these will be advised individually as to the details of the schedules.

International List of Amateur Transmitters.

The lists of amateur transmitting stations in all parts of the world, which formed a large and useful portion of the "R.S.G.B. Diary and Log Book" for 1927, will be revised and considerably enlarged for the 1928 edition. This work is being undertaken jointly by Mr. C. A. Jamblin (G6BT), who is in charge of the QRA section of the R.S.G.B., and *Wireless World*. We give this early intimation of our intentions in the hope that not only British amateurs, but those in all parts of the world will make a point of advising us of any new QRA's or changes of address. Lists of amateur stations from foreign countries will be warmly welcomed, and any other information which will enable us to make this list as complete and reliable as possible. We would also ask those transmitters who may have given up their call-signs since the publication of the current "Diary and Log Book" to advise us of this fact if they have not already done so.

Dominion and Colonial Area Manager.

We have been informed that Mr. F. Russell Boyle (OZ2AS) has been appointed area manager for New Zealand by a meeting of T. & R. members. We take this opportunity of welcoming him to our ever-growing circle of organised Colonial areas, and hope that other British Dominions and Colonies will see their way clear to appoint similar representatives at a not far distant date.

We anticipate that during the next twelve months every portion of the Empire will be welded into the solid body of amateurs represented by the R.S.G.B., and our future policy is to assist the Colonies and Dominions as far as ever possible.

The QRA of Mr. Russell Boyle is P.O. Box 26, Napier, New Zealand, and he would welcome a schedule with any amateur resident in Great Britain.

Fading in Radio Compared with Other Natural Phenomena.*—(*Concluded.*)

By H. A. P. Littledale, F.R.Met.Soc., A.M.I.R.E.

It is not, therefore, a very difficult thing to accept as a working hypothesis that the upper atmosphere has a definite structure, and that it is arranged in some way based on the fraction $\frac{3}{2}$. I conceive the upper atmosphere to be arranged not in horizontal layers as is the lower, but in vertical curtain-like formations. These seem to be spaced apart at distances which follow the $\frac{3}{2}$ rule. You may ask : And by what are they held apart ? Well, that is not an essential point, probably by the same thing which holds the constituents of the atom apart. The electric charge which is upon them. The leaves of an Electroscope work as well or better in a perfect vacuum. And you may say : And what lies between these curtains of mine ? Again, a non-essential point, of course, but well, nothing, as far as I can say. Why should there be anything ?

I have been studying these things for a very long time, and I have found it necessary to invent a name for them. I have called them " Ignotas." It seemed a suitable name. And as I conceive that the upper atmosphere forms a sort of shell to the lower, I have called this shell the " Ignotasphere."

I would like to retain these names for the present.

From what I have learnt by reading almost everything available about the Aurora, I feel inclined to think that the Ignotasphere is centred over the magnetic pole, or possibly over the pole of the Aurora, or that it moves between them. I do not think it is centred over the geographical pole. I think that there is probably a constant relative movement as between the earth and the Ignotasphere. If this were the case, wireless signals would be passing through a medium which varied from moment to moment, and it is not very difficult to imagine that this might produce the fluctuations which are called fading.

Of course, this is all hypothetical, and not as yet proved at all.

A very high electrical condition of the Ignotasphere would constitute a magnetic storm, and when the Ignotasphere is subjected to such great electrical or magnetic disturbances so that it becomes incandescent, the Aurora is revealed. The Aurora, according to this hypothesis, consists of glowing Ignotas. I believe it is generally held that when the Aurora is not visible that the curtains do not exist. I submit that beyond the fact of their not being visible there is no real basis for belief.

The cause or the variations in magnetic declination and in earth-to-air potential are, according to this hypothesis, also to be sought in the passage of these Ignotas across the face of the earth.

Should there be similar bands in the atmosphere of the sun, is it too fanciful a suggestion to make that we may get coupling between the two sets of bands or rings, with a resultant transfer of energy from the sun to the earth ?

The periodicity of sun-spot cycles is that portion of my study about which (with the exception of the fading curves themselves) I possess the most extensive information, for the records go back for nearly two centuries.

But I am not at all inclined to offer any explanation of their periodicity. The cause may possibly be a spatial one accompanied by a continuous relative movement between the outer layers of the solar atmosphere. The point of interest, as it seems to me, is that sunspot cycles which are known to be connected with various phenomena which take place in the upper atmosphere of the earth, show the same type of periodicity as the fading of wireless signals, which are commonly supposed (to put it no higher than that) to be greatly affected by the presence of the " Heaviside Layer," which is said to exist in the auroral regions.

Of course, I can offer no explanation of the presence of the $\frac{3}{2}$ relationship in the Rings of Saturn. There it is for all to see, and I think that I am justified in saying that it is an unimpeachable example of this " law," if it be a law, existing in space.

Now, gentlemen, you will probably find no difficulty in believing me when I say that my thoughts are very much occupied as to whether I shall succeed in proving the existence of these, at present, hypothetical Ignotas or not. What I am trying to do is actually to demonstrate their passage across the earth's surface. Well, I have had considerable success—but my proofs are not yet complete enough to lay before you. I have been able to trace their passage on many occasions between two stations, observing simultaneously, at 6 k.m. distance. And on one occasion we were able to trace the passage at 9 km. distance. I should like to take this opportunity of saying that during that part of my work Mr. C. H. Bickerton was the other observer. In this case a time lag of 17 minutes was involved, but I must warn you not to draw any conclusions from that. The whole thing is very difficult. There are many reasons for this. What is wanted is more observers. May I, before I sit down, say how anxious I am to meet people who will work with me. I cannot go into details now, but I can assure you that it is work of a most fascinating nature, and does not require any special mathematical or other knowledge. If anyone would like to write to me, I will explain what is wanted. I could do with several voluntary observers, whole-time or part-time.

Meanwhile, although my Ignotas are at present only in the hypothetical stage, I submit that they offer a possible explanation for the periodicity which exists in the time scale of the fading of wireless

*A paper read before the Society Jund 22, 1927.

signals, as well as an explanation for other electro-magnetic phenomena, and should they not be received with favour, I look forward with interest to any explanation which can be suggested to account for the persistency of the $\frac{3}{2}$ periodicity.

DISCUSSION.

Mr. COURSEY : I am sure Major Littledale has given us a very interesting lecture which contains an enormous amount of material. I am afraid I am unable to respond to the invitation which he extended at the end of his remarks to offer an explanation of the enormous number of facts which he has put before us. It certainly seems most remarkable that any such peculiar periodicity as he has referred to should have such an extremely wide occurrence in nature. The various phenomena that he has drawn attention to as regards fading of wireless signals to zero and the inter-stellar phenomena that he has mentioned covered such a wide ground that any attempt at explanation would seem to be a very difficult matter indeed. I had an opportunity of looking through the paper before this evening, and there is one point which Major Littledale has not mentioned. I was looking up some atomic weights, and I find a very similar series of relationships occurs in the periodic table of the elements. If I may put one or two figures on the blackboard they will emphasise what I wish to refer to. Probably many of you know how the elements are arranged in what is known as the periodic table. They are classified under various groups, and we find the zero group of inert gases which includes the helium group, to which reference has been made. We find that the atomic weight of helium is 4, neon is 20, argon is 39.9, krypton is 83, and zenon is 130.7. I do not know whether I can analyse that in the same way as the author has, but if we take these differences we have *here* 16, 19.9, 43.1, and 47.7. Three-sevenths of *that* and four-sevenths of *that*, gives us 35.9 nearly. I do not know what to do with *that* one, and perhaps the author can suggest something, but if we take three-sevenths of *that* and four-sevenths of *that* we get 83.6, and, more peculiar still, this three-sevenths is .2 per cent. too big of the sum of the two. Last night I turned up a lecture by Rutherford, and he gives an emanation atomic weight in the zero group of 214, and that gives us a difference of 83.3, which is almost identical with the final term of the previous analysis. I do not know whether there is anything in this. It is a most extraordinary series of relationships, and what struck me particularly is that again one should find .2 per cent. error from the three-sevenths term. Whether anybody will be able to offer any explanation which will cover such a wide series of phenomena as we have been told about this evening, seems at present very doubtful. It will want rather a genius of the Einstein variety, I am afraid, but the peculiar little error that is found in all these terms rather suggests some corrective, a term which can fall into some correction such as has recently been introduced into Newtonian mechanics, where there is a second order of term which introduces an error of this kind. I am sure we must thank Major Littledale for his interesting lecture this evening. (*See Figure* 10.)

Mr. HINDERLICH : The worst of a lecture of this sort is that you get about four years' literature summarised in an hour, and it is rather new to most of us and requires some thinking about. I confess I have not got very far with it yet. I am wondering why Major Littledale, instead of using his three-sevenths, four-sevenths, etc., did not use plain numbers, one, two, three, four, as another way of expressing the same series. It is certainly a most peculiar series, and I wonder if the lecturer has got past four or four-sevenths. He seems to have run across all the numbers as far as four-sevenths, but no higher, and I wonder whether he has tried working this minima of his farther back. It must be rather difficult analysing out these curves, but I have got the idea that if you took some of that rubber tape used for making joints and stretched it out for miles, making marks upon it, you would fairly easily be able to adjust the tape to fit any width of the curve. There is one other point. At the beginning the lecturer mentioned a little discrepancy, namely, that he had found 225 instead of 224, and I understood him to say that he had timed all these observations at exactly $7\frac{1}{2}$ seconds. I wonder if he has tried getting an assistant to spot the actual minimum when it occurs.

Mr. BEVAN SWIFT : I should like to add my thanks to those who have already said what an interesting lecture we have listened to. I could not help wishing that my old mathematical master, Professor Perry, had been able to hear this lecture, because he was very strong on the subject of mathematical progressions and used to keep me for hours working at them, and those of you who have read that most interesting book of his on "Spinning Tops" will know exactly what I mean. He would go through cycles which would sometimes go up to enormous powers in order to find a combination, and he generally succeeded in doing it. I was very youthful in those days, and often thought it a lot of unnecessary work, but Major Littledale to-night has shown us that there is some peculiar connection in this periodicity of fading. I remember some time ago being up in Yorkshire, and we were listening to the London Broadcast Station and tried with our watches to notice when the fading occurred, and we could not understand why it did not occur regularly. To-night I know why it does not occur in regular cycles, and I am very pleased to have an explanation to be able to send to the friend who was working with me that night of what really happens. I shall welcome it when Major Littledale is able to get down to the shorter waves and is able to give us an explanation of the peculiarities experienced down there, because, as far as I can see, they do not follow any law at all, although it is a very dangerous thing for me to say that because, as Major Littledale will no doubt tell me, they must follow some law, and I believe from what he has told us to-night we shall find that they do follow some law. But how is it that when you have worked a station, say on 45 metres, on one night beautifully and can get it every time it replies, the next night you cannot hear it at all. If you apply the simple logarithmetrical law shown us to-night, it will hardly work in, but I suppose by some mathematical deduction towards which I hope Major Littledale will be able to turn his

investigations, we shall be able to calculate upon what night we shall be able next to work a station which we have been in touch with before. I can quite see that as an outcome of the investigations which Major Littledale is carrying out, and when such a mathematical expression is available, we can then adapt our programmes to our practical work. I think we must congratulate Major Littledale upon entering a field of investigation which is so little known and in respect of which we all suffer so much.

MAJOR LITTLEDALE: There was one point raised by Mr. Hinderlich to which I can reply, and that is about the actual minima. My answer is that these assistants are expensive and difficult to obtain, and therefore to have an assistant at each of the two stations to note the actual minima so as to avoid a possible error of .2 per cent. would scarcely be worth it. The work I am doing is really only a sort of rough reconnaissance. It is not intended to explain everything. It is merely intended to show the sort of thing that might be expected in what is after all not a very well-known district. I do not really think this difference from the perfect relationship is of any very great importance; provided one can realise that the periodicities which I speak of do exist a little bit of error does not matter. I should also like to say what immense interest I have taken in Mr. Coursey's remarks on the atomic weights. That is one of the things, as a matter of fact, which I have thought of studying, but I have never had time to do it. I am nothing of a chemist, but it is, if I may say so, a confirmation of what I said before, that that .2 per cent. is a real thing and not just an observational error. It is only a fraction, and if we take the reading when the galvanometer needle is somewhere between the fall and the rise at a certain 7½ seconds, we cannot be more than a unit out. If you could see the apparatus you would realise that these very small fractions could scarcely be observational, and I am sure they are not observational. There was a very interesting point raised by Mr. Bevan Swift about the shorter waves. I have not done any work on them because I have not had time, but Mr. Hutton has very kindly given me a little chart which was taken by Dr. Nillson in Stockholm on one of Mr. Hutton's own transmissions on 45m. which was done with the Moullin voltmeter, and that little chart does show up the periodicities almost perfectly. It is such a tiny little scrap that you cannot rely on it too much, and it may be only a coincidence, but I do think it is an interesting fact that the only scrap of evidence I have about 45 metres should show this up. It was so tiny that I could not measure it up on the dips, but it distinctly shows up the periodicity on the peaks. The other evidence I have about short waves is a little bit of work done by Mr. Walker on 26 metres in connection with one of the beam stations, but I will not go farther than to say I think I can see it there also. It was not really quite long enough, it was only a quarter of an hour. Beyond that I have done no work on short wave lengths. In this connection I might also mention another very interesting point referred to by Mr. Bevan Swift. You may remember that in the winter before last, all the way through December and January, there was a terrible slump in signal strength, and Mr. Bickerton and I did some rather interesting observations. We started to try to predict forward. Newcastle was the station we were working with, and we tried to predict when Newcastle would come in on a certain set. We kept all the conditions constant and we were able more or less to predict on which days Newcastle would come in, and we got a large measure of success, and I really think that if we did enough work on it it might be possible to predict what conditions were likely to occur, certainly days ahead and possibly even more than that.

The PRESIDENT: We have had, I think you will all agree with me, a most interesting and very remarkable lecture by Major Littledale. I am not going to ask him any questions, but I am going just to remind you that during his paper he asked for assistance from experimenters, and I hope that some of the members of the Society will see their way to take part in what I think we must say is a most interesting experiment. I take it that the more facts and the more data he can get the more will Major Littledale be pleased, and the more will he be certain that his results and the deductions from those results are quite correct. I have no doubt whatever that he would give any information as regards apparatus necessary and the best ways of assisting him to get that data, and I am perfectly certain that our new hon. secretary—whose name, by the way, has not been mentioned to-night, but I mention now that Mr. Bevan Swift has taken Mr. Child's place—will be only too pleased to put any members in communication with Major Littledale at any time for this purpose. I have one other pleasant duty, and that is to ask you to accord with acclamation a very hearty vote of thanks to Major Littledale for the lecture which I consider, and I have no doubt you will agree, is almost an epoch marking one in the history of our Society.

The vote of thanks was carried with acclamation.

MAJOR LITTLEDALE: It is extremely good of you to thank me in this manner, but if you really want to thank me you will come and help me. This is most interesting work, but it cannot go on without help because it has got to the stage when one must have people to help. Therefore, please come and help me.

The PRESIDENT: I have one notice to announce. The Convention will be held next September at the Annual Exhibition at Olympia, where we also hope to have a stand. There will be no further meetings of the Society until the Convention, and notices of the syllabus which is now being prepared for the coming winter session will appear in the BULLETIN, or will be otherwise circulated to all members, together with details of the Convention.

Have you a "Brain Wave"?
Tell us all about it!

Appendix.

ANALYSIS OF RECORD NUMBER 168.

AB	16						
BC	137	228	460				
CD	91						
DE	232	232					
EF	60	150	374	561			
FG	90						
GH	224	224					
HH2	12	73	187				
H2I	14						
IJ	47						
JK	114	114					
KL	39	116			677	1,198	
LM	77			116			
MN	87	107	107	316			
NO	20						
OP	137	137	209				
PQ	27	72			521		
QR	32						
RS	13						
ST	11	11	205	205			
TU	59	194					
UU2	76						
U2W	59						
WX	24	42					
XY	18						

FIG. 3.

RECORD NUMBER 184.

Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
AB	64	107		107
BC	43			
CD	114	191		191
DE	77			
EF	47½	96⅔		
FG	49½		160	160
GH	64	65⅔		
HI	8	8		
IJ	36½	108	116⅔	192
JK	72⅔			
KL	76		76⅔	

N.B.—107×3/2 equals 160.5, and that 160.5×6/5 equals 192.6.

FIG. 4.

T.M.	Jan. 24, 1925. Minutes.		Vol. XXX.	No. 2, p. 89.	Table I. "D.."
AA1	10		10 ⅓		
A1B	4	10	10 ⅓	30	
BC	6		10 ⅓		
CD	10		10 ⅓	42½	
DE	12½				69
EF	9½	15½	15½ ⅜		
FG	6			26½	
GH	11		11 ⅔		

FIG. 6.

Variation of Potential Gradient.

Greenwood, U.S.A.

See T.M. Vol. XXX. No. 3. Sept., 1925. Page 135. Fig.9

	Minutes.				P.
AB=	40				
BC	58	138			
CD	40				
DE	116	174		312	
EF	58				
FG	28	44	74		
GH	16			104=½	522
HI	30		30		
IJ	12			210	
JK	18				
KL	90	..	..	106=½	
LM	16				
MN	160			186=5/7	
NO	26				
OP	40			180=½	556
PQ	90				
QR	50			190=½	
RS	80				
ST	110				
TU	36				
UV	260				

FIG. 7,

MONTHS.

Col. I.	Col. II.	Col. III.	Col. IV.	Col. V.	Col. VI.	Col. VII.
Mar.-Nov. 1784-1788	M-M8	57	122			
Nov.-May 1788-1794	M8-M14	65				
May-Aug. 1794-1799	M14-L1	64	109	231		
Aug.-May 1799-1803	L1-L5	45				
May-Nov. 1803-1808	L5-L10	66	169		400	
Nov.-June 1808-1817	L10-K9	103				708
June-Mar. 1817-1826	K9-J3a	105	183	308		
Mar.-Sept. 1826-1832	J3a-J15	78			308	
Sept-Feb. 1832-1843	J15-H	125	125			
Feb.-Oct. 1843-1850	H-H9	89	247			
Oct.-Sept. 1850-1863	H9-G9	158			400	707
Sept.-June 1863-1876	G9-F11	153	153			
June-Nov. 1876-1886	F11-D11	124	307			
Nov.-Feb. 1886-1902	D11-B1	183				
Feb.-Mar. 1902-1914	B1-A	145	239			
Mar.-Jan. 1914-1922	A-A15	94				

FIG. 8.

