

THE T. & R.

BULLETIN

THE INC.
RADIO SOCIETY
OF GT. BRITAIN

AND THE
BRITISH EMPIRE
RADIO UNION

Vol. 9 No. 3

SEPTEMBER, 1933 (Copyright)

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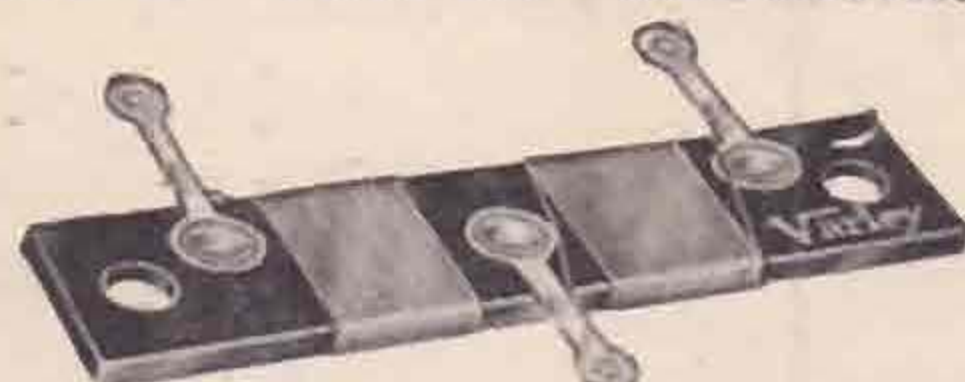
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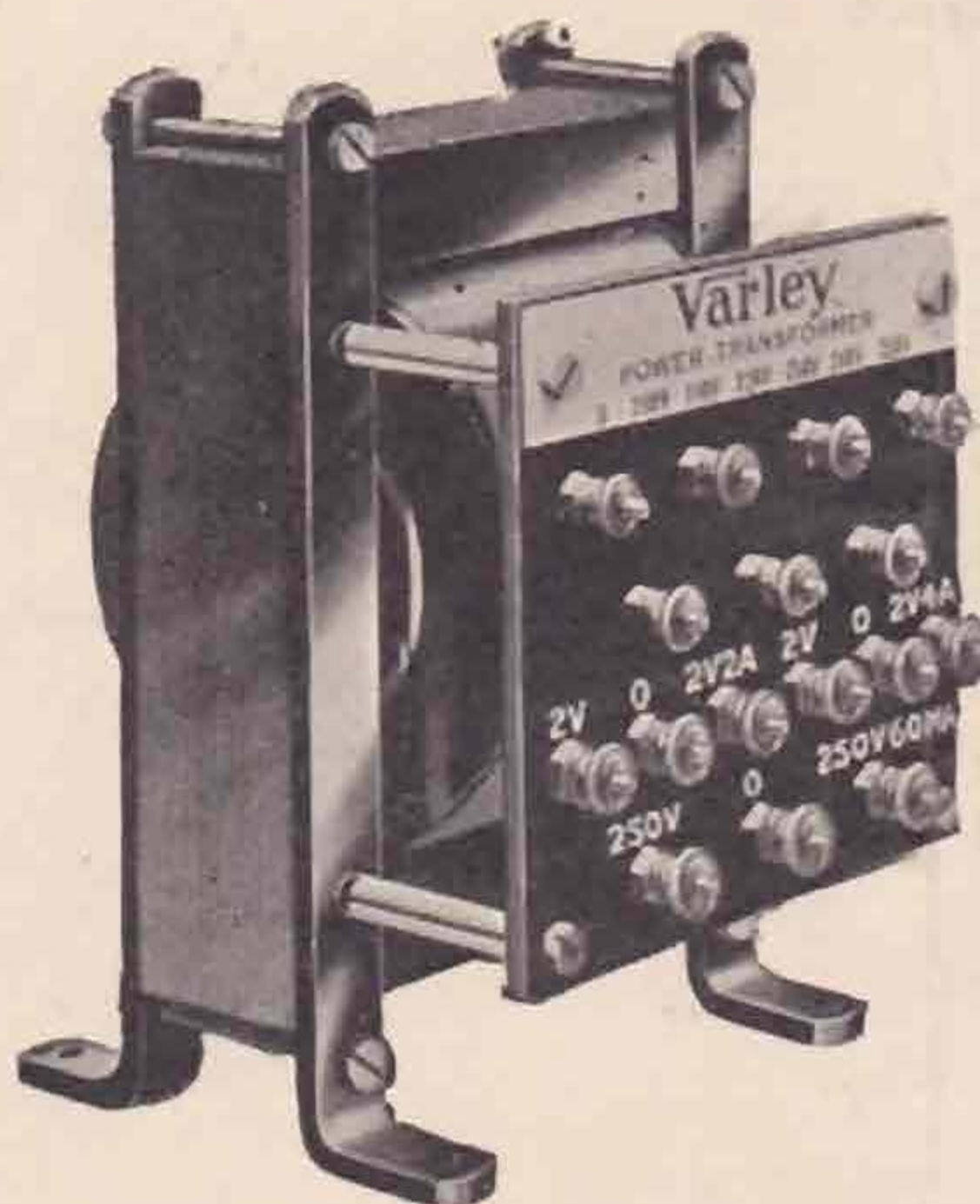
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