THE RINGS OF SATURN.

	Miles.				
Diameter of Saturn ...	76,470				76,470⅔
Space between Saturn and Crape Ring	9,000	20,005			127,030
Width of— Crape Ring ...	11,005			50,560⅔	
Inner Ring ...	17,910	20,180⅔	30,545		
Cassinis Division ...	2,270				
Outer Ring ...	10,375	10,375⅓			

Now the relationships which the various widths fall into naturally are very close to those noted as fractions against each case. And these are the same as we have so often analysed. Perhaps the most noticeable feature is that the planet itself falls into its place in the series. But it must be remembered that this is the *diameter* of the planet and we have considered only the width of the rings. So it probably would be more correct to consider the semi-diameter of the planet. In this case the table can be rewritten as follows :—

	Miles.	
Semi diameter of planet	=38,235	Total 88,795
Space and rings (as above)	=50,560	

Here we have the relationship of 3/7 and 4/7. The exact figures would be :—

38,055 = 3/7
and 50,740 = 4/7

FIG. 9.

Figures by Mr. Coursey.

Element.	Atomic Weights.	Differences.				
Helium ...	4					
Neon ...	20	—16	3/7	W35·9	5/7	83·6
Argon ...	39·9	—19·9	4/7		2/7	
Krypton ...	83	—43·1				
Zenon ...	130·7	—47·7	½	126·4	⅔	210
Emanation ...	214	—83·3	⅔			

Note by the lecturer on Mr. Coursey's table :—

"If the differences between the atomic weights of the zero group are written down as above it will be seen that the first pair are related.

"Then the third term is related to the fifth and the fourth is related to the first pair taken together.

"Finally, the first, second and fourth, taken together, are related to the third and fifth taken together."

FIG. 10.

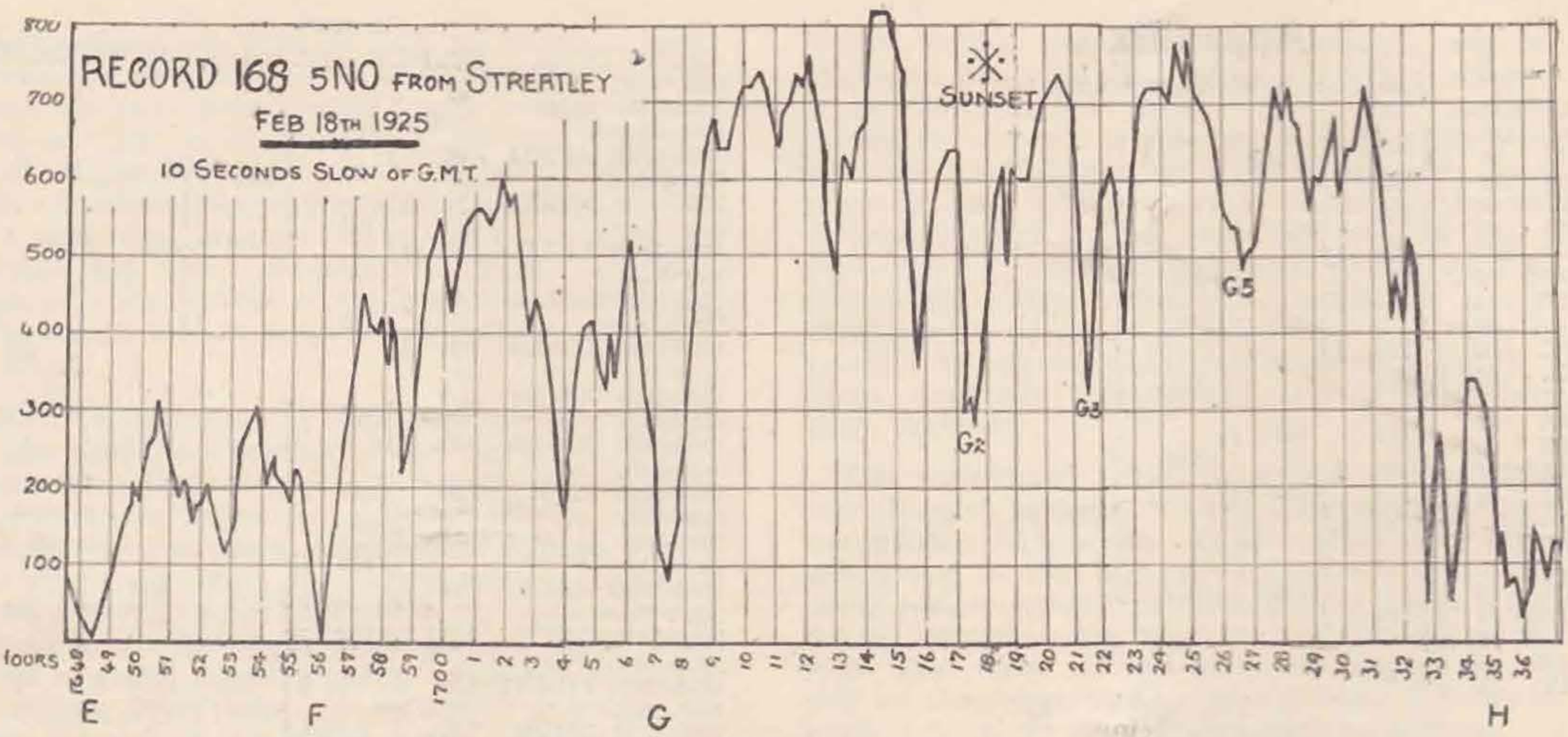


FIG. 2.

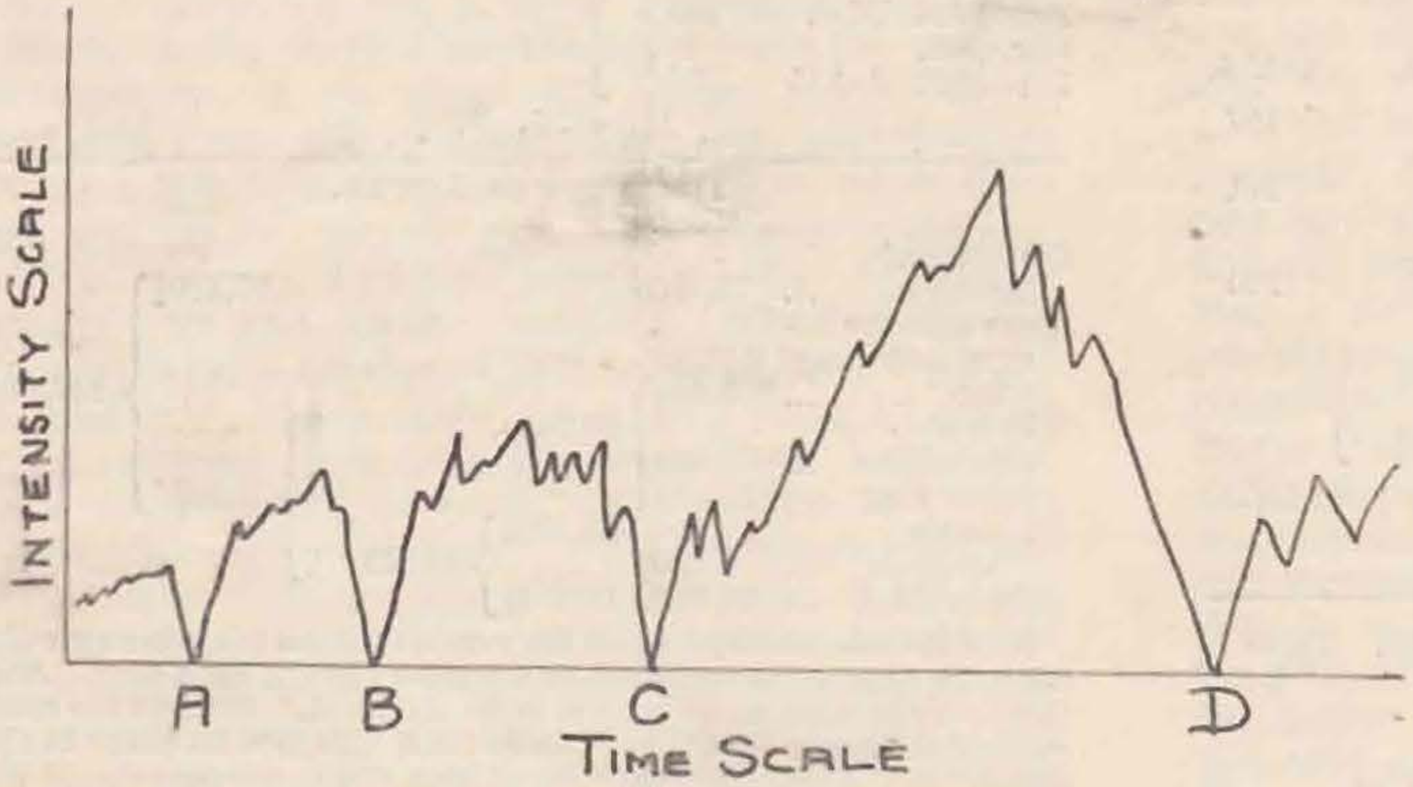


FIG. 1.

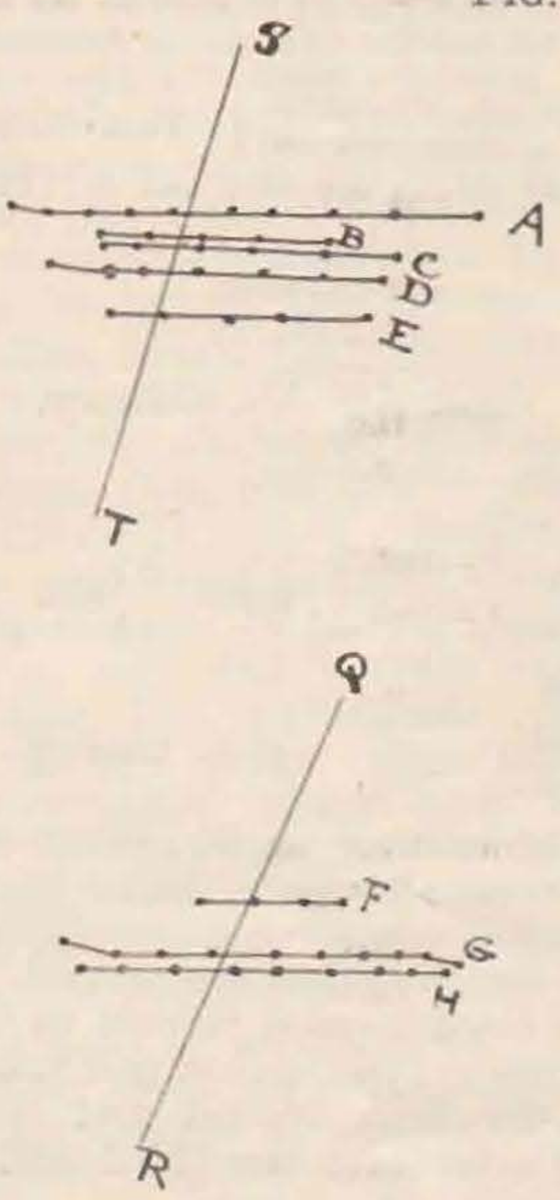


FIG. 5.

These notices are the sole notices which will be received by MEMBERS.

R.S.G.B. Calendar.

NOTE.—Members are warned that in future notices appearing under this heading are the sole intimation which they will receive concerning forthcoming Meetings, although from time to time special notices might appear in "Wireless World and Radio Review."

Members desiring to bring visitors to meetings may apply for tickets for such purpose to Headquarters, R.S.G.B., 53, Victoria Street, S.W.1. On and after October 7, 1927, no member will be admitted to a meeting unless he can produce his ticket of admission on demand. *

FRIDAY, SEPTEMBER 30.—Opening of 2nd Annual Convention at the Institute of Electrical Engineers, Savoy Place, Thames Embankment, S.W.1 Discussion on "Short Wave Work and Design" will be opened by K. Alford. Display of apparatus, etc., by members. Election of Committee for 1927-1928.

SATURDAY, OCTOBER 1.—2nd Annual Convention to be continued at 10.30 a.m. Discussion on "The Future of Amateur Radio," to be opened by Captain H. J. B. Hampson (G6JY).

Remainder of programme and other details regarding dinner, etc., will be circulated to members attending the Convention.

FRIDAY, OCTOBER 14.—Informal discussion on "Short Wave Aerial Systems."

WEDNESDAY, OCTOBER 19.—Lecture on the "Balanced Colpitts Oscillator," with demonstration by Captain E. H. Robinson (G5YM)

FRIDAY, NOVEMBER 11.—Lecture on "The Development of the Broadcast Receiving Valve," with demonstration and lantern views by Mr. F. E. Henderson, G.E.C. (preceded by tea at 5.30 p.m.).

* Membership admission tickets will be issued only upon members paying subscriptions for financial year October, 1927-September, 1928, but members whose subscriptions fall due between those dates and whose subscriptions are at present fully paid up may obtain such a ticket on application to H.Q.

COUNCIL AND COMMITTEE MEETINGS.

MONDAY, SEPTEMBER 19.—Meeting of Council.

WEDNESDAY, OCTOBER 4.—Editorial Committee.

SPECIAL NOTICE—CONVENTION DINNER.

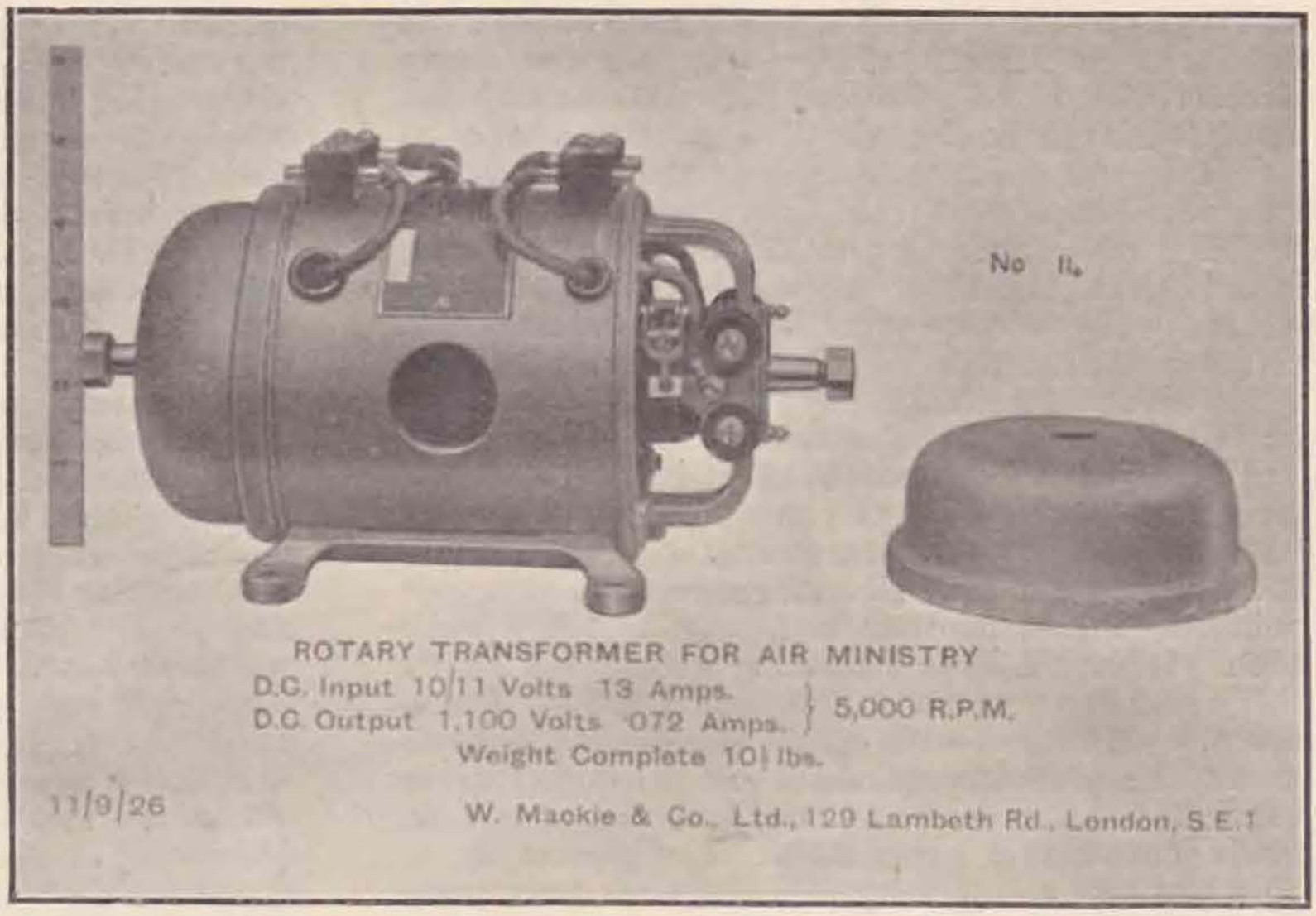
Members desiring to attend the dinner are warned that all applications, together with subscriptions (7s. 6d. each ticket), must be in our hands by first post October 21, 1927, as we shall be unable to guarantee seats after that date. The dinner will probably be held at Olympia.

The New Mackie Generator.

By G 5YM.

A DESCRIPTION of the d.c. generator now in use at G 5YM may be of interest to those many stations which have to produce power without assistance from the electric light mains, and where a greater amount of " juice " is required than can be obtained, economically, from H.T. accumulators.

The generator functions on the well-known " dynamotor " principle, in which a single armature is so wound that it acts both as a driving motor and a generator. Power to drive the motor is obtained from a battery of large-size accumulators. Small machines of this type are usually far from efficient, 33.3 per cent. being considered quite good. For some time there has been in use at this station a generator with an even lower efficiency. This was not designed for this particular method of working; but was intended to deliver current for both L.T. and H.T. when driven by a wind motor on an aeroplane or airship. Correspondence with Messrs. Mackie & Co., the makers, resulted in an offer to rewind the machine for greater efficiency; but, at the same time, attention was drawn by Messrs. Mackie to their new machines, which have an efficiency of over 50 per cent. and can be designed for this efficiency over quite a wide range of output to input ratios.



This sounded very tempting and, after some further correspondence, Messrs. Mackie were asked to build a machine to run from an 18-volt battery taking not more than 7 amperes and to deliver about 60 watts to a high impedance valve.

This machine has now been delivered, and has been in use for some time with excellent results. The input, on load, is 118.8 watts—a current consumption of 6.6 amperes—when warm, and the output to the oscillator is 1,300 volts and 46 milliamperes—59.8 watts—an efficiency of 50.3 per cent.

The armature revolves at 5,200 r.p.m., and the ripple can be almost entirely eliminated with a 1 microfarad condenser shunted across the poles. Reports indicate that the note is practically pure D.C., with very good carrying qualities. The commutator ripple has a frequency of 600 per second.

There is little heat loss in this very efficient little generator. An hour test on load showed a rise of only 52° F. in the armature, 36° F. in the field, and about 40° F. in the commutators. The machine is small and compact, being less than six inches high overall. The photograph shown is not of the actual machine in use, but of the standard R.A.F. type, which is built to deliver 1,100 volts 72 milliamperes, with an input of 10.9 volts, 12.8 amperes. This is an efficiency of over 57 per cent. If a big input current is not objected to, it is possible for the makers to give better efficiency than when the input current must be restricted on battery considerations.

When these small generators are driven from accumulators, the provision of a starting box should not be neglected. Starting from a switch means that a very heavy current—20 amperes or more—is taken whilst the armature is getting up speed. Also stopping with a switch means that the field windings are broken from the circuit directly the switch is thrown, and the windings may be punctured by the very high voltage induced. In a starting box for a shunt-wound motor, the connections can be so arranged that the field is excited by the full supply from the input when the starting box arm is on the first stud. When the arm is in the full-on position and held by the " no volt " release magnet, all the resistance of the starting box is in series with the filed coils. Thus, when the main switch is thrown to stop the motor, the field is not broken suddenly, and there is no sudden rise in pressure in the coils. Messrs. Mackie built and sent with the machine a starting box, which allows starting to be carried out without the current from the accumulator rising above the full-load current—a great economy. Also, the windings are fully protected.

My idea of the " BULL " is that it is a means of letting brother " hams " know when one has discovered a good thing. Hence this short description of a generating set which seems to have smoothed away all the troubles at my station. There is one final word. A back load may be found necessary, but if the load is so arranged as to be something less than the full load no back load is required. This results in considerable economy in working, though there is some loss in efficiency. If the keying is done as recommended in the August number, a perfectly steady note will result.

The 23-Metre Equipment at 2NH.

By E. S. Dedman.

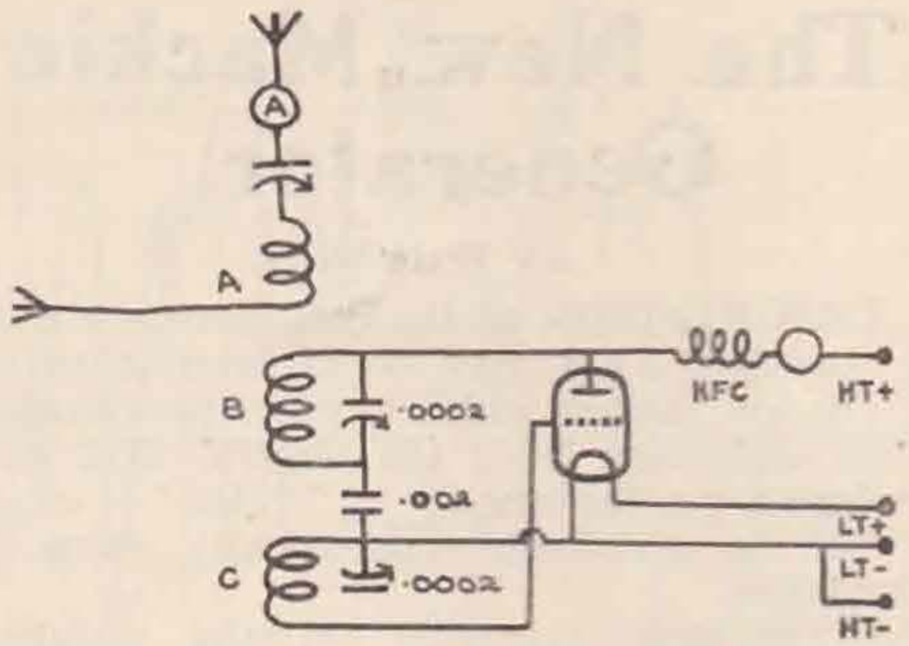
As it is thought that it may be of advantage to some of the members of the Section who are contemplating 23-metre work, the following description of the 23-metre transmitter and receiver at 2NH will be described rather fully.

The present transmitter has been in use now for just nine months, although a similar transmitter employing the same circuit with a slightly different lay-out has been employed by the writer in conjunction with 5MA at the latter's station since April, 1925.

The circuit is the so-called series or Split Hartley, and was originally taken from that of NU6TS, as published in March, 1925, QST. Of the many circuits tried at this station, the Split Hartley has been found to be for the best in the matter of flexibility, efficiency and ease of change of wavelength. I am sure that any amateur who is thinking of transmitting on 23 metres can do no better than build up a transmitter using this circuit, which will be found *the* easiest transmitter to get into operation.

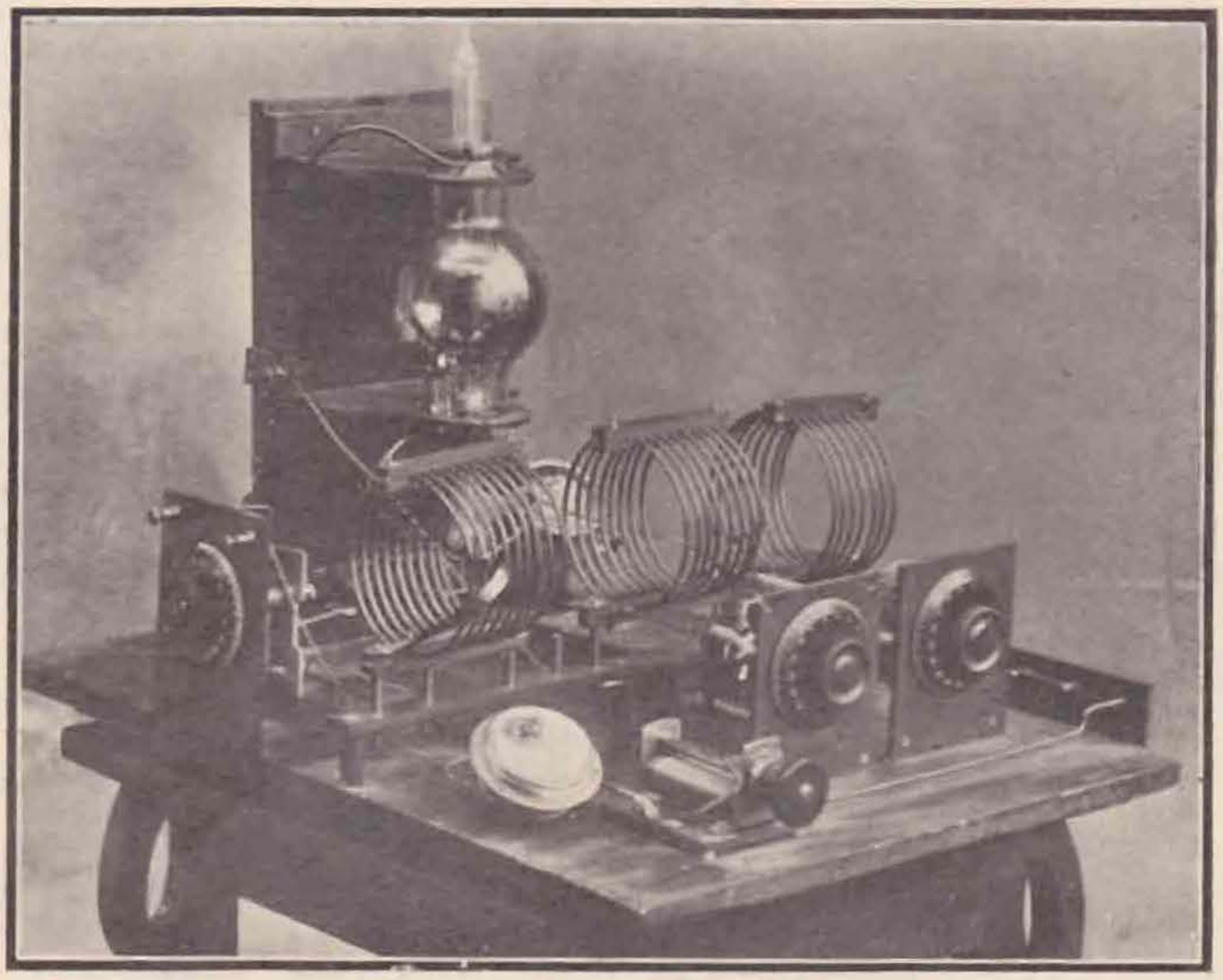
Referring to the diagram of the transmitter given on this page, it will be seen that the aerial, plate, and grid coils are referred to as A, B and C respectively, and the number of turns on each coil should be the same for each wavelength. The coils at 2NH are wound with No. 12 gauge wire, each coil being 3½ inches in diameter. For 23-metre work each coil should have 4 turns spaced ⅜ inch apart. For 45 metres 9 turns are necessary, spaced ¼ inch apart. Of course, with different radiating systems it may be necessary to use a different number of turns in the aerial circuit coil, and this should be made a matter of experiment. For powers up to 50 watts and voltages up to 1,200 volts the tuning condensers can very well be good low loss receiving condensers double spaced. The actual condensers in use at 2NH are Ormond square low loss, and these have given every satisfaction in use. The fixed by-pass condenser should be of good make and capable of standing at least twice the maximum voltage that is likely to be impressed upon it. The reader is referred to the remarks on this subject on page 8 of the June Bulletin. It should be remembered that at high frequencies this condenser may have to carry considerable R.F. currents, and a good quality mica dielectric condenser should accordingly be selected.

The H.F. choke is also an experimental matter, but for a start I would suggest 150 turns wound on a 1-inch glass test tube. This will be found to be reasonably effective on both 23 and 45 metres. Anyway, in this circuit the choke is merely to prevent H.F. getting back into the H.T. supply, and the value will not be found at all critical. You will probably have noticed that no gridleak and condenser are used.



The writer is open to be convinced, but personally he has not found that the efficiency is increased by using a gridleak and condenser. This is probably due to the fact that the valve is run very conservatively, a Mullard 0.150 being used for a maximum input of 50 watts. The grid excitation is kept down by setting the grid coil tuning condenser at the lowest value that will keep the valve in *steady* oscillation under load. The Mullard 0.150 in use left the works in 1923 and was originally the property of 2DF. It has been in practically continuous use for over 3½ years. My advice is always buy a valve of considerably higher power than you intend to use and then run the filament at a lower temperature than usual. It will amply repay you in the long run.

The power supply is obtained from a B.T.H. generator delivering 1,000 volts. The generator was obtained from an ex-government dealer for £2! No, OM, he hasn't any more left, so don't worry we for his address! This generator, without any other smoothing condenser than the 0.2 mfd. condenser incorporated in it, gives a beautiful D.C. note with a very high pitched ripple, altogether an ideal note for a 23-metre transmitter. However, in actual practice, a 4 mfd. condenser is used which gives a pure D.C. note, and in spite of all that has been written to the contrary, I



have never found that any receiving station has had the slightest difficulty in reading my 23-metre D.C. signals. Undoubtedly the secret of using D.C. for high-frequency transmission is to make sure that the note is quite steady. To this end, at 2NH the whole transmitter is mounted on four sponge rubber blocks, that ensure that the whole of the transmitting apparatus is free from vibration from any cause whatever.

Turning now to the receiver. This a conventional 2-valve (Det. and I.L.F.) employing a Schnell tuner with the usual throttle reaction control. The coils used are interchangeable, being mounted on ordinary plug-in coil mounts with the dielectric cut away between the coil pin and socket. The coils are of bare wire 18 s.w.g. and celluloid strip supported. This type of coil is undoubtedly one of the most efficient that can be made and has been definitely adopted after many months of experimenting with different types. The grid tuning condenser is an Ormond .00025 mfd. S.L.F. with the Ormond friction vernier control. In series with this condenser is an Ormond .00025 air dielectric fixed condenser which brings the maximum capacity of the combination down to .000125 mfd., which has been found to be the most useful size. A metal panel is used to minimise hand capacity effects, but in all other respects the receiver is quite normal.

Nothing much can be said about the radiating system, as this, like most other, varies from time to time as the whim takes me. But one fact outstands. With all the aerials used, it has been found that, at this station, a radiating system excited at full wave or at one of its even harmonics, gives far superior results to a half-wave oscillator or one excited at uneven harmonics. The aerial in use at present is a single wire approximately 90 ft. long, with a 30 ft. counterpoise running at an angle of 90 degrees to the aerial, the whole being worked at its 4th harmonic.

My results on 23 metres have been consistently better than on 45 metres, and my advice to all T. & R. members who have not yet tried 23 metres is to lose no time in doing so.

As to results, all continents are frequently worked on 23 metres with a power of 40 to 45 watts, which is that usually employed here.

In conclusion, may I say that I shall be well satisfied if the above few notes help some one to get as much enjoyment out of 23-metre experimenting as I have obtained in the last two years.

The Aerial System at 5NJ.

An aerial suitable for the 45, 32 and 23 metre.

By F. R. Neill, Assoc. I.R.E. (5NJ).

A short time ago it became necessary at 5NJ to be able to work on various wavelengths at certain times of the day, and accordingly the problem arose of designing an aerial system, which could be used, almost equally well, for transmission on 45, 32.6 or 23 metres. It was decided, for various reasons, to use current feed, and the first method tried consisted in altering the length of the aerial and counterpoise to suit the wavelength in use.

Not only was this a " messy " proceeding, however, in wet weather, but it required a considerable expenditure of both time and energy to change from one wavelength to another.

It was therefore necessary to design one single system, which could be made to operate on any of the wavebands in a few seconds, without the necessity of galloping out of doors to attach or detach wires, and it is proposed to describe the aerial at present in use, which appears to fulfil the necessary requirements.

It is, of course, an easy matter to design a system suitable for 45 and 23 metres, but when the 32 metre band is to be included, things become slightly more difficult.

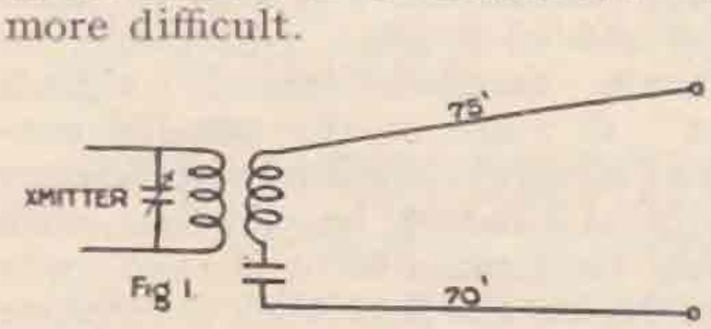
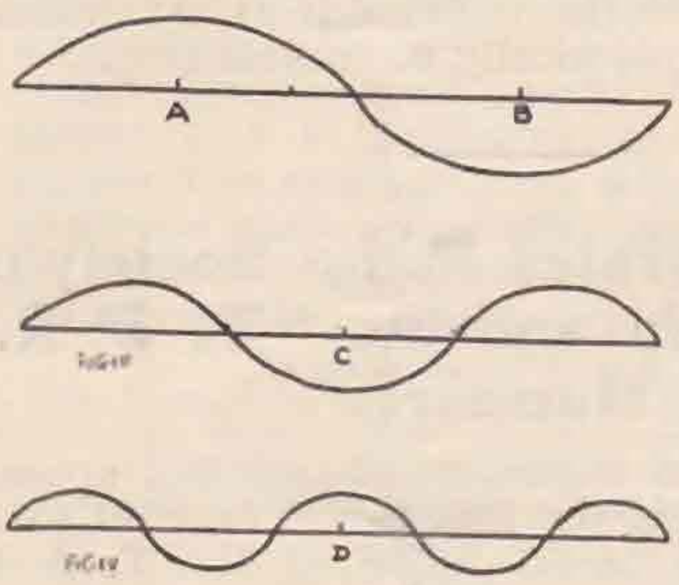


Fig 1.



In the writer's case, the main working wave is 32.6 metres, and it is necessary to have a really efficient aerial system to radiate on that wave-length. Accordingly, an aerial and counterpoise having a fundamental wavelength of 97.8 metres was put up, and operated at the third harmonic when transmission took place on 32.6 metres. The dimensions of such a system were, in this case, as follows :—Aerial 75 feet long, counterpoise 70 feet long, both single wires. These dimensions are, however, governed to a large extent by local conditions, and must be found by experiment in each individual case. The usual coupling coil and series condenser were employed, as in Fig. 1.

To operate the system on 45 metres, it might be thought at first sight that the simplest way would be to bring the fundamental wavelength (97.8 metres) down to 90 metres by means of a series condenser, and operate at the second harmonic. The current in an aerial working at its second harmonic, however, may be represented by Fig. 2, from which it will be seen that such a system cannot be fed at the centre, but must be fed towards

one end, the best place being, of course, the points A or B.

As it was not desired to alter the length of the system at all under any conditions, it was arranged to put the aerial condenser in parallel, and bring the fundamental wavelength up to 135 metres, thus permitting the third harmonic to be used when working on 45 metres. The current distribution in this case will be similar to Fig. 3, and the system is fed approximately at its centre, corresponding to the point C.

For 23 metres, the condenser is again used in parallel, and the fundamental of the system brought up to 115 metres, thus operating on the fifth harmonic, the feeding point in this case corresponding to the point D in Fig. 4.