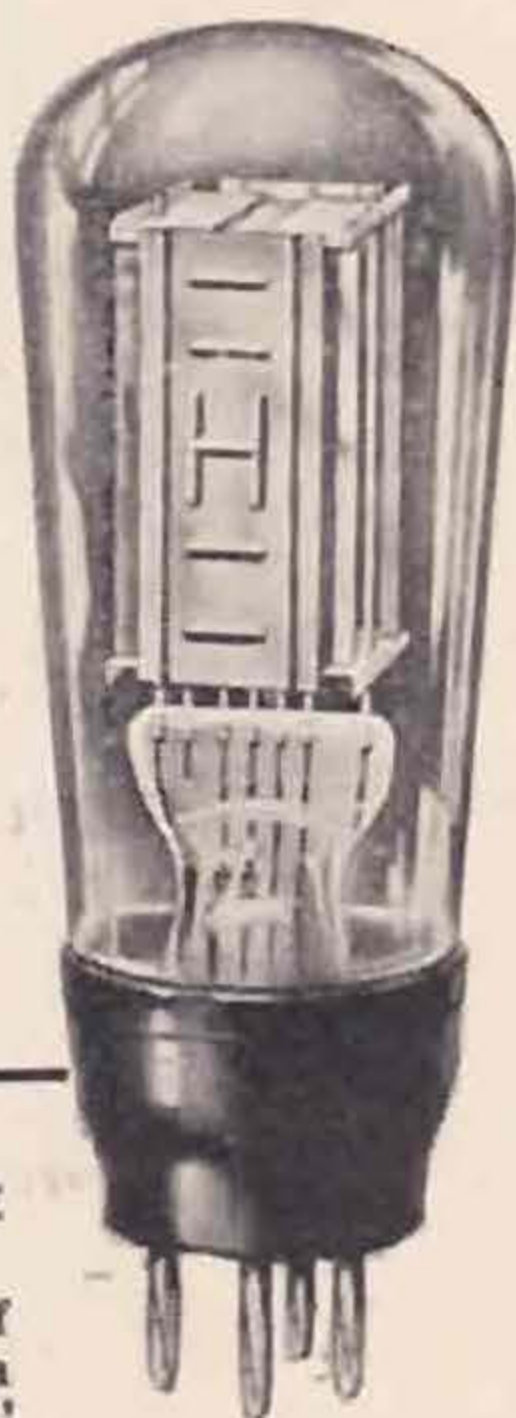
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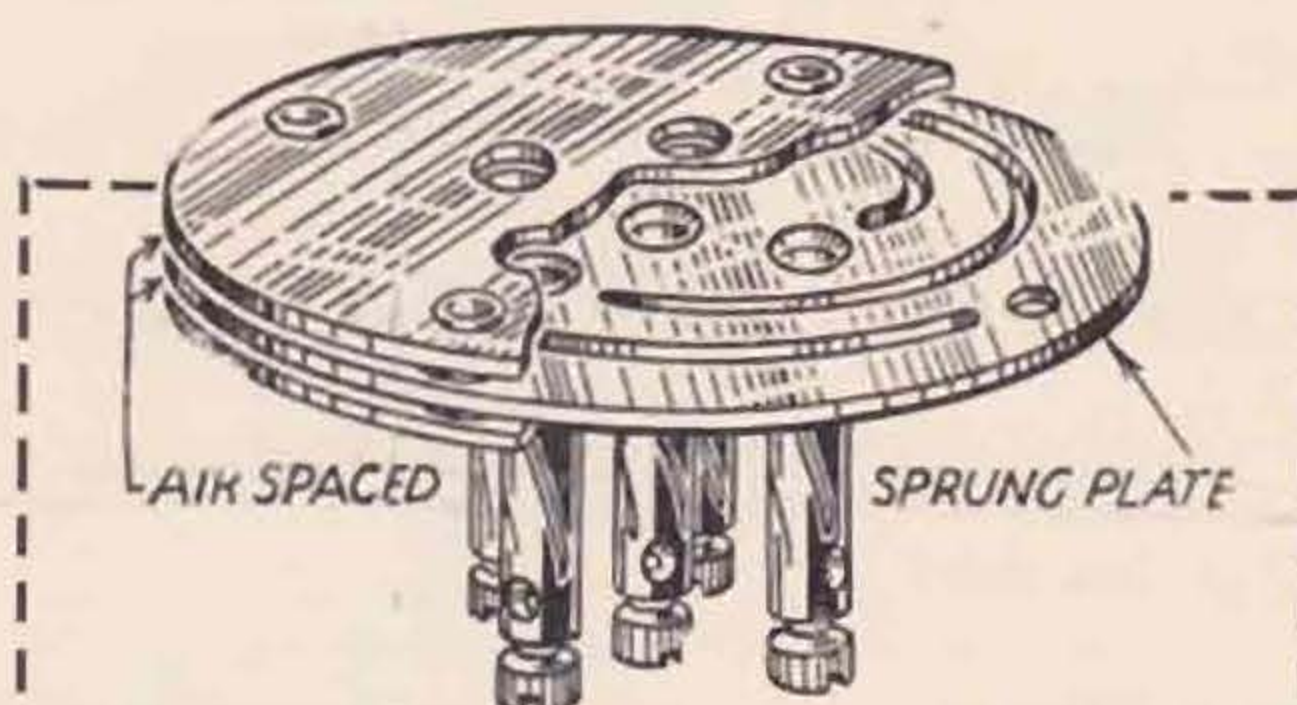
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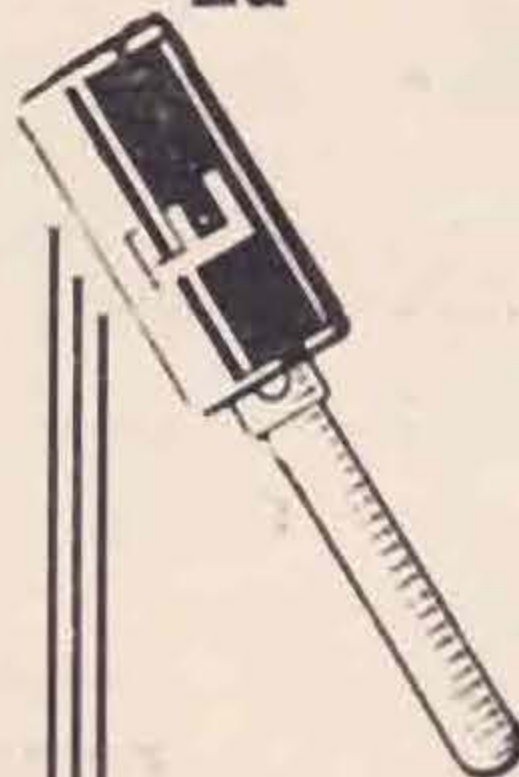