To get the system working on all three wavebands, it was therefore only necessary to fit a series-parallel switch to the aerial tuning condenser. Thus the system can be made to operate on any of the wavebands in a second, simply by using the aerial condenser in series or parallel, as the case may be, and adjusting the condenser until resonance is indicated. As regards the transmitter itself, this can be changed very rapidly from one wave to another, as interchangeable plug in coils are employed, the number of turns being made to tune exactly to the wave required.

The system has, of course, the disadvantage that a parallel capacity is used on both 23 and 45 metres, but provided this capacity is kept as small as possible, by the use of a large inductance, no serious losses should result. Certainly signals seem to "get out" in spite of the parallel condenser, and if DX is any criterion of efficiency (which is very doubtful !) it may be said that, with 75 watts input, four continents were worked quite easily on 23 metres during the first week the system was in use. At all events it is most useful to be able to use any of the wavebands at a moment's notice, and with practically no trouble at all.

The Incorporated Radio Society of Great Britain and the "T. & R." Members.

A good deal of misunderstanding still appears to exist as regards the object and benefits to be obtained by the recent fusion of the T. & R. Section with the whole membership of the Society. To put the matter in a clear light, it is necessary to go over a little history of the whole matter during recent years.

The T. & R. Section originally was a small body of transmitters, all members of the main Society, who banded themselves together to discuss the ethics of radio transmission and kindred matters which did not appeal to the main body of members. One of the features of the Section was that it could enlist transmitters and others who were not members of the main body.

With the rapid growth in the number of transmitters, coupled, to a certain extent, with what appeared to be a decline in interest upon the purely reception side, a very logical result accrued—the Section multiplied to such an extent that it outgrew the main membership. It also absorbed the old Radio Transmitters' Society, which still further swelled its ranks.

It can be easily seen that an incongruous state of affairs naturally arose, in that there were hundreds of members who were all paying subscriptions, yet had no voice in the management of the Society's affairs or the election of their own officers. Under the articles of association, by which the Society is governed, only corporate members may vote or serve upon the Council in any capacity. This, of course, led to a good deal of grumbling from new members, who misunderstood the actual state of affairs, and, further, tied the hands of the officers of the Section, who were powerless to deal with the complaints in a practical manner with a view to gaining a remedy. Two courses were open: either to form a complete, new or separate Society, or, secondly, to gain full corporate membership for the Section. Each was fully considered, and it was decided to proceed with the second scheme as affording the most ready and practical solution. One reason for this was that the formation of the new Society would entail a considerable loss of time and necessitate a vast amount of organisation, while the valuable asset gained by association with the oldest national radio society in the world would be irretrievably lost.

The position was put to all existing members of the T. & R. Section at its annual general meeting last year in the form of a voting card, with the result that there was an overwhelming majority in favour of accepting the offer to become corporate members of the R.S.G.B., or, as it was called, "Fusion."

As a result of this vote, and after a careful adjustment of terms, including the alteration of the articles of association and a variation in the executive staff, fusion has been accomplished, and every country member of the old T. & R. Section is now a corporate member of the Society, with full membership, voting powers and rank to hold office upon the Council or executive if so elected by his fellow members. Town members have to pay an extra 6s. per annum for the privilege.

It should be fully understood by all that the Incorporated Radio Society of Great Britain is essentially a democratic association governed by its own members. The executive body is a Council of 23 members, four of which retire each year and new members are elected to replace them.

It has been the custom in the past for the existing Council to put forward nominations for the vacancies each year, and in almost every case they were elected unopposed. In December next, in the ordinary course, a number of nominations will be submitted by Council, but it is for any member to submit alternative names should he so desire. In such a case, a ballot will be called and the voting will determine the choice.

A complaint has been voiced that the executive does not truly represent the body of country workers. In this connection, we wish to point out that at the last election of *area managers* for the T. & R. Committee, only five were actually elected by the members, the remainder had to be elected by the Committee themselves. In fact, of the whole body of T. & R. members, probably then numbering

about 600, only 200 took the trouble to record their votes. Under such circumstances, it is ambiguous to criticise the composition of the present Committee.

If such a laxity prevails in connection with the coming Council elections, the members can only have themselves to blame if they do not secure a Council to their liking.

The above is the ordinary procedure based upon the practice of previous years, but the members have power to vary it should they desire to do so. As we have said before, the Society is governed by the members, and by the election of your own nominee upon Council you may instruct him in the way you wish him to go.

In effect, the position is simply the facsimile of the usual Parliamentary system, where the electorate put forward the member of their choice. Naturally, if your own elected member does not fulfil your own expectations, you can hardly blame anyone but yourself.

Committee Elections, 1927.

In accordance with the rules which were passed at the Convention, 1926, members are asked to fill in the nomination form given below, and forward to their Area Headquarters without delay. Alternatively, it is suggested that members should copy out the nomination form *verbatim*, in order to avoid destroying this page of The Bulletin.

Now is the time to place your man on the Committee, so avail yourself of the opportunity—and do it at once.

FORM "A" SCHEDULE.

Radio Society of Great Britain.

T. & R. SECTION.

NOMINATION FORM

To be posted on completion to Area H.Q. of member's own Area by October 10 of current year.

I, ...

Address .....

.....

Call sign (if any).....

Do hereby nominate for election as Area Representative and Member of Committee.....Area.

Name.....

.....

.....

.....

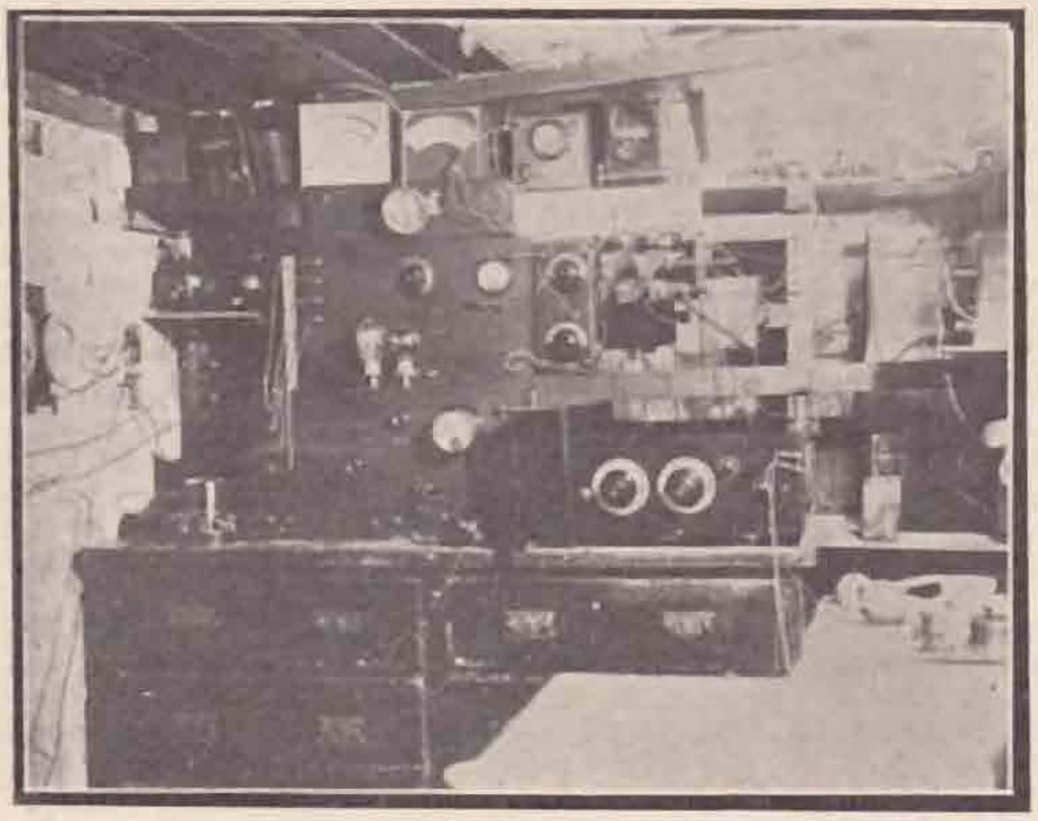
I am in a position to state that..... is willing to undertake the necessary duties if elected.

Signature.....

Date.....

Where the Bulletin was Born.

During the past two years we have received many requests for a photograph of the station where the Bulletin was originally produced, and where still a large amount of work is done on the paper.



G5TR.

Here it is not a very impressive collection, but what there is of it is almost forsaken in these days of Bulletin and Society QRM. Such experiments as are carried out are mainly of a laboratory nature. The source of power supply varies from 2,000 volts 600 cycle A.C. to 460 and 750 volts D.C. derived from the local mains.

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.

To the Editor of T. & R. Bulletin.

Dear Sir,—The note on the Q.S.B. question under the heading "Data for 23-metre Sets" in the June issue interests me, as it is stated that D.C. seems impossible without crystal control; surely this is not the case if a rotary transformer is used.

My experience on 20 metres shows that it is not an impossibility. During my first six weeks on this wave I have received the following reports, all of which have been confirmed by card:—Pure D.C. or D.C., 16; nearly or rough D.C., 4; R.A.C., 2. In addition, the following unconfirmed reports:—Pure D.C. or D.C., 5; nearly or rough D.C., 3; R.A.C., 1.

All the R.A.C. reports related to my early transmissions on 20 metres, and my adjustments were subsequently found to be incorrect for the best results. If the R.A.C. reports are discounted, the percentage of pure D.C. reports is 75. I have been reported as having crystal control, but I do not claim perfect transmission. Reports prove this, and show defects, such as chirp, etc.

I will not give a lengthy description of my apparatus; it is too ordinary, and my transmitter will probably condemn me to be "shot at dawn" for using it in these days.

Circuit.—Direct-coupled Hartley; shunt feed; filament and the usual H.F. chokes are used, plus one tuned choke in the H.T. + lead.

Power.—Rotary Transformer (Newton) 80-watt.

Smoother.—One 4-mfd condenser.

Aerial.—Half-wave Hertz; single feeder.

Receiver.—O-V-I 3-coil; no earth or counterpoise.

Receiving Aerial.—5-metre indoor aerial (vertical); an outdoor aerial has not been tried owing to excessive Q.R.N. prevailing at this time of year.

In conclusion, I should like to add that all countries "audible" during the period under review have been worked, with the exception of Brazil, on a power of 40-60 watts—Yours faithfully,

F. RODMAN, A1-2KT.

AREA NOTES AND NEWS.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—For some time past it has seemed to me that the Notes appearing each month in the BULLETIN under the above heading are taking up far too much space to the exclusion of technical articles. The purpose of this letter, therefore, is to endeavour to get the opinions of others on this matter, and to make some suggestions.

In the first place, do we really *want* detailed notes from the various areas, telling us what various people are doing month by month? It is well-known nowadays that, given a power of, say, 50 watts or more, communication can, as a rule, be established with *any* part of the world. Therefore, while it may be *interesting* to know that "John Jones has been QSO five continents during the month, etc.," is this information of any real *use* to any of us? I suggest that it is not. As one well-known experimenter remarked to me a short time ago, DX nowadays is mainly a matter of time spent at the key.

In place of voluminous notes each month, would it not be much better to devote the space so used to useful technical articles?

The Incorporated R.S.G.B. is, *ipso facto*, a scientific body, and, in the writer's opinion, the official organ of that Society should be, as far as possible, a journal produced to give us as much scientific information as possible in connection with the science of radio communication. Therefore I think that we cannot have too many technical articles, and to my mind, the Notes should either be cut out altogether, or, if we *must* have them, they should be strictly limited to perhaps two pages a month *at most*.

In the latter case I would suggest that each area sends notes quarterly, or something of that kind. I feel sure this would be quite sufficient.

At all events, opinions of others on the matter would be of interest.

With all good wishes for the BULLETIN's continued success, I am, —Yours sincerely,

FRANK R. NEILL (5NJ).

APPRECIATION OF BRS STATION.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I beg to inform you that I am now licensed to transmit on wavelengths between 150-200 metres with power not exceeding 10 watts (C.W. and Telephony), and in view of this I shall no longer require my BRS number, which is 83.

I would like to express my best thanks for the excellent service the BRS number has been to me with regard to reports, etc. Thanking you, I am, Dear Sir,—Yours truly,

E. W. RAWLINGS, 5RS, Ex BRS83

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I have just started experimental transmission on about 33.5 metres with an input of 30 to 40 watts C.W.; plate voltage 500 volts M.G.; Hertz aerial (horizontal); voltage fed with single feeder for the present.

As all the Ksara Observatory wireless traffic is with French Naval and Military Authorities for meteorological purposes, the Géneral Ferrie, at his recent visit to the observatory, kindly granted me the privilege of prefixing OC to my short-wave station. My call sign is therefore OCOBK.—Yours very sincerely,

REV. G. H. J. HORAN (OCOBK).

To the Editor of T. & R. BULLETIN.

DEAR SIR,—With reference to my letter on page 19, July issue, I beg to acknowledge a card, an apology and an explanation, from EC-OK1

I have therefore the greatest of pleasure in removing his call from "my blackest of lists." EC.OK1 read my letter in the BULLETIN, and immediately wrote to me, a proof of the wide distribution of the magazine.

May I remind readers that my present address is 59, Marlborough Park North, Belfast, and not 19, Ardgreenan Drive, which I left some time ago. I am still having the bulk of my amateur correspondence sent to the old QRA.

Please correct your call books O.M.P.—Yours sincerely,

T. P. ALLEN (6YW).

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I was interested in Mr. Robinson's letter commenting on my article on the Moon's Influence on Radio. It is quite possible that the effect is caused by a tide in the ether, caused in the same way as the tides in the sea; in fact this suggestion has been made to me quite recently by Mr. Kendall Banning, Editor of "Popular Radio of America."

Mr. Robinson gives certain dates and reception conditions referring to March 16, two night before full moon. He gives this as a completely "dud" night, although he says North African stations were coming in at more than normal strength. Well, there may have been some other cause to prevent the reception of N.U. stations; I don't say there was. I have not yet actually checked my theory on the 45-metre band, but am preparing to do so, as the results may be further enlightening. The lowest test I have made is on K.D.K.A. on 64 metres, the results of which were published in *Experimental Wireless*, July, 1926.

There is one point I have not mentioned before, and that is on the actual night of full moon the signal strength very often shows a slight drop, and the actual highest reading is usually the night following full moon. To my mind this is somewhat significant, as it is well known that the highest tides do not occur on the night of full moon, but on the day after.

Referring to his last paragraph, *re* signal strength predictions, I recently made an experiment on these lines, using an average taken from all my signal graphs, and I predicted a curve of signal strength for one lunar month, and then took readings of the actual signals and entered them against my predicted curve, and with one or two small exceptions the predicted curve and the actual curve followed each other very closely.

I am at present engaged on further tests with improved apparatus, and hope shortly to be able to give the results in the BULLETIN —Yours faithfully,

DEREK SHANNON (5CG, 5PX).

SUPER-HET INTERMEDIATES.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—While is is true that if one works with an I.F. of 30,000 cycles, in the case of very short waves, the received frequency and that of the oscillator are so close that the latter is apt to oscillise the whole set, this can easily be avoided.

All that is necessary is to use the first harmonic principle. Thus, if one desires to receive 2XAD on 22.02 metres, the oscillator is tuned to the frequency necessary to receive 44.04 metres, the grid circuit of the first detector being tuned to receive 22.02 metres.

Personally, I never use anything else than the supersonic method to receive the very short waves. Worked on the above principle, the receiver is as easy to manipulate as on the normal broadcast band.

The use of an I.F. of about 30,000 cycles is essential here owing to the very close proximity of both Rugby telephony on 5,600 metres and 5XX on 1,600 metres.

The circuit used is as per the diagram below.

L1, L2 is a centre tapped coil.

It will be noticed that the Lacault principle is used.

With this circuit an "A2" Gambrell split centre tapped coil will cover all wave-lengths from 150 metres to 30 metres when tuned by a .0003 variable condenser, while a Gambrell coil of 9 turns centre tapped covers the wave-band of 50 metres to 20 metres. L1 and L2 are better completely shielded in a copper box. The first detector works on the anode bend principle, grid potential being controlled by a potentiometer.—Yours faithfully,

CECIL R. BATES

Oxendon Hall, Market Harborough.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—At a recent conference I had the pleasure of meeting Mr. W. Fry, M.P., of Queensland, Australia.

I took the liberty of sending greetings from the RSGB to the IARU of Australia on the occasion of the visit of this your Ambassador.

Mr. Fry informed me that he would probably relay the greetings from on board ship when nearing the Continent of Australia. He left about four weeks ago.—Yours truly,

C. ERIC BATEMAN (2AOL).

RAW A.C. QRM.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—With reference to the closing portion of Mr. T. P. Allen's letter in the July BULLETIN regarding QRM from stations using raw A.C., while I agree with my good friend 6YW that these stations are a nuisance, I think British amateurs should take the beam out of their own eyes to enable them to see clearly the mote in their foreign brothers.

It is my experience that fone transmissions from "G" stations on the 45 metres band cause much more QRM than the Continental A.C. stations Some of the so-called experimenters should be relegated to the 150-200 metres band. Take G5DC as a horrible example. Almost every Sunday he "blethers" from morning to night, and so far I have failed to find out the nature of his alleged experiments. In the course of long-winded "palavers" he never gives his power input, but simply says he is radiating so many milliamps. As for his reports to stations working with him, the usual one is: "Your signals are the best I have 'heerd' this mornin'. Quite up to standard" (whatever that may be!)

I am inclined to think 5DC cannot read Morse, because I have called him many times without getting a reply.

There may be some members of the key-punching fraternity who think stations like the one operated at G5DC are useful assets on the congested 45 metres band and not QRM factories. If so, let's hear from you, OM's.

There is no desire on my part to encourage the use of raw A.C. I simply wish to say that in my opinion fone transmissions in general, and those from G5DC in particular, are a worse form of interference.—Yours sincerely,

R. CARLISLE (GI6WG).

JUDGING EFFICIENCY.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—Probably everyone has noticed apparent fluctuations in efficiency of his transmitter, especially on the 45 metre band, but it would be interesting to know how the average man judges them. To my mind, those who " go off the deep end " on receiving an R3 report from a station that generally gives them R6 or R7 (and there are many of 'em !) are not giving things a chance.

I know at least two who would rebuild their entire transmitter on the strength of a report of this kind.

Personally, I always judge conditions, as well as the apparent efficiency of the set, by the percentage of calls answered, and should very much like to know how others find this percentage on powers of 8 or 10 watts.

Last winter, using 8 watts, over an average of two months, twenty-two calls (occupying one page in the log) produced thirteen replies—percentage about 60 per cent. With a new aerial system during the last month the average is just about ten replies to twenty-two calls—percentage now only about 45 per cent. I think if a number of stations recorded their percentages of calls answered, it would be found that a pure steady DC note had a much greater influence than the actual input.

Certainly the average Frenchman using raw A.C. and many watts seems to give about fifty calls for every reply ! Of course, the receiver has something to do with it, but not many " dud " receivers exist nowadays

If anyone can suggest a better system of deciding on the better of two aerial systems over a period of a week than something on the lines of the above, I should be very glad to hear from him, for I don't think I have yet stuck to any particular type for more than this period !—Yours faithfully,

L. H. THOMAS (G6QB).

QRM.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—Until comparatively recently fone transmissions used to be practically confined to week-end afternoons, but now it is not unusual to hear several " outer-G " fones working continuously from 11 p.m. up to midnight, or even later, on any night of the week on the 45-m. band.

I wonder whether these fone stations realise the amount of jamming, both of reception and of QRP transmission, of Morse which they are causing, or whether it is just that they " don't care." It is usually possible to copy Morse of one station through the Morse of another provided that the notes of the two stations are different, as they usually are, but these strong, and often raucous, fone carriers cause an absolute wipe out in most cases, and unfortunately most of them are very close on 45-m., the most congested part of the whole 44-46-m. band.

It is obvious that these stations do not listen on their own wave to see if they are jamming other stations, or that, if they so do, they treat other stations with supreme contempt. Even if matters get no worse than they are at present any low power DX work on 45-m. will be almost impossible during the coming season.

It would not I think be unreasonable to bar 45-m. from transmission, *except for bona-fide DX experiments*, after, say, 9 p.m.—Yours faithfully,

MEADE J. C. DENNIS (GW11B).

KNOTS IN A KNOT.

To the Editor of the T. & R. BULLETIN.

DEAR SIR,—I am sorry to see that Mr. Bannister has taken exception to my use of the word " knot " in place of the term " nautical mile " in an article which was published in the BULLETIN recently. At the same time, I should like to point out that this was not a slip, in a moment of mental aberration, on my part.

Chambers's Twentieth Century Dictionary, in which correctness in technical matters has been ensured by consulting such books as Smyth's " Sailor's Word-Book," defines the Knot as " a division of the knot-marked log-line." Perhaps this is sufficiently explicit for your correspondent.

I can, however, quite appreciate how Mr. Bannister made his mistake, since by common usage the significance of the word is now that of a velocity rather than a displacement ; Davidson gives this meaning also.

Needless to say, I forgive Mr. Bannister freely for his expressive, if somewhat forceful, language.—Yours faithfully,

J. C. WILSON.

WHAT IS WRONG ?

To the Editor of the T. & R. BULLETIN.

SIR,—In your August issue you ask a pertinent question : " What is Wrong ? " You seem to be hinting at trouble in the body o' the kirk. Of this I know nothing as I am very isolated from my fellow members and only meet them at occasional I.E.E. assemblies. There is, however, to my mind, much that is wrong with British transmitting. May I use our columns to put some aspects of the matter before the fraternity ?

(1) Most of us are not experimenters. We are communicators. The function of a transmitter is undoubtedly to transmit ; but the terms of our licences forbid any useful transmitting from the communication standpoint. Our only excuse for being on the air at all is that we are conducting an experiment or a series of experiments. The fundamental weakness of our position is that our council is trying to form an " Experimental Section " and, apparently, failing. The whole of the T. & R. Section should be an Experimental Section. Another sign of our weakness is your editorial complaint on " Sloppiness and QRM." The congregation on " 45 " shows that most of us are purely concerned with QSO and QSL. There is no possible excuse for any men continuing on the air after two bad QSB reports, one from a near station and one from a station at a distance. Those reports call at once for artificial aerial tests to put the matter right. There is no possible excuse for most of the telephony transmission. In almost every case such experimental work as is done by amateur telephony stations is done by the commercial stations on " A.A." It should be a point of honour with amateurs to keep the artificial aerial handy. It should be ready to couple to the set as quickly as the wavemeter.

(2)Lack of co-operation is a great weakness in our society. Presuming that we are all experimenting we must find out something. When we find out something we should tell all our fellow experimenters. Each one of us should send in, at least each three months, a report of our work, brief and to the point, for publication in the BULLETIN. No literary effort is required. All that is required is a statement of the object of the experiment, the methods used, and the result. Nil results are just as useful as any other results, if the methods are stated. But results of any kind are not useful unless the method is given.

(3) There is far too much breaking of the terms of our licences. If every fellow would stick to the terms of his licence there would be far less QRM at week-ends on the 45-metre band. How many of us remember that we are only allowed ten minutes in every hour ?

(4) Now for this QSO and QSL business, which seems to obsess most of us to the exclusion of real experimental work. The way it goes seems to be this. We hit on a good and efficient transmitter, either by accident or (?) design, couple it to a good aerial and then proceed to gather in hundreds of QSL cards, answering every call we hear irrespective of its usefulness from an experimental point of view. I know all about it. I have been guilty myself upon occasions. But this bull-ranging about the Continent does not do the slightest good. If experimental work on the actual conditions of radiation is being done, then definite " skeds " with definite stations is the only way. All but final adjustments for note can be done on the artificial aerial, and, as I said before, two QSO's will tell you all you want to know about that. Even on DX work nothing useful can be done without definite appointments. What is the good of dozens of QSO's with East Coast NU's. Three or four will tell you that you can definitely get there, and that's that ! The obvious thing, once contact has been made, and proved to be no freak, is to try something else, with an object in view. This collection of a bagful of cards is the silliest craze that ever was invented—unless the bagful of cards is a record of definite phases of experimental work.

The QRP merchants are on the right lines. They have a perfect right to collect as many cards as they can because they are trying to find out the smallest power that can be used, with certainty, for communication within a definite radius. But even they can find out all they want to know about a certain transmitter and aerial and power, within a year. By that time they have had experience of every possible atmospheric and æther condition, and a map showing a polar diagram of the aerial directional efficiency and lines of mean range for any given power.

QSO and QSL and real experimental work cannot go together. To collect a large number of cards the whole conditions of the station must be stabilised. A stabilised station is only essential for " conditions " experiments and since such experiments are only possible by means of schedules with other stabilised stations very few cards are likely to result. In every other kind of experimental work I know about there is a lot of testing on the artificial aerial and a few QSO's, or else, in aerial experimental work, a large number of QSO's with a very few stations working by appointment.

This letter is now unduly long and I see that our good friend 6YK has raised some of the very points I have tried to make ; but I want to say one other thing. The way to get co-operation and reports in the BULLETIN is not to write and say a man is a fool because you disagree with something he has written. Since we are only human we cannot make anything without making mistakes. The very fact that a man is trying should entitle him to respect. So, don't call me a fool, fellow amateurs, when you have read this. If I am wrong write and say so and give your own ideas how we can clean up the mess we have made of this transmitting business. Our Editor will be glad to have your ideas.—Yours truly,

ERNEST H. ROBINSON (5YM).

LISTS WANTED.

To the Editor of T. & R. BULLETIN.

SIR,—May I make a suggestion, for early publication in the BULLETIN, of a tabulated list which would enable members at a glance to see at different times of day (G.M.T.) during each month of the year, the *type* of DX to be *expected* on the different wavelengths

This naturally would only act as an average and rough guide, but the facts would be there for all members to file as reference.

If my suggestion meets with approval, I am sure such a set of tables would be gratefully received by all, and I am also confident that members would supply headquarters direct, or through their area managers, with any definite findings they have made.

As an example, on 23 metres, EC has been consistently logged during the first half of August (1927) between 2,050 and fading out 2,120, at my station. This, of course, is a definite case, but in a tabulated form district averages might be given, as, for instance, a glance at the tables might show next August that on 23 metres India might be expected around 1600 G.M.T.

So far as I am aware nothing of the kind has as yet been published in Britain.

One thing it would show, for instance, would be that if a ham felt vigorous at 0530, the idea of QSOing SB on 23 would be no use, but that on 45 U.S.A. might be expected, and on 90 some other district, and on 150 still some other, say, during the month of March. (These, by the way, are pure suppositions, and not facts, but are by way of illustration.)

If this is started straight away I am sure you will, from time to time, receive valuable additions. Might I also suggest a complete copy of both "Q" and "Z" code abbreviations appearing in the T. & R Bulletin? It is surprising how many do not know all the Q's used, and the Z's are at times more useful than the Q's. What Q, for instance, expresses ZTF=send twice quickly. QSC hardly expresses ZVS=your signals are variable, etc., etc.

A. M. Houston Fergus, G2ZC.

La Cotte, La Moya, Jersey, C.I.

Calls Heard.

10m bnd:—G—2to, 2fy, 2gf, 2xy, 2yu, 2vj, 5uw, 5cx, 5gq, 5mn, 5tz, 5bd, 6yd, 6dh, 6wn, gc6nx, gfy. 20 m bnd: G—5yx, 5ms, gc6ko, gi2it.

ECTRV (unlis), near Praha, Czecho-Solvakia, July 1 to August 1.

10 m bnd:—G—2gf, 2bi, 2rk, 5jo, 5ky, 5gq, 5mu, 5uw, 5ml, 5jw, 5hj, 5bd, 6wk, 6vp, 6lb, 6rb, gw11b. 20 m bnd: G—2cs, 2yu, 2xv, 2nh, 2zc, 5ms, 5qv, 5by, 5xy, 5yx, 5yk, 5gw, 6rw, 6yv, 6yd, 6og, 6ww, 6at; gc6ko, gi2it, gw17c, 18b, ncvoq, gbh, gbm, glq. Full details on request.—EC2YD, T. & R., near Bruo, Czecho-Slovakia, July 1 to August 8.

G—2zc *, 5gw *, 5yk, 5yx, 5xy, 6ko, 6og, *6at. *equals QSO. (Via 2ZC).—EC2YD, July 31 and August 1, on 23 metres.

G calls heard in Latvia. Extracted from Latvian *Radio* by G6BT.—By KC2A—2bi, 2cs, 2qv, 2rg, 2wr, 2xl, 5yk, 5uw, 6at, 6da, 6dr, 6fd, 6ia, 6pg, 6pw, 6rb, 6vp, 6wk, 6xs, gc6nx, gi2it. By KC2B—2nh, 2og, 2qb, 2qm, 2xp, 5ml, 5uw, 5yk, 6ig, 6vp, 6za. By KC2K—2dn, 5ph, 5sk, 5uw, 6br, 6vp, 6xl, gfy. By KC2U—2dn, 2qb, 2qv, 2rg, 2un, 2yu, 5bd, 5by, 5gq, 5is, 5uw, 6at, 6hp, 6gh, 6nr, 6ty, 6rb, 6ut, 6wk, 6yq, gc6nx, gfy.

EG—2ao, 2bm, 2bz, 2cc, 2dr, 2dx, 2gy, 2kf, 2lj, 2nh, 2oq, 2qb 2qm, 2rg, 2sz, 2wj, 2xv, 2xy, 5by, 5jw, 5kh, 5kz, 5tz, 5up, 5uw, 5uy, 5xy, 5yk, 5yx, 5nw, 6al, 6bd, 6ko, 6nh, 6pa, 6lr, 6qh, 6qw, 6td, 6vp, 6vj, 6ww, 6yu, 6yv, 2it, 5nj, 6mu. EF—8qrt, 8gm, 8jj, 8eo, 8kz, 8yor, 8jr, 8ix, 8fk, 8fr, 8cr, 8cs, 8br, 8jf, 8jn, 8fiz, 8ct, 8ei, 8px, 8cp, 8sm, 8zb, 8mm, 8jnc, 8fn, 8ycc, 8dl, 8cl, 8fj, 8rdi, 8gi, 8udi, 8ee, 8xo, 8tis, 8ft, 8yy, 8oeo. EB—k44, wi, 4rs, h5, 4axi 4an, 4zz, 4ar, k6, 4ww, 4au, 4cb, 4ft, 4ck, 4bk, 4oc, n33. EI—1ay, 1gw, 1ma, 1er, 1no, 1dl. EK—4bda, 4uah, 4ya, 4uu, 4yab. ES—2co, 2nm. EN—ohb, opm, ocy. ED—oxz, 7cz. EL—1x, 1f, 1a. EP—1ae, 1aj, 3gb. EA—gp. EE—ar44, ar28.—C. Harrison, Rokeby Road, Bellerive, Tasmania, Australia.

2aj, 2ay, 2ano, 2av, 6as, 2bx, 2bri, 2bd, 2bca, 5bz, 5bv, 6by, 6bp, 6bw, 2co, 2cd, 2cu, 6cp, 6ck, 5ds, 5dz, 6dp, 6da, 6ft, 6fr, 5gq, 5gs, 2hj, 5ha, 2ju, 5ig, 5jt, 6iz, 6ig, 6ia, 6jv, 6jd, 2lw, 5ls, 5lb, 6lr, 2mc, 2mq, 5ma, 6md, 6mx, 2no, 5nl, 6nk, 6nx, 2od, 5on, 6ou, 6ok, 2pp, 5ps, 5pg, 5qz, 6qb, 5rk, 5sz, 5sw, 5sl, 5sq, 5so, 6sp, 6sr, 6td, 6tr, 6tv, 2ud, 2un, 2uz, 5us, 5up, 5vl, 6vp, 6uz, 2wl, 2wg, 6wl, 6wr, 2xa, 2yq, 2yd, 5xr, 5xo, 5xq, 6xp, 6yw, 6yx, 6yk, 6yd, 6ys.

Calls heard by EC1RV (unlis.). QRA: near Praha, Czecho-slovakia. 25/v—25/v1; 70 m bud.—EG—2dl, 2qc, 2gf, 2bz, 5uw, 5bd *, 5ml *, 5ul, 5ku, 5mq, 5sz, 6lr, 6nf (phone), 6hp *, 6vp, 6oo, 6pu. EGI—2it, gfy, gbh. (*) QSO'd.

Calls heard by EC2UN (unlis.). QRA: near Brno, Czecho-slovakia. 25/v—25/v1; 40 m. bnd.—EG—2cs *, 2to, 6ut *, 6rb*, 6og, 6hp*, 6wl, 5uy, gfy, glq, gbh. EGC—6wl*. (*) QSO'd.

Calls heard by EC2YD (unlis.). QRA: Near Brno, Czecho-slovakia. 20/v1—1/v11; 40m bnd.—EG—2yu *, 2cs *, 2bi, 5bd *, 5kz *, 5jo, 6oo, 6rb *, 6pa, 6hp. EGC—6nx *, glq, gla, gfy. (*) QSO'd.

20m bnd.—EG—5kx, 5ad, 5ku, 5yx, 5by, 5dh, 6na, gbh, gbm, glq. Full details on request.

EG—2cc, db, nh, nm, og, qb, rg, 5ad, by, ms, tz, up, uw, xy, ym, yx, 6da, nf, rw, uz, vp. EF—8ba, bf, jf, px, acy, fiz, nox, oeo, qrt, tis, udi, ynb, yor, ocng, jhp. EB—4rs, ww, yz, zz, u3, v33, w1, y2, y8, z1. EA—gp, w3. EK—4oa, uah. ED—7ec. EN—ofm, fp, pm. EI—1ce, cr, gw. EP—1ae, aj, 3fz, gb. ES—2co.—Calls heard by NU2AVB, 2805, 8th Avenue, Astoria, Long Island, N.Y., U.S.A. (via G2BQH).

Notes and News from the Areas.

Note—Owing to great pressure on our space we have been compelled to hold over the QSL report and "Calls Heard" until our next issue.

Southern Notes.

Collected by 2ABK.

This month being holiday month, there is no need to start our notes in the usual way, i.e., grumbling re reports not received, etc., and it is to be hoped that the hours of leisure have been devoted to considering plans for the forthcoming winter, so that we can expect a real overflow of traffic notes.

Now let's get down to the notes!

KENT (by 2MI).

6VV has forsaken full-wave rectification for half-wave, and has now about 1,000 volts to play with, so some loud sigs. should be forthcoming. Don't forget the L.F. choke, OM!

2UD is away camping and has "ND" to report.

2QC has done usual 45ϐ European D.X., and is recovering from his sickness. He recently conducted some very successful 'fone duplex with 5JG.

2QN is expected to launch forth again soon with a new set, using grid absorption modulation, by means of a valve.

2MJ QRW Business, but some local 'fone on 160 metres has been worked at week-ends.

BRS91, Folkestone, reports 37 'fone stations, including EB, EAR, ED and EN.

2MI has been conducting experiments with a pick-up and R.C. amplification. The 45-metre set is nearing completion. He wants more reports from you Kent hams!!

OTHER DISTRICTS.

5UY has tried a R.F.B. circuit on 23 and 45 metres, without success, and is now back to his tuned-plate, tuned-grid on 45, and hopes to try 23 again soon.

5RS is a new station, formerly BRS83, and is on 150-200 and wants all reports.

6NZ reports very litle doing. Tests carried out from Winchester, August 9, 10 and 11, yielded poor results on 45 metres, and would be glad of reports from anyone who logged him on those days. Look it up, OM's.

6FD, of Cowes, has been on 'fone on 45 metres, and worked EB, EF and EN stations.

6WI, of Colchester, sends his first report; he has now got going on 23 metres. He has worked DP4PQ, Porto Rico, and FM8IP on 16 watts. Using TP-TG circuit. A QSO with GLYK elicited the fact that the operator was OM. Durrant, ex operator 1DH, Mosul. Station visited by 6CL and 5WV during month.

2HJ, due to examinations, vacations, after effects, has done little work, and only one QSO to report, GC5XQ, his first GC QSO. A visit was paid to 6CL and saw his "wonder one-watter" and met 5AD and 2CB.

6WQ is at a standstill, and wants to rebuild, but has no time as he is only home on Sundays. Pretty regular work has been done on 160 metres of late, and his speech (C.C.) is really "the goods."

6CJ sends a versed report which it is hoped to include in this issue. Can we, Mr. Cooper?