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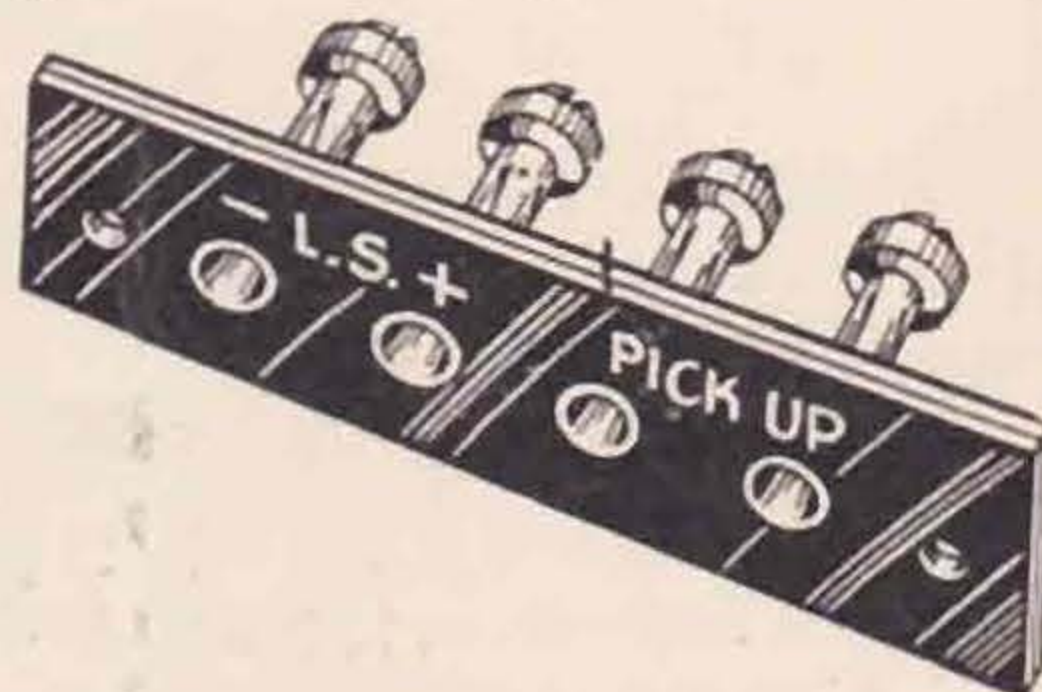
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APPLICATION FORM.

The Secretary,

Sir,—I beg to make application to be enrolled as a member, and shall be obliged if you will submit my name to your Council. I agree, if elected, to act and abide by the Rules of the Society as expressed in its Articles of Association and By-laws.

Signature.....

Name in full (please use Block Letters)

Address (to which all communications may be sent)

Nationality..... Age (if under 21).....

Call Sign.....

NOTE.—Members not having Call Signs are allotted B.R.S. (British Receiving Station) or B.E.R.S. (British Empire Receiving Station) Numbers, which are used for identification purposes only.

Proposed by.....

NOTES.—Applicants who do not know any member may accompany their forms by references in writing by persons to whom they are known. Such persons should be householders, and should state profession and length of acquaintance with applicant.

The Council reserve the right to refuse any application without reason.

UNDERTAKING TO BE SIGNED BY APPLICANT.

I, the undersigned, agree that in the event of my election to membership of the INCORPORATED RADIO SOCIETY OF GREAT BRITAIN, I will abide by and observe the Rules, Regulations and Articles of Association of the Society, and that in the event of my resignation from the Society given under my hand in writing, I shall, after the payment of all arrears which may be due by me at that period, be free from this obligation. I further agree to observe strictly the terms of any licence issued to me by the responsible authorities to operate transmission or receiving apparatus.

Witness my hand this.....day of..... (signed).....

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Associates are not eligible to vote or receive individual notices of the Society.

Certificates of Membership and copy of the Articles of Association are issued to all Corporate members upon election.

NO ENTRANCE FEE.

A copy of the Articles of Association may be inspected at the Headquarters of the Society, 53, Victoria Street, London, S.W.1, by applicants upon request.

FOR OFFICE USE ONLY.

Approved by Council.....

B.(E.)R.S. Number issued.....First Subscription Paid.....

THE INCORPORATED RADIO SOCIETY OF GREAT BRITAIN

AND THE BRITISH EMPIRE RADIO UNION

53, VICTORIA STREET, LONDON, S.W.1. (PHONE: VICTORIA 4412)

PATRON: H.R.H. THE PRINCE OF WALES, K.G.

R.S.G.B. CALENDAR.

Unless otherwise announced, all meetings are held at the Institution of Electrical Engineers, Savoy Place, W.C.2 commencing at 6.15 p.m. Tea is served at 5.30 p.m.

September 29. "Experiments with Portable 56 mc Apparatus," by R. H. Hammans, Esq., G2IG.

October 20. "Technique in Valve Manufacture." By Stephen de Laszlo, Esq., B.A. (Director High Vacuum Valve Co.).

November 24. "The Magnetron Oscillator for Very High Frequencies," by Eric Megaw, Esq., B.Sc. (Research Laboratories, General Electric Co.).

December 29. Annual General Meeting, followed by a lecture "Transmitting Valves for Amateur Needs," by L. Grinstead, Esq., (Transmitting Division Mullard Wireless Service Co.).

OFFICERS FOR THE YEAR 1933

President: H. BEVAN SWIFT (G2TI)

Acting Vice-President - - - - - A. E. Watts (G6UN)
Honorary Treasurer - - - - - E. Dawson Ostermeyer (G5AR)

COUNCIL

A. W. Alliston (G5LA), J. D. Chisholm, (G2CX), J. J. Curnow (G6CW), E. A. Dedman (G2NH), A. D. Gay (G6NF), J. W. Mathews (G6LL), H. C. Page (G6PA), Capt. G. C. Price (G2OP), T. A. St. Johnston (G6UT), G. W. Thomas (G5YK), J. C. Watts (BRS246), H. V. Wilkins (G6WN).

Secretary: J. CLARRICOATS (G6CL).

All correspondence should be addressed to The Secretary (or other officer concerned), The Radio Society of Great Britain, 53, Victoria Street, London, S.W.1. Insufficiently addressed letters may be considerably delayed.

THE T. & R. BULLETIN

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Honorary Editor:—

H. Bevan Swift (G2TI)

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Advertising Manager:—

Horace Freeman, Esq.

No. 3

CONVENTION AFTERTHOUGHTS

OUR Eighth Convention, which has just passed, will be remembered as an unqualified success. We were particularly pleased to welcome so many provincial members, in spite of the prediction that the prevailing bad times would seriously deplete the attendance.

Our stand at Radiolympia was again well patronised, and, as usual, became the centre of attraction for all interested in Amateur Radio. London and provincial members vied with one another in acting as amateur salesmen of society literature, and we must here make some comment regarding the new handbook, "A Guide to Amateur Radio." Less than five years ago our only propaganda literature was a little fourfold leaflet outlining our aims and objects, but to-day, thanks to the splendid efforts of several well-known members, we are able to offer to the public a 50-page booklet which is guaranteed to persuade the most junior enthusiast that Amateur Radio is *the* hobby to follow. The cost of producing this book has been high, which has necessitated the charging of a small sum per copy, but we are convinced that the 2,000 odd persons who have so far bought it have not begrudged the six coppers demanded. All members are urged to apply to Headquarters for copies for themselves and their friends.