5QK, the Southend Radio Society's portable transmitter, was out on the second field day of the season on August 14. Rain *again* interfered. 2ABK, 2LZ and 2MC were present, 2LZ bringing a broadcast mike and 8 stages of L.F., and this was fed to the modulator, and 2-way working was done four yards from mike *à la* B.B.C. Music was transmitted, and several QSO's reported all O.K. Quite a F.B. time despite rain.

BRS42's best RX was NU5LF, R5 on vertical indoor aerial. Twenty NU's altogether heard. On 180 metres best D.X. was 5JO, Cambridge.

2LZ has not done much owing to Business QRM, local 'fone on 180 metres has been worked on Sundays.

2ABK has nothing much to report. A visit was paid recently to 6WQ and also a day out was taken with 5QK portable station In case you've lost it, OM's, my QRA is "The Anchorage," Burnham-on-Crouch, Essex. My letter box is very stiff and our local postman wants more work, so send in those cards in shoals. I hope to meet many people at Convention if I can get up there.

Report from 6CJ.

O G2LZ, member of the R.S. Georges Beer,
Here's my report, which you will find it very late, I fear,
For to-day it is the twenty-ninth, and as all good Hams know,
Reports must be in by the tenth, in order that they may go
To Mr. Cooper, Editor of the Rag of T. & R.,
So that he may put them in print in the following month's edition.

I'm having a holiday during July,
I'm radio-free, and the sigs. may roll by,
So this late edition I may aptly apply
To cover the months of June and July.
Now in June, so they say, an eclipse came our way,
Which is not an event to be seen every day,
Especially one so completely "au fait"
As the one which I make so bold as to say
Was ill-mannered enough to keep hidden away
Behind banks of cloud which made the sky grey.
Now at such stirring times every wireless station
Starts to study the laws of wave-propagation,
For eclipses provide an FB tuneroppity
Of studying the air's most peculiar property,
First thought of by Heaviside, Kenelly and others,
Which causes the fading and similar bothers.

On the seven-and-twentieth of June (a Monday),
We set up our instruments (very pressé,
Though we'd thought of preparing for many a day)
And at G6CJ till the next Friday
We took records on tapes of sigs. coming our way
At the hour at which the astronomers say
The eclipse appeared that week's Wednesday.
For many a night and many a day
We had sweated and sweated and sweated away
Making receivers and recorders with which one may
Take curves of the fading of sigs' at "CJ."
So you bet we were pleased when the results were O.K.

QSO'S on 10 watts:—
TPACH, EF8XY, OIC, EK4BL, EK4FN, SMXV, ENOCX, EAJ1.
It's too much fag to make all these rhyme, so I'll leave that to be done at some future time.—73,

DuD Charman.

Irish Notes.

By 5NJ.

The holiday season is still in full swing over here at present, and very little work appears to have been done. One station, however, *has* been working, and to some purpose, too—I refer to 6WG.

With 8 watts on 45 metres, 6WG has, during July, been QSO EA, EB, ED, EE, EF, EG, EH, EI, EK, EM, EN, EO, ET.—a very nice "bag" of Europeans. The best D.X. has been kept to the last, *viz.*, Brazil, the U.S.A. 1st district, and French Morocco 6WG is, I think, the first really low-power station in Northern Ireland to connect with Brazil, and I would like to offer him very hearty congratulations on his excellent work.

5ZY has, thanks to the assistance of G5KU, now got going properly on crystal control, and will be heard regularly from now onwards.

It may interest readers to know that the 25-ton yacht, "Cariad," is leaving England in September for a world cruise. There are only three men aboard—two being from Belfast and they have applied—for a licence for transmission. If this comes through O.K., the operator on board would like to try and keep QSO the British Isles throughout the trip. Further details as to call, etc., will be given when available.

I should like to say how much many Gi's enjoyed seeing G5KU and G6YK, who have been here on holiday. We hope other G's will look us up when they are in this direction.

Irish Free State Notes.

By 11B.

Things have been very quiet during the past month, which is perhaps only to be expected at this time of year when outdoor pursuits claim most of our spare time. Several stations have gone down to 23 metres, and some report successful DX on that wavelength.

12B, on 45 metres, has been getting out well on European DX, his best being R7 from ED7JO with 10 watts input. He is shortly going to try 23 metres.

13B, a portable station, has been carrying out tests with 14B from a motor-boat in Dublin Bay, using 5 watts input, and was reported R9 throughout. He has also been QSO some G stations with the same input.

14B is still devoting most of his spare time to yachting but found time for the above-mentioned tests with 13B. His note is now reported very pure and should carry well when he gets back to work.

18B is at present on 23 metres and has worked one NU station on that wave in daylight, being reported R5. He has built a new transmitter for both 45 and 22.5 metre crystal control, but has had some little difficulty in getting proper control on the shorter wave.

19B is again on the air with an input of about 5 watts, and reports only European DX. He has been experimenting also on 23 and 8 metres, but has nothing to report. On the reception side he reports a QSO with EF8GUY when that station was using an input of only 18 volts 4 m/a, the distance being 450 miles, the miles/watts ratio working out at 6,250.

11C is refitting and hopes to be soon on the air using crystal control.

14C has been down on 23 metres, but has only worked a local station on that wave. He reports that he has been getting out fairly well with 'phone on 45 and 23 metres, using choke control.

15C has been doing good European DX on 45 metres, countries worked including OE, SM, LA, EX, and his best EU1UA, R5.

17C has worked the following countries on 45 metres: EB, ED, EF, EK and EN. On 23 metres he has worked the following with an input of about 9 watts: NU's 1BUX, 8ALY, 2CVJ and 8DHX, the last reporting him R4 when his input was only 8.6 watts from 220-volt D.C. mains. He is again our star station for this month.

11B has been away for the greater part of the month and has only a few European QSO's, none of interest, to report.

The following stations have not reported: 16B, 17B, 12C, 13C, 16C, 18C. (Don't forget next month, OMs!)

Scottish Area Notes.

By 5YG.

The holiday season is upon us, at least so one would assume from the attenuated number of reports received.

Readers of these notes will no doubt remember that some months ago I asked them to look out for the short wave signal from a ship belonging to the Hudson Bay Co. This was the ill-fated "Bayrupert," which now lies a total wreck on the Labrador coast. The ship was abandoned by passengers and crew, who safely effected a landing on that desolate coast. Tragedy might have ensued but for the fact that the captain and wireless operator, a Glasgow man, returned to the ship at considerable hazard and sent out the S.O.S. signal at intervals. Contact was eventually established with two liners, and the castaways rescued.

I have to acknowledge with much pleasure visits from 2FV and 6KO.

No. 1 District (by 2WL).

2WL.—Rebuilding now complete. Master oscillator circuit "rigged" and local tests carried out. Will be on the air consistently after holiday QRM.

5YG QRT till September.

6MS.—Motor generator now installed with a smoothing circuit consisting of 800 turn R.F. chokes in positive and negative leads. The note is always reported "pure D.C., very steady," with the chokes in circuit and "RAC wobbly" without them.

6WL.—Ninety-eight QSO's, comprising Europe and including EU, ET, also FM. Power used is normally 8 watts derived from H.T. accumulators in series with dry cells. Best reports: EU1UA, "R6 pure D.C. steady" (this two nights in succession); ETPACH, "R8 F.B."; FM8VX, "R6 pure D.C. steady." The aerial system was changed to C.F. Hertz. One of the "feeder" legs, however, doubled back rather near a roof. Results generally better than "3rd Harmonic." A further change will be made next month and reported on.

No. 2 District (by 6IZ).

6IZ had 16 QSO's, six on 23 metres, comprising NU 1st, 2nd and 8th districts, and 10 on 45 metres, covering Europe. Power on 23 metres being 20 watts and on 45 metres 5 watts, in both cases derived from DC mains. Reports regarding 23 metres averaged R5, the best being that of NU8AXA, "R5 es fine D.C. Note FB to copy." Forty-five-metre reports also average R5. Very little done owing to bad conditions and other summer QRM. A return has been made to the H.W.V.F. Hertz aerial for 45-metre work. QRN very bad during month, also curious local QRM which has not yet been diagnosed.

6VO has also very little to report, having only worked a few G's and Continental stations during the month.

2BQK is stil lgoing ahead with the construction of his transmitter, and is looking forward to the day when he may couple his aerial to it.

No. 3 District (by BRS6).

5JD is on holiday, but intends to rebuild transmitter on his return.

6KO.—Thirty-four QSO's, 24 on 23 metres, including NU, NC, SA, SB, and 10 on 45 metres, comprising G and GI. Power, normally 10 watts, derived from hand generator. Best report: SADA5, who gave R5. Found July most disappointing on 23 metres, and not to be compared with June. Should imagine many 23-metre transmitters and aerials will be overhauled as the result of lack of July QSO's.

BRS6 has not been at his instrument all month, but will be QRX in August.

BRS71 has now settled down to his new QRA and hopes to get going shortly.

Nos. 2 and 4 Districts.

No reports!!!

Northern Notes.

Area Manager: S. R. WRIGHT (2DR).

From all my scattered hams come short and terse reports: "Sorry, OM, QRW holidays!" However, a few fellows have been busy, and after a little struggle, I have placed 5MS in the star position, mainly because his reports have been consistently good. And in spite of a fairly high power, consistent work needs care and patience even with 50-watts input. 6IG has also done excellent work considering his modest 4 watts input, and will be well in the running if he continues the good work.

May I remind you all that the Convention is next month, and I want the Northern counties to make even a better showing than they did last year. The Convention is the place to air all "grouses," so roll up and grouse to your heart's content. Wear your QSL cards so that you may recognise each other, and don't forget to visit the society's stand at the Olympia Radio Exhibiton.

Now for the reports:—

Star Station.

5MS, H. M. Swann, Esq., 9, Seafield Road, Lytham, Lancs. (For details see Lancs).

Yorkshire.

(Reports to 2DR by the 8th.)

6WD is a new station. Welcome, OM. Fifty QSO's on a coupled Hartley, V.F. Hertz, input 1 watt from dry batteries to a P.M.2 valve. Some excellent Continental work has been done. Stick it, OM.

2BOQ has logged 462 stations, best DX (receiving) SA, DE3 and CB8. General conditions good except for local thunderstorms. This station would like schedules (receiving) with any stations, 33 to 90 metres.

6OO is still busy on the 23-metre band, but has nothing of note to report. His D.C. note will soon be gone as the town's mains are going over to A.C. NU-WNP was heard calling NU-8ALY on 20 metres at R6.

2YU has 138 QSO's, with the usual 6 watts. The best DX being EAR6, EAKL and EC2YD. This station is also trying 23 metres and would welcome reports.

6JG has had about 60 QSO's, but says nothing about power. Best DX, Denmark (R6), EAGP (R7 Vienna), but is trying out smoothing gear.

6IG reports 65 QSO's, and has worked EC, EJ and FM as new countries. Best QSO's: EU1AK (R5), FM8JX (R5), EJ7XX (R3 twice), EC-1RX (R3), EU09RA (R4 four times), and ET2UML (R5). This is excellent work for an input of 3 to 4 watts. By the way, this was incorrectly stated in the last issue as 34 watts. Sorry, OM!

6BR has little to report, but is shortly trying a C.F. Hertz ex 2DR. He has gone on a visit to hams in Hamburg, also Berlin, and is accompanied by 5US. This should be an interesting trip.

6XL has never touched the key all month, being QRW business. Hopes to get busy next month.

5SZ has done very little also, having been on holiday. He has taken down his C.F. Hertz and is trying a large 3rd harmonic inverted L. At the first sitting, SB1AR was worked through heavy static. Power, 150 watts.

2DR has occupied the month by rebuilding both receiver and transmitter, using aero coils throughout. The results fully warrant the change. Owing to the fact that so many different waves are used here, the C.F. Hertz has had to go in favour of an inverted L. No better results have accrued, so far as 45 metres are concerned.

The following did not report:—2XY, 5US, 6YR, and one or two others. Roll up to the Convention, fellows!

Lancashire.

(Reports to 5XY.)

5MS is our star station this month and has a total of 122 QSO's, including Brazil, Chile, Argentine, Canada and 54 NU's on 23 metres, also one or two NU's on 45 metres. The best DX was NU9ARA (R6). Power used, 50 watts R.A.C. This is really very excellent work, OM, and I should say SEC has a rival in the matter of sleepless nights!

5MQ again sends in a good report, having worked Brazil three times, a few NU's, and is reported as having been heard several times by OA7CW. This on 300 volts of accumulators, an input of a mere 9 watts. F.B., OM.

5XY has not done a great deal, but was QSO with VOQ, and also has had a further report from Point Barrow, Alaska. He is now on 23 metres. Mains being changed to A.C., so there is a good rotary transformer for sale here!

5JW has come to life once more! Has blown some valves and is QRP for the time being on 23 metres.

2QV has also come to life! He took a portable transmitter into Warwickshire during his holidays, using a receiving valve and 160 volts H.T. giving an input of 2 to 3 watts. With this and a Hertz aerial he was QSO Cowes, Dublin, SMUA, Paris and the Faroe Islands, as well as several G's. Also worked MU2CC and MU8DNE, from his correct QRA, with 9 watts to an LS5.

Isle of Man.

(Reports to 5XY.)

5XD is also on 23 with 7½ watts, and worked NU1II. A visit from 6MU produced a tuned-plate tuned-grid circuit in place of a Hartley, and results were improved. Congratulations on your first NU.

6IA also had a visit from 6MU and a tuned-plate tuned-grid circuit also appeared! It is whispered that it was brought into the world with a glorious display of fireworks! The results are excellent on 'phone and C.W. He is shortly trying 23 metres.

Notts, Lincs and Derby.

(Reports to 6MN.)

All hams in this area please note that reports are to be sent to 6MN (Mr. E. R. Martin, Castlemount, Worksop, Notts), and must reach him not later than the 8th of each month. I hope all hams will give Mr. Martin their hearty support.

5BD has been QRW business, but has been QSO EU-09RA, ER5AB, LXED with 10 watts from a foot-cum-hand generator.

5CD is at present QRT owing to change of address.

5SP (ex-2AHP) must be congratulated on attaining a full-blown licence. He would be glad of dope on chemical rectifiers. Anyone oblige? He is at present on QRP with dry cells, 45 metres.

6MN is using 10 watts and finds an inverted L aerial best, but is about to try a vertical. He has trouble in keeping a steady QSB. (Try loose coupling, OM, and see your H.W.A. is shorted, your valve and grid leak may not like each other!) Glad to have you as collector for your area.

6AH (ex-BRS34) is building his transmitter. His new QRA is Kennington House, Bunker's Hill, Lincoln. Please note this. (Have you notified H.Q., OM?)

50D has little to report, but apparently suffers from 6MN's complaint, namely, swinging wave. He is trying another aerial.

BRS4 reports good signals from Brazil and S.A. generally, but NU's scarce. Would like to know addresses of SQ's.

BRS45 reports good signals on 20 metres. He has logged WOBD, the Macmillan expedition in Labrador, R6 R.A.C. QSL's of this expedition should be sent to WOBD, 197, Beech Street, Holyoke, Mass.

BRS97.—Nothing to report.

2ABA reports plenty of NU's on 20 metres. OA's seem very busy on Sundays.

2ADC (ex-BRS48) has now got an A.A. licence and is busy getting gear together.

6UO has been busy among the Continentals and seems to be making things shipshape in his new station. He uses an LS5. Went to Conventionette.

The following did not report:—2BZT, 2IX, 2UQ, 5DM, 5KW, 5QT.

Northumberland, Durham, Cumberland and Westmorland.

(Reports to 2AIZ).

6QT is now licensed for 8 metres and is building a transmitter. Is using 23 metres for DX. Has been heard in Nigni-Novgorod (R4) with a 5-watt input.

BRS44 logged 250 stations, mostly N and S Americans, since July 15, on 19-46 metres. He is experimenting on 1½-10 metres

2AIZ will be glad if all those who would care to join in periodical meeting would send in their ideas on the matter on a P.C. to 2AIZ. It would seem an off period in this area, OM.

Yorkshire.

6YR has worked the usual Europeans, including phone to Danish 7MT on 3 to 4 watts from the same old Columbia dry batteries. They sure stick it, OM! He has got a 5 metre receiving set going and wants to know who is transmitting. (5US, I believe).

6DR reports a total of 80 QSO's on a power of 8 to 10 watts, 45 metres. Best DX was EAKL. A C.F. Hertz is in use here after hectic correspondence with the A.M.

Cheshire.

Reports to 6TW.

2SO is plodding along with comparison tests between the current and voltage-fed Hertzian aerials. Using a six watt input, he finds he can work 75 per cent. less Europeans, but 90 per cent. more G's on the current-fed type. Best DX Indo-China on 19 watts.

BRS98 welcome a new one to report to the BULLETIN. Has been QRW business, but had a useful visit from 5YZ.

6TW has also been busy with aerial work and finds the best is the current-fed Hertz with the double R.F. feeders (half-wave). Using 3½ watts, a call rarely fails to raise someone, and R5 at 300 miles seems to be an average. In any case 6TW is very enthusiastic about his aerial. Remainder of Cheshire—no reports. Hi!

6PU (JERSEY) ON 1½ WATTS.

6NX continues to work all Europe, and regularly obtains R6-7 from Italy. Poland has also yielded very satisfactory reports on occasion. Power is normally 10 watts, derived from D.C. mains. Progress is being made with the construction of a magneto generator.

Mid-Britain Notes.

Area Manager: CAPT. H. J. B. HAMPSON (6JV).

Here we are again and the Conventionette over!

I am warned not to make the area notes too long if the account of the Conventionette is to be included also, so now you know. Just one thing, though. For future guidance I would like to know whether the majority of members in the area favours Whitsun or August Bank Holiday for future fixtures? Please tell your sub-area manager next time you report, and will the latter kindly inform me as to the voting in their area. You won't forget? Tax.

Shropshire (reports to 5SI).

6TD has worked Australia, N.Z. and Argentine, but has been too busy to do much.

5SI has rebuilt his station and is on the air again. He has worked U.S.A. on 23 metres QRP.

Leicestershire (reports to 6WW).

There appear to be several unlicensed 'phone transmissions taking place on 150 metres. The perpetrators are, as usual, difficult to locate.