An outstanding feature of the Convention dinner was the excellent speech made by Mr. Hugh Pocock, Editor of *Wireless World*. The main theme of his talk centred around a suggestion that we amateurs should devote more of our time to the study of the problems surrounding television. We know, all of us, that DX work and contests hold a good deal of our attention, but we agree with Mr. Pocock, that it is time a halt was called. Urgent and important work lies before us, and now is our opportunity to prove our worth.

Already several members are interested in television; in fact, a Contact Bureau group actually exists; therefore, it should not be difficult to organise experimental activity on a sound basis.

The whole world is waiting for the perfect system of television, and whilst we note with pleasure and interest, that great improvements have recently been effected by the commercial concerns, we consider the real problems are far from solved. It has been our belief for some years that the ideal system will be attained, without the assistance of such mechanism as the synchronised scanning disc and revolving mirror, a view which, we understand, is now held by the sponsors of most mechanical systems.

Those who have studied the subject assert that in the human eye the field of vision is broken up into minute patches, each containing an optic cell which communicates its section

(Continued on page 79.)

CONVENTION, 1933.

BRIGHTER and Better was the unanimous vote of the two hundred odd members who gathered in London during the week-end August 18-20, to take part in our Eighth Annual Convention.

The Conversazione.

Experience gained during the past few years led us to the conclusion that the vast majority of visitors to London look forward in the main to those periods of Convention when personal contact is possible with new and old friends. With that knowledge in mind we decided to dispense with the somewhat formal lecture theatre meeting at the Institution of Electrical Engineers on the Friday evening, substituting in its stead a *Conversazione* at Maison Lyons, Shaftesbury Avenue. Here, from 5.30 onwards, close on 200 London, Provincial, B.E.R.U. and overseas members gathered to talk of many things, and to regale themselves from the excellent running buffet, which was provided. Just after 6.30 p.m. our President gave a short address of welcome and mentioned that arrangements had been made for "five-minute talks" to be given by members.

Several other members had come prepared to speak on various subjects, including Mr. Charman (G6CJ) and Mr. Moxon (G6XN). (Mr. Hamilton (G5JH) forwarded a paper dealing with propagation problems which we hope to publish shortly). Owing to the congested conditions of the room, coupled with the fact that its acoustic properties left much to be desired, it was decided at 8.30 p.m. to convert ourselves into a cinematograph audience!

Through the kindness of Mr. Stockton and the Finchley Cinematograph Society, three films of interest were shown. The first two, made by Dr. Marston (G2PD), pictured the District 3 visit to Rugby and the winning of the B.E.R.U. Senior Trophy by Mr. F. Miles (G5ML), whilst the third film, taken by Mr. A. E. Watts (G6UN) during the Madrid Conference, gave us glimpses of Spain from many angles.

Later the gathering broke up into small groups, and, judging by the QRM from a certain table, we assume that a "war" was in progress to decide whether the phrase "you call 'em, we raise up" originated in South London or in Birmingham!

Present with us that evening were Lieut. Cole



EIGHTH CONVENTION GROUP, AUGUST 19, 1933.

Front row, left to right: G6UT, 2CX, 6CW, 6WN, BRS246, 5VM, 6FO, 6WY, 6CL, 5AR, 2TI, 6UN, 6PY, 6LI, VS6AH, 6LL, 5SY, 5SL, 5QV. G5ML is between 5VM and 6FO; G2NH is between 6FO and 6WY; G6PP is in front of 5QV; G5YK is immediately behind BRS246.

Mr. H. A. M. Whyte (G6WY), commenced the series by telling us briefly how amateurs in the densely crowded South London district are able to carry out effective work on the amateur bands. A lively discussion followed!