6WW has been working on 23 metres and has at last succeeded in obtaining a steady signal from a fully loaded oscillator on this wave. Further aerial experiments have convinced 6WW of the superiority of the "half wave doublet."

Cambridgeshire (reports to 2XV).

5YX reports conditions only fair to dud this month, but has been QSO U.S.A. 35 times, also SB2AA, 1AC, 1AA, and AF1B, all on 10 watts 20 metre band.

5YK reports poor conditions on the same wave. He has worked OA5WH with 40 watts input, and has received reports from Australia and India. He recommends the keying system of U9EK. (Vide QST, June, 1927).

2DB has been heard in Australia.

2HK has been doing crystal work, but has sent in no report. Next month, pse?

5JO is still working on 160-180 metres.

2XV has completed his QRP set and has worked seven U.S.A. stations and OIK (Danish ship "Lituania") on 20 metre band. also five U.S.A. stations within two and a half hours on his old pet 33 metre wave. His input has not exceeded 9 watts R.A.C.

2XV wishes to thank all who, by their presence and support. helped to make the Mid-Britain Convention the success that it was. Let us now look forward to another next year.

Northampton (reports to 6TR).

6TR called on 5IV and finds that the latter has been getting regular QSO up to 300 miles on 1.5 watts from dry batteries, and PMI2QM has been on the air again with a very strong signal.

2CH has not reported, and is asked to remember next month.

BRS89 is busy with radio research at Cambridge, but his work is not yet for publication.

6TR has rebuilt both transmitter and receiver and is now on the air again on 45 metres. He hopes to try 23 metres soon.

6UO and 5IV have visited 6TR.

Warwickshire (reports to 2BP1).

BRS3 reports uncertain conditions, but has logged several 6th and 7th district U.S.A. He asks for the QRA's of JTE, JBAT CHAM, WJBD.

NU2AUK is now on 40 metres and requests reports from G's. His QRA is: H. R. Anderson, 422, 56th Street, Brooklyn, N.Y.

5ML is just getting on the air again after his recent change of QRA.

5YS is expected to report next month, and as one of the pioneers his report will no doubt be interesting.

2BLM received his radiating permit and call sign 6MC on the morning of the Conventionette. F.B. and good omen!

2BKY, 6CI, 2AFS are at Eastbourne studying "wave-forms."

2BPI expects to receive his radiating permit shortly and has completely rebuilt in anticipation.

Worcestershire (reports to 6AT).

6AT has been holiday-making. He has however, got going on 23 metres and has worked EC2UN and EC2YD on this wave The usual 45 metre local contacts have been maintained.

(6AT also forwards an interesting article on aerial systems, for which many thanks.—6JV.)

Staffordshire (reports to 5UW).

Reports are very few this month. Do please send me your reports before the 10th of next month.

2BOC reports putting up a half-wave Hertz aerial and making a new receiver. He has been testing R.F. chokes. He says that DX conditions have not been consistent.

Why no reports from: 2VG, 5CW, 2TN, 2KK, 2NO, 2NA, 5FI, 2HF?

Wolverhampton and District.

2OQ has just returned from holidays, and was so refreshed that he worked OZ3AJ as the result of a QSP from 5UW.

5UW was very pleased to be with the gang at the Convention and considered it a huge success. DX on 23 metres with 50 watts input to Mesny oscillator and C/F. Hertz is 9 NU's, 10 SB's, 7 OA's, 3 SA's, 6 SU's, 5 OZ's, 1 SC. Comparisons between harmonic and Hertz aerials have been carried out. (Result of argument at Conventionette). Impossible! 6JV—and the Hertz wins handsomely. Two NU QSO's effected on 20 metre band in early evenings, but the 32 metre Hertz is not satisfactory for 23 metre work.

6UZ is still very QRW with business, but hopes to manage some DX during 5UW's forthcoming visit.

Norfolk (reports to 6ZJ).

5UF is now working on 45 metres with 6 watts input from D.C. mains. He is using a T. aerial and T.G.T.P. circuit, and has effected 23 QSO's.

6ZJ has bought a generator and expects to be working again shortly.

6JV has just returned from a short holiday and is carrying out tests relative to tuning the transmitter—a pet subject with him—which was resurrected by the lecture given by 5YX at the Conventionette. He hopes in due course to submit a few remarks to the BULLETIN (in order that he may be heavily contradicted through the correspondence columns!)

These tests are at present non-radiating, so that only a few 23 and 45 metre QSO's have been made.

Channel Islands Reports.

July has been a poor month so far as 45 metre transmission and reception are concerned, conditions having varied even from hour to hour. We are glad to have 5GW back again, who is operating an inverted L aerial this leave, on 10 watts and under. 5GW and 2ZC have paid several inter-station visits, and have had many QSO's

G2SO, who recently visited us here, has been in communication at least once a week with one or more of our stations, and has found some interesting data concerning angle reflection from these transmissions.

The first transmission on 23 metres from these Islands was made on July 31 between G5GW and EC2YD, followed the next evening by G2ZC and EC2YD, 2ZC's transmitter having just been finished that afternoon with the help of 5GW.

Research Reports.

2ZC found DX conditions bad, and only near Europe has been worked on 45 metres. Observations are still being made on morning QSS, and swinging of signals.

2ZC would welcome co-operation on QRP 23 metre tests from any district or country, though he will be QRT August 22 to 31, and September 12 to 21 inclusive. Power (max.) 8·5 watts.

5GW (8·5 watts on 23 and 45 metres) was home on a month's leave. Conditions were found to be bad on 45 metres and no stations outside Europe were worked. QRM was found to be so bad after 1830 BST that work was almost impossible. Phone stations were the worst offenders, causing far more annoyance than RAC—Hi! The 23 metre transmitter was rigged and communication established with EC2YD at 2120 G.M.T. Break in system is used with both transmitters and is found to be very advantageous.

6HZ reports working all near Europe with fone on 45 metres, and all Europe with C.W. DX conditions, however, were bad.

6OX and 6PU did not report.

Russian Notes.

O1RA (Nijny Novgorod, ex R1FL) has not a very nice health, is tired, and works therefore very little on QRH about 50 metres. A year ago had QSL from OA and QSO with OP on 200 watts.

O2RA (Moscow) after some not quite successful tests, has stopped to work, engaged by his civil work.

O3RA (Horkov) works only by fone transmitter on QRH about 90 metres.

O4RA (Leningrad) seems to be silent.

O5RA (Moscow) came back from his long journey, and from the end of July is "on the air." Has already QSO with EW, EA, EC, ED, EF, EG, EM and EN. The circuit is Hartley with inductive coupling and one-valve RE209, input 7 watts, aerial current O2A, QSB—AC, QRH—about 71 metres.

O6RA (Moscow)—It seems that he was never "on the air."

O7RA (Kiev)—The same.

O8RA (Leningrad); operator, Miss Giliarova.—Has done plenty of successful work. Has worked the whole of Europe, and after more than 100 QSO is not more interested in European hams! As she is a student for the summer has stopped the regular work.

O9RA (Moscow) is one of the most active Russian hams. Has worked nearly the whole of Europe and AS (Siberia). The circuit is Hartley symmetrical, with two valves (HT1 Russian type), the input about 10 watts, aerial current O25A, QSB—AC, QRH—72, 5 metres.

10RA (Nij. Novgorod) is working nearly every day, asking for QSZ; his QSO work is on Saturdays. Has nice QSL from Europe, AS and FE. Had QSO with some European countries. His QRK in USSR is from R6 to R9, in Europe about R5-6; QSB—DC, ACW and AC, most times AC; QRH—41-44 metres.

11RA (Omsk—AS) has a rather powerful transmitter QSB is RAC, QRH 30-33 metres. His DX is EF, EM, EG, EU.

12RA (Nij. Novgorod) is working, but QRH and other details are unknown.

13RA (Nij. Novgorod).—The same.

14RA (Leningrad) is silent.

15RA (Moscow) is working with a symmetrical circuit with 2 valves U T 1, input about 30 watts, aerial current O7A, QSB—AC, QRH about 43 metres. He works almost exclusively asking for QSL, as his knowledge in Morse is very poor. Has QSL from EU, EA, EF, ER, EG, EN, AS, AG.

16RA (Rostov-Don) has only a fone transmitter. QRH about 150 mrtres.

17RA, 18 and 19RA (Moscow) are only building their transmitters.

20RA (Moscow) is "on the air" from June. The circuit is symmetrical, with 2 valves UT1, input about 10 watts, aerial current O3A, QSB—AC, QRH—42, 5 and 32 metres Had QSO with most countries of Europe.

21RA (Pavlovsky Posad, Moscow district) and 22RA (Novgorod) have just received their licences, and it is not certain whether they are working or not.

23RA (Nij. Novgorod, ex 1AK) is successfully working about 73 metres, input at 20 watts, QSB—AC Had worked most of Europe; has QSL from NU8 and AS.

24RA (Nij. Novgorod, ex 3UP) will be soon again "on the air" with two receiving valves. QSB—AC, QRH about 32 metres. He is doing more tests on different radiating systems, that working on QSO.

25RA (Saratov), 26RA, 27RA (Moscow) and 29RA (Leningrad) have only just received their licences, although 28RA has been already called by some European hams.

Receiving OM's in USSR (RK's) are now about 150. Most of them are successfully working and their DX is "worldwide!"

All QSL for Russian hams, pse QSR via "SKW," Moscow, or via Radio EUO5RA (V. Vostriakov, Moscow 6, Mal. Dmittovka 10, KV2, USSR).

73's, EUO5RA.

Danish Notes.

By ED7MT.

I have only very little to report this month owing to the fact that all our hams have been away on holiday. We are going to start a Danish transmitter club this month, and it is our hope that it will help to a higher standard for the "ED's." Information about our club, new QSW section, etc., will appear in next issue.

I find GI5NJ's report arrangement in July issue very reasonable and quite sufficient for these notes Next month will our notes appear in the same manner.

7MT has no DX to report. 7EW and 7MT had a visit of JKZB. We opened a nice day with this prominent DX ham; we had a pretty QSO with GC6WL, and he invited kindly JKZB to visit Scotland. 7MT have finished a 3,000 volts transformer. GI6YW, don't fear the rectifier follows. Hi!

7ZG has worked Moscow several times on 12 watts; QRK, R6.

OIC has kept schedules with SAB, 7ZM and SB1IB on his trip to Buenos Aires.

To the Editor of T. & R. BULLETIN.

DEAR OM EDITOR,—I have just received a full radiating permit at the above address for a maximum power of 10 watts on wavelengths of 45 and 23 metres. I expect to be working at week-ends and should be glad of reports from *any* station, preferably with details of WX, QRK, QSB, QSC, QSS and QSSS. My call sign is G6AH. All reports will be acknowledged.

Previous to being granted this permit I used the sign BRS34 at my receiving station at the above address.

Just recently I moved to lodgings in Lincoln for business purposes, and have installed a short wave receiver, which now is identified as BRS34. The QRA is Kennington House, Bunkers Hill, Lincoln. I am available here for reception tests and reports between Monday night and Friday morning each week

I should like to say how much I appreciate the "Bull," and I always look forward to getting it each month. Best of luck to it!

73's.

Yours sincerely,
ALFRED HINE, G6AH.

81, Chaworth Road, West Bridgford, Notts.

Q.R.A. Section.

I am grateful to all members who have so kindly interested themselves in looking up some of this missing "G" QRA's published in last month's BULLETIN, and particularly to R. B. Williamson (BRS68), who took a lot of trouble in sending me a very extensive list.

W. E. Salmon (OA2SA), Water Police Station, Philip Street, Sydney, usually transmits nightly between 20.00-21.00 G.M.T., and welcomes reports, particularly from Birmingham, his old home town.

H. Russell Boyle (OZ2AS), who very kindly sent me a complete list of New Zealand amateur calls to date, says he tests to 2AFG every Sunday night at 7 p.m. N.Z.T.; he asks that BR stations will listen for his signals. He would also like to arrange schedules. His wavelength is 37 metres.

A. J. Hall (G2NU) asks me to publish, for the benefit of overseas members, that he always keeps watch on the 20-metre band from 7-11 B.S.T., and is always ready to carry out any tests on 23 metres.

Q.R.A.'s Found.

SDR.—s.s. "Sigvar" (Swedish"). (Inf. Miss Dunn, T. & R.).
SFV.—s.s. "Kronprins Gustaf Adolf" (Swedish). (Inf. Miss Dunn, T. & R.).
NU8ZZZ.—A. K. McConnaughey, 230, Payne Avenue, Cuyahaga Falls, Ohio, U.S.A.
ED7HM.—H. Mikkelsen, Soemandshoejkskolen, Svendborg, Denmark. (Inf. G6UT and Mr. Van Buysen, Holland, T. & R.)
ED7YO.—J. O. Nielsen, 18, Vester Allé, Aarbus, Denmark.
OCOBK.—Rev. G. H. J. Horan, Observatoire de Ksara, Said-Nail par Beyrouth, Grand Liban. (Transmits with 30-40 watts on 33.5 metres.)
EI1AU.—F. Strada, Miasino, Lago, Orta. (Inf. G6AT.)
EI1WW.—M. D'Amelio, Capodimente, Naples. (Inf. G6PP.)
NMCYY.—M. C. Hnos, Merida, Yucatan, Mexico. (Inf. G6PP.)
ACFRJ.—12, Kashmir Place, Villa No. 8, Hong Lusk, China. (Inf. G6PP.)

QRA's (G).

2AAQ.—Tollington School, Tetherdown, London, N.10.
2ADC.—C. A. Harper, Cropwell Bishop, Nottingham.
2AXT.—V. Leach, White House, Hucclecote, near Gloucester.
2BRJ.—D. W. Heightman, "Belowda," Park Way, Clacton-on-Sea, W.
2AV.—E. Thomas, 7, Turdu Road, Morriston, Swansea.
2AX.—C. S. Bradley, 10, Montenotte Road, London, N.8.
2NU.—A. J. Hall, A.M.I.R.E., 33, Hazelbrouck Gardens, New North Road, Hainault, Essex.
5BR.—G. L. Brownson, "Bryning," Hermitage Road, Hale, Cheshire.
5RS.—E. W. Rawlings, 22, Caxton Gardens, Weston Road, Guildford, Surrey.
5SP.—J. Spafford, 15, Priory Road, Blidworth, near Mansfield.
5UA.—J. G. Ward, 7, Burn's Gardens, St. Giles, Lincoln.
5YT.—E. R. Salt, 82, Dalling Road, Hammersmith, London, W.6.
6AH.—A. Hine, 81, Chaworth Road, West Bridgford, Notts.
6HO.—H. L. Holt, 25, Lamb Street, Longsight, Manchester.
6NC.—L. J. R. Taylor, Elm Tree House, Penkhull, Stoke-on-Trent.
6PI.—E. H. Pidcock, 31, King Edward Avenue, Worthing, Sussex.
6SV.—M. Savage, College House, Horringer, Bury St. Edmunds.
6TR.—P. H. Brigstock Trasler, 37, York Road, Northampton.
6TU.—A. Turner, c/o Standard Equipments, Ltd., Ashburton Road, Trafford Park, Manchester. (Mr. Turner also operates G2XO.)
6WO.—M. S. Woodhams, 90, Railway Terrace, Rugby
6WX.—A. G. Watkins, "Hainault," Laburnham Road, Maidenhead.

CHANGE OF QRA's (G).

2FM now 92, Algernon Road, London, S.E.13.
2GW now "Moonrakers," Hardenhuish, Chippenham, Wilts.
2NU now 33, Hazelbrouck Gardens, New North Road, Hainault, Essex.
2QB now "The Mount," Birchfield Road, Widnes, Lancs.
2TI now "Sleveen," 45, Ena Road, Norbury, S.W.16 ('Phone: Streatham 7204).
5CG and 5PX now Gothic Cottage, Four Oaks Road, Four Oaks, Sutton Coldfield, Birmingham.
5DA now 33, Waverley Aevnue, Wembley, Middlesex.
5HK now 448, Redmires Road, Lodge Moor, Sheffield.
5ML now "Rydal," Beechwood Avenue, Coventry.
5UO now 164, Footscray Road, New Eltham, London, S.E.9.
6AP now 16, Cambridge Road, Lee, London, S.E.12.
EB4AG now 11, Avenue des Aubepines, Antwerp.
AJ3AA now 880, Tennoji-Cho, Osaka, Japan. (Will forward cards to any Japanese amateur.)
NU3MV now 1,161 North 33rd Street, Camden, New Jersey, U.S.A. (Inf. Miss Dunn, T. & R.)

CHANGE OF CALL SIGN.

2AFA now G2AV.
2AHP now G5SP.
2AUX now G2AX.
2BAC now G5YT.
2BJC now G6PI.
2BLM now G6MC.
2BOW now G5BR.
2BZT now relinquished by Messrs.Livesey.
NU8DNL now NU8ZZZ.

ADDITIONS TO R.S.G.B. DIARY AND LOG BOOK, 1927.

(By courtesy of C. D. Connerton, Member of T. & R., R.S.G.B.)

BRAZIL (SB).

Federal Capital : Rio de Janeiro.

1BL.—Ruy Vianna, 267, Rua Das Laranjeiras.
1BN.—Santo Junqueira Botelho, 104, Rua General Polydoro.
1BO.—Guilherme Manes, 316, Rua Marquez de Sapucahy.
1BP.—Edgard de Oliveira, 86, 2° Rua do Cattete.
1BQ.—Fernando de Almeida Castro, 417, Rua Das Laranjeiras.
1BR.—João B. Ribeiro Espindola, 27, Rua Latino Coelho, Olario.

1BS.—Antonio Nascimento Vellozo, 50, Rua Humaytá.
1BT.—Waldemar Mascarenhas Monteiro, 67, Rua Alfredo Pinto.
1BU.—Aluizio Fragoso de Lima Campos, 36, Rua Humaytá.
1BV.—Jayme Bastos da Cunha, 78, Rua 2 de Dezembro.
1BW.—Audifax Cezar Ottoni, 317, Rua General Canabarro.
1BX.—A. Parisio Souza, 90, Rua da Bahia.
1BY. — Major Amaro S. Bittencourt, 72, Rua Silva Gomes, Cascadura.
1BZ.—Capitão Waldemir Aranha Meira Vasconcellos, 28, Rua Zeferino.
1CA.—Apollo Aug. Pereira de Amorim, 44, Rua Anna Telles.
1CB.—Elias Gonçalves de Monte'Alverne, 103, Rua Genl. Bruce, Casa 5.
1CC.—Centro de Instrução de Transmisão.