Mr. C. H. Chorley (G5YH) enlightened us on matters relative to valve efficiencies, whilst Mr. J. Davies (G2OA) outlined a method of obtaining frequency stability on ultra short waves. Mr. A. T. Mathews (G5AM late BRS497) gave us his views on the "Ionosphere," whilst Mr. E. N. Adcock (G2DV) had some interesting things to say on the subject of receivers. We saw "Uncle Tom" "wisibly wilt" when a reference was made to his "one valve wonder."

(SUIEC of Cairo), Capt. Trewin (VQ5NTB of Uganda), Mr. Earle (VS1AB of Singapore), Mr. Vyvyan (ZS5R of Natal), and last, but by no means least, Mr. George Merriman (VS6AH of Hong Kong).

Those of us who have been privileged to read his technical and editorial contributions to "DX" no doubt wondered what his thoughts were during this, his first meeting with the G ham *en masse*. We shall await his return to Hong Kong with interest, if only to read those impressions in "DX."

SUIEC was the centre of a group who were bent on discovering the why and wherefore of a location which he seems to have made "super good"! We felt sorry for him, however, when he was introduced

later in the week to AC8JS, for the latter informed him that his signals were consistently R8 in Shanghai at a time when he could not raise the Far East!

We have no accurate record of the time when the *Conversazione* finally ended, although vague rumours reached us that it was continued until the wee small hours of Saturday in spots that are distinctly bad for DX; neither do we know whether the debatable point concerning the presence or otherwise of cherries in a certain cocktail has been solved, but we met one man who produced a pocketful of sticks as evidence of their existence!

Summing up the experiment of organising a *Conversazione* instead of a formal lecture, we are satisfied it was a complete success, except for the bad acoustic properties of the room. What are your views OM?

Delegates' Meeting

Saturday, August 19, broke fine and warm, and by 10.15 a.m. some 25 members of Council and delegates were present at the I.E.E. to discuss matters of general interest. The full roll call was as follows:—*Council*: Messrs. H. Bevan Swift, A. E. Watts, J. C. Watts, J. C. Curnow, J. W. Mathews, and G. W. Thomas. *Delegates*: Messrs. Parry, Desmond, Stollery, Forsyth, Wilkins, Whyte, Livesey. *Deputies*: Messrs. Davies, Sydenham, Fereday, French and Allen. *C.R.'s*: Messrs. Exeter and Clarke. *Visitor*: Mr. G. Merriman. Mr. J. Clarricoats (Secretary).

In opening the meeting the President explained that in order to save time all D.R.'s had been asked to forward an annual report to H.Q. in advance, so that the Secretary could present a résumé of the activity of the whole country.

Mr. Clarricoats then read extracts from each report, the more important items of which are reproduced herewith.

District 1.—No report received.

District 2.—Sub-managers have been appointed in most of the large towns. An enthusiastic club has been formed in Newcastle. The Middlesbrough area meetings cater for those members on the Durham side of the Tees, whilst the Newcastle meetings cater for the Durham members across the Tweed. Interest in 56 mc. work has been considerable, with Bradford the main centre. A club exists in this town and has a large membership. Activity in Leeds and Sheffield has been quiet.

District 3.—Warwickshire, which includes Birmingham, has been the centre of activity. N.F.D. was not as well supported as other contests. M.A.R.S., the local society, has made good progress.

District 4.—No report.

District 5.—Membership, although slightly lower in members, is more stable. The C.R.'s, G2BI and G6QW, have rendered splendid service. The district were gratified to learn that the Wortley Talbot Trophy had been won by a Bristol member, Mr. L. Hill. The letter budget continues to be a distinct success. Field days have been well supported. R.N.W.A.R. has made a good progress in parts of the District, but support from Bristol has been poor. All Society contests were well supported.

District 6.—No report.