STATE OF RIO.

1IC.—Elias de Souza, 1,152, Rua Ypiranga, Petropolis.
1ID.—Luiz Novaes, 125, Rua Piabanha, Petropolis.

STATE OF SAO PAULO.

2AR.—Arthur Reis, 58, Rua S. Vicente de Paula.
2AS.—Thomaz Conrado Simonsen, 22, Rua Altino Arantes, Santos.
2AT.—Jeronymo Teixeira Borges, 17, Rua do Commercio, Araraquara.
2AU.—José Azevedo, 73, Rua Maria Antonia.
2AV.—Herculano Sylvio Demiranda, Araraquara.
2AW.—Americo Bandeira Moraes, 15, Rua Gregorio Ferrão.
2AX.—Geraldo Homem de Mello, 15, Rua S. Luiz.

STATE OF PARANA.

2IA.—Rubem Simas, 19, Rua do Riachuelo, Curifyba.
2IB.—Levy Souza, 155, Rua Dr. Murissy, Curifyba.
2ID.—Oscar Peixoto, Caixa Postale 103, Curifyba.
2IG.—L. G. Moreira, 6, Rua Paula Gomes, Curifyba.

STATE OF PARA.

7AB.—Odette Ceçy Chaves, 105, Ave. Nazareth, Belem.

(To be continued in our next issue.)

OTAGO DISTRICT (4).

4AV.—J. B. Milnes, 39, Lees Street, Dunedin.

Through the courtesy of Senor Miguel Moya (EAR1), M.R.S.G.B., we are able to supplement and correct the list of Spanish amateurs in the R.S.G.B. Call Book.

CORRECTIONS.

EAR1.—M. Moya, Mejía Lequerica 4, Madrid.
EAR4.—E. Valor, Jorge Juan 17, Valencia.
EAR5.—J. D. Galcerán, Centro de Lectura, Reus.
EAR16.—J. Borrás, Rosellón 556, Barcelona.
EAR17.—J. Soler, Hernán Cortés 8, Santandar.
EAR19.—F. Delgado, Instituto 5, Teruel.
EAR21.—R. de L. Galdames, Estación 5, Bilbao.
EAR23.—J. Portela, Cervantes 14, Cádiz.
EAR28.—J. B. Novo, Patio de Madres, 13; Santiago (Coruña).

ADDITIONS.

EAR25.—Radio Club Cataluña, Plaza de Santa Ana 4, Barcelona
EAR27.—A. M. Ballesteros, Plaza Mayor 14 al 20, Palencia.
EAR29.—A. Lagoma, Jovellanos 9, Barcelona.
EAR30.—J. Castel, San Antonio 44, Sans (Barcelona).
EAR32.—J. M. Bayarri, Gonzalo Barrachina, Alcoy.
EAR33.—V. Guiñau, Angel Guimerá, Sarriá (Barcelona)
EAR34.—F. Sucarana, Asturias 13, Barcelona.
EAR35.—F. Baqué, Paseo de Gracia 103, Barcelona.
EAR36.—C. Salvador, Nueva 7, Almansa (Albacete).
EAR37.—M. M. Morante, Camino Nuevo 17, Santiago de Compostela.
EAR38.—L. Navarro, Matemático Marzal 21, Valencia.
EAR39.—F. Hervera, Jesús del Valle 23, Madrid.
EAR40.—V. Ayuso, Valencia 360, Barcelona.
EAR41.—J. Gol, Chapa 11, Valencia.
EAR42.—J. Arrillaga, Hotel Vega, Marquina (Vizcaya).
EAR43.—J. Gomez Civera, Paz 44, Valencia.
EAR44.—J. R. Balmas, Paseo del Príncipe 10, Almería.
EAR45.—J. G. Aybar, Mendizabal 7, Madrid.
EAR46.—L. Sanjuan, Ríos Rosas 14, Madrid.
EAR47.—L. Ferrer, Reina María Cristina 6, Palma de Mallorca.
EAR48.—L. Varela, Juana de Vega 15, La Coruña.
EAR49.—M. Corella, Salmerón 45, Barcelona.
EAR50.—F. Llinás, Moncada 16, Játiva.
EAR51.—A. Escudero, Plaza de Aragón 8, Zaragoza.
EAR52.—J. R. Cuevas, Plaza Mayor, Aguilar de Campóo (Palencia).
EAR53.—Ignacio Inza de la Puente, Cinco de Marzo 7, Zaragoza.
EAR54.—J. B. Elías, Cortes 564, Barcelona.
EAR55.—A. G. Banús, Plaza Trilla 4, Barcelona.
EAR56.—J. Calvo, Cardenal Cisneros 15, Madrid.
EAR57.—C. Igartua, Montera 39, Madrid.
EAR58.—E. Gabana, Camaño 9, Figueras.
EAR59.—J. Mas, Fabrica 16, Palma de Mallorca.
EAR60.—R. Sagrera, Salmeron 187, Barcelona.
EAR61.—J. Romero, Provenza 276, Barcelona.
EAR62.—L. Picallo, Establiments, Palma de Mallorca.
EAR63.—F. Balsells, Plaza Constitucion 16, Reus.
EAR64.—D. Liria, Emilio Ferrera 4, Almería.
EAR65.—A. Creixell, Sebastian Souviron 8, Malaga.
EAR66.—L. Derqui, Duque Sto. Mauro, Hotel B. del Rio, Sardinero.
EAR67.—C. Pereda, Lope de Vega 2, Santander.
EAR68.—A. Botella, Elche.
EAR69.—M. Lora, Sta. Lucia 4, Puerto de Santa Maria.
EAR70.—M. Telleria, C. Santa Clara, Tolosa.
EAR71.—F. Brotad, Capuchinas 1, Palma de Mallorca.

BRITISH RECEIVING STATIONS.

BRS5.—G. E. Clothier, 5, Fenswood, Long Ashton, Bristol.
BRS30 relinquished by P. H. B. Trasler; now G6TR.
BRS48 relinquished by A. Harper; now 2ADC.
BRS83 relinquished by E. W. Rawlings; now G5RS.
BRS34 now Kennington House, Bunkers Hill, Lincoln.

NUMBERS ISSUED.

BRS83.—T. H. Mandleberg, The Red House, Worsley Road, Swinton, near Manchester.
BRS104.—F. L. Royer, "Hilsboro'," Aldenham Avenue, Radlett, Herts.
BRS105.—W. Mitchell, 12, Grange Road, Southport.
BRS106.—J. H. McCall, Primrose Cottage, Southwold, Suffolk

QSL Section.

Please remember that I cannot guarantee to forward cards for other than free countries, unless a 2d. stamp is enclosed for any number of cards.

It is not fair of anyone to send me about two dozen cards for other countries with no stamp at all. Again I will state the only free countries which are sent by the Society; all other countries I find the postage myself:—France, Germany, Belgium, Holland and Spain. Please do not forget this when sending your cards.

CARDS WAITING.

We do not propose to publish any lists of these and members expecting cards are asked to forward envelopes as usual.

London Area.

By G. A. Exeter (6YK).

I propose, in future, to head these monthly notes with a calendar of coming events, which every member in the area should make notes of, and, if at all possible, make every effort to attend the various meetings, etc., arranged.

We want to keep up the spirit so admirably shown at our last "Hamfest," and to keep the members more in touch with one another, and thereby cement by personal contact that friendliness which exists "on the air." Having made such a good start, we hope to carry on in the same manner, and by the time these notes are published, we shall have had our second gathering (September 7), and I hope that I shall be able to report on even greater attendance than at our last. Now I have one special notice to you all, and I want every man who is a "live" member to make a special effort to attend *this*, if no other. On FRIDAY, SEPTEMBER 23, we are holding a Convention programme meeting, the object of which is as follows. To all intents and purposes, the Convention will finish about 3 p.m. on the Saturday. The R.S.G.B. will have done its little bit as a whole, and the fellows will either go home or do what they please, and this is where we will step in. There are sure to be lots of the members who will be staying over the night, if not longer, and others will be at a loose end until late at night, when their train returns. Well, we want some suggestions for helping them to fill in this time; we have already had one or two, and we want help to do this thing as nicely as possible, so please remember the date and come along. The time and place will be published in the *Wireless World* of September 21, as there is no other means of reaching you all. Now, please DON'T FORGET SEPTEMBER 23. I feel it is up to us to entertain the members coming in from the country and give them a real good time. I was in Northern Ireland during my holiday, and I shall not easily forget the way in which all our fellows over there did all in their power to give me a good time, especially Mr. Allen (6YW), who ran me all over the country in a car and placed himself entirely at my disposal for two days. It does one good to meet this sort of thing, and I am anxious that we do the same for any fellows coming into this area.

The reports are very few this month, no doubt due to the holidays, but I hope to see an improvement next time.

Western Division.

By 6YK.

6BB has made his 175th QSO, and has worked ET and EU for the first time, R3 in Moscow with 5.5 watts. He is still trying to find a good aerial for DX, and is using A.C. on his filament and finds it carries better.

6WN has QSO'd 17 stations during July, best DX LA1A R5 with 4 watts. He cannot raise Italy at all, and Spain only worked one.

5TD reports once again with 70 QSO's, best being FM8SSR R7 with 3.5 watts. He has tried the V.F. Hertz and likes it better than 3rd harm.

East London Division.

By 6LB.

6LB has to chronicle a notable event. With the aid of 6LL and 5UP he has made his Armstrong transmitter perk!!

This after eight months. So far he has worked ET PKV as best DX on 3.5 watts. Sigs were R4. Note CC.

6LL is very busy with his 8-metre experiments, and wishes to express his appreciation of Messrs. Mullard's kindness in loaning him two SW50 valves for these tests.

6UT is still being heard in the U.S.A. on 10 watts, but has still to QSO.

5ZG is coming back to life after a long rest, and hopes to run a hand generator with a gas engine and QRO to 10 watts.

6TX has been to Switzerland, but did not locate any Swiss Hams.

Recently, 6LB, 6UT, 2SC and 5PD had a most enjoyable day on one of the few fine Sundays this year. Leaving London in the morning, they motored to Daventry, and after lunch visited Mr. Ivin (5IV), of Rugby.

5IV is on the staff at Hillmorton Station, G.P.O., and they spent a very interesting afternoon going over the station, after which they were very hospitably entertained by Mr. and Mrs. 5IV at their home. During the run back to town, 5YK of Cambridge was visited. 2SC, 6LB and 6UT are indebted to 5PD for his kindness in driving them in his car and giving them such an enjoyable day.

(Note to Editor.—Please record these two items in the Bull., OM, whatever happens!)

Southern Division.

By 6PG.

There are very few reports this month, probably owing to the holidays. Please OM's let me have your reports regularly, even if only two lines on a postcard.

2CB has had the usual QSO's with local Europeans, but no DX. His best QSO was SMUA, who was in holiday camp on an island

off Gothenburg. He reports that, thanks to OM 6CL and his method of keying, he is now able to work through B.B.C. without causing any trouble to local B.C.L.'s.

5GQ reports that on 200m, 2.5 watts phone and 8 watts C.W. on DET1, he has now been able to remove all trace of hum, and is trying to get A.C. to work on LS5 filament. On 45m's., QRN has been too bad, but most of Europe has been worked. 5YK and 2SC tried to make his Hertz hertz, but the only result was much language and a free fight. That's what Hertz, OM! On 23m little work has been done, though a few Yanks have been worked and confirmation of QSO received from Chilean 2AH. Input 17 to 18 m/a. at 550v. to DET1 or LS5 valve. He has an LS5 which has been modified by the G.E.C. for 20m., and which works beautifully. 5GQ would like the gang to guess what the taxi-driver thought when three well-known North London hams were thrust upon him after the dinner; also, what their people thought, and what they thought next day.

6HP has not much to report this month. He had 160 QSO's and added EJ to his list of DX, which now includes all "live" Europe. Best QSO was EUO9RA, of Moscow, who gave him R6, and also a report from Nijni-Novgorod giving R4. He was also QSO with XEK4AP, an aeroplane, this being his first QSO with the "air."

BRS25 did little listening, owing to holiday and business QRM. He logged 70 stations, including 10 NU's and 1 NC on 20m., but has nothing noteworthy to report. He intends applying for AA licence shortly.

6NK seems very fed up. Conditions, he reports, were putrid, he having only three QSO's using DB's. He noticed that dark heavy clouds cause a considerable blanketing of signals, and also quite an amount of fading.

2BQH found conditions during first fortnight in July excellent and logged over 300 NU's (all districts, including 16 fives, 2 sixes, and 2 sevens) on both 20 metres and 40 metres. Other stations include NC, NP, SU and OA on 20 metres, and NC, NJ, NM, NP, SA, SB, OA and OZ on 40 metres. The end of the month conditions became worse and worse, and he logged only 60 NV's.

6PA has been too busy to do much radio, though some interesting work was done at the end of the month, while at camp, with combined portable sets. Excellent two-way work was conducted over short distances, and, in addition, numerous European stations received. The sets consist of single-valve, with about 60 to 80 volts H.T. and 18-in. frame aerial. Hartley circuit is used.

North London Division.

Reports from the following are to hand:—

6PP has a fairly good month with a 2-watt input. Norway was worked for the first time.

6PN has been on vacation for two weeks, but prior to this had conducted some interesting local tests with 10 watts. He has constructed a valve modulated oscillator.

2YQ is very busy these days on professional work, but has assisted in many experimental tests from 6PN.

2AX has now obtained his full licence and is putting out a very strong signal around Europe. He is using 5 watts from D.C. mains, and hopes to QSO many of the stations he has logged as 2AUX.

6DP has done good work on one watt from dry batteries. He is to QSO shortly as mains are going in.

2AJI has done a good deal of logging on 20 metres. He is visiting Belgium for vacation and hopes to visit the EB's.

5TT has commenced work on 45 metres, using low powers, but has no DX yet to report.

2AXL has been co-operating with 6CL. He has built a modified Colpitts, which from 6CL has done very well.

5GU has been inactive during the month preparing for a plunge into the sea of matrimony. (All good wishes to yourself and YL, OM.)

5HJ has been off the air a good deal recently, but when active was trying fone with an 8½ watts input. Grid control modulators being used. From EB, EF and EN R5-Y was general strength obtained.

BRS92 sends a nil report for July, but it's much better than no report. He is waiting for real DX days!

BRS12 has applied for his radiating licence and hopes soon to be on the air. He made observations on 6WW during eclipse week, but reports that his sigs. were weak, and on the morning after eclipse he was blotted out by a German fone station completely most of the time.

The high-power gang, 5AD, 5HS and 5KU have not reported. Have they conquered the world?

6CL has spent a month divided between London and East Anglia. During vacation visits were made to 5WV (Braintree), 6WI and 5XW (Colchester).

During the month some good European DX was worked on usual QRP. Best contacts were with EU-O5RA (R3) in Moscow and SZNM (R4) in Helsinki.

Altogether 12 European States were worked and schedules with ED7MT easily maintained almost daily.

The modified Colpitts as described in *Wireless World* was tested and found to give good results with a one-watt input (EA-KL), R5 being best QSO to date.

A method of preventing wipe-out on B.C. valve sets has been tested and found satisfactory.

Station visits: 6CL to 6PN, 2YQ, 5WV, 6WI and 5XW; BC2, 6DP, 2AX, 2AJI, 5TT, BRS86, 2HJ, 5AD to 6CL.

SPECIAL NOTE.—ED7MT will be in London for a month from September 15, and will be pleased to meet London hams. QRA c/o 6CL.

German Notes.

(By EK4CL).

There is very little to report this month, as most of EK's QRT'd during holiday time.

DFTV will arrange a competition for exploration of the propagation of waves on the 45 and 63 metre-band, as well as on the 8 metre-band.

4UAK (Munich) is QRV for QSO every Tuesday and Friday night on the 45-metre band. He uses a Telefunken wave-metre of high precision, and is always QRV for QRH reports, as well as for WX reports, which he gets by his Dieckmann receiver.

DE313 reports that he receives the C.C. stations, but they are often handicapped by extreme QSS. Has anyone noticed similar experiences?

A meeting will very likely be held in Berlin during exhibition time on September 10-11. Foreign "hams" are heartily welcome

Dutch Notes.

(Prepared by EN0CX).

This month again we have a very brief report. Due to summer-time not many great events are heard of.

EN0VN is pounding brass on "20." Worked WNP MacMillan Arctic expedition.

EN0GA is still heard with good strength in all parts of the world. Also busy on "20." Say OM, try to get your WAC certificate.

EN0BC is a very active QRP man, using pure D.C. up to 5 watts. Worked OIK with 2 watts input when this steamer left New York bound for Danzig.

EN0DJ also worked OIK, his input being 1 watt.

EN0WM has nothing to report this month. What about your "sunny sweet peep"; when does she perk again?

EN0CO has trouble with his receiver. He is now experimenting on electromagnetic pick-up devices.

ENCX has a total of 47 QSO's during July. Maximum input 3.2 watts, of course, pure D.C. Yugo-Slavia and Italy were added to the countries worked. Moscow gave R6 when using an input of 120 volts at 15 millies.

ENR004 reports hearing phone from a French warrior lying near Hawaii Islands, calling the Dutch Marine Station at Soerabaya (Java). Callsign of the cruiser could not be copied as the operator spoke English with a very bad accent. QRH was 23.6 metres.

ENR015 made some nice observations during the eclipse. The station observed was TFHV (Iceland).

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.

(*Late Advertisements on page* 26).

Late Advertisements.

FOR SALE,—D.C. Hand Generator, Evershed and Vignolles, 600v., 50m.a., cost £13, perfect, nearly new, £7 10s. or nearest offer.—G.6NO, 48, Cold Overton Road, Oakham, Rutland.

MARCONI Alternator 75v. 8amps. 190 cycles. Self-excited 18v. Gives DC note with very little smoothing; £3 10s. C.A.V. H-type DC generator, 300 watts, armature wants rewinding, weight ½cwt. (not car dynamo). 30s. Pair Brown's A-type 4000 ohm. phones, 15s.—WEBBER, 8, Theresa Avenue, Bristol.

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