District 7.—Good progress has been made throughout the District. Contests and field days have been well supported. 56 mc. work has provided

many interesting days in the open air. The letter budget run by G6GZ is believed to be one of the best in the country. Interest in 1.7 mc. work is likely to increase this winter.

District 8.—No report.

District 9.—Interest has been well maintained on all bands, and a very successful *Conventionette* held during the summer. The R.N.W.A.R. is making good headway in Clacton and Southend.

District 10.—In spite of difficult trade conditions and a scattered area the progress made has been well up to expectations. Sub-representatives have been appointed in outlying towns and good support given by the C.R.'s. Regular meetings are held in Swansea, Newport and Cardiff. Assistance to local societies and the Social Service Council has been rendered. N.F.D. was well supported, as was the *Conventionette*. Activity is reported on all bands. Support for Contact Bureau and R.N.W.A.R. is, however, rather poor, in spite of efforts made by the D.R. and other interested members.

A demand for more practical articles in the BULLETIN was voiced. The question of D.R. appointments should be examined.

District 11.—No report.

District 12.—Monthly meetings have been well supported, but little interest is shown in organised tests. The letter budget continues to be a success. G5SL has continued local morse practices. Interest in 56 mc. work has been shown by many members.

District 13.—The District is active on all the DX bands, and also on 56 mc. The recent Crystal Palace tests undoubtedly aroused national enthusiasm. A successful letter budget has been run by G6QB. The S.L. & D.T.S. continues to attract a good gathering of members each month.

District 14.—Monthly meetings have been well attended and good support given to field days. Arrangements will be made shortly to include members living in the neighbouring South Essex towns to join in with No. 14 District activities. An Anglo-Dutch field day was well attended.

District 15.—Monthly meetings have been held throughout the year and good attendances reported. A letter budget organised by G6YK has provided much interest. Assistance to the National Institute for the Blind has again been rendered. Tests have been well supported and much pioneer work carried out on 56 mc.

District 16.—No report. Mr. Whyte gave a short verbal report of his District's activities.

District 17.—Membership has steadily increased and activity has been high on most frequencies. Interest has been shown towards work on 28 and 56 mc. and good results obtained, especially on the former band. High quality signals are reported from all stations.

A suggestion to arrange some form of contest designed to promote Empire contacts was tabled.

There is no special interest in the R.N.W.A.R., but contests have been well supported. N.F.D. was a success. A recommendation was made to the effect that better methods should be adopted in connection with contest scoring. Local meetings have been held in Yorkshire, but owing to many difficulties it has not been possible to arrange similar gatherings south of the Humber. Views were given on the question of A.A. licences and local complaints.

Scotland.—Good progress was reported and an analysis given of the "turn-over" of members. All contests were well supported and much enjoyed.

Consolidation of the District organisation has received careful attention. All Districts now elect their D.O. as from January 1 each year. Periodic meetings are held in each of the four Districts. A résumé of the month's activities is sent by the Scottish Manager to each D.O. This is circulated later to the membership.

B.R.S. and A.A. men are being well "nursed," and no fewer than 10 A.A.'s have now taken out full licences.

At the conclusion of the reports discussion took place on several points.

It was decided to draw up a complete list of forthcoming Conventionettes spreading them out over a longer period than in former years. The list of dates and probable venues are as follows:—

the old scheme had to be appointed by Council, as no nominations had been received. D.R.'s, it was explained, are the representatives of Council in the Provinces, and must, therefore, be men whose capabilities are well known. To allow the membership to make the appointments might conceivably result in quite unsuitable people being elected; in fact, a person could be put into office as the result of a single nomination from a person with no knowledge of amateur activities. Council were, however, completely in agreement with the suggestion that C.R.'s and responsible members should have the right to recommend D.R.'s, and a notice to that effect had already appeared in the June BULLETIN.

A scheme whereby additional interest would perhaps be aroused amongst keen experimenters was tabled by Mr. T. P. Allen. After some discussion it was agreed to place the proposal before



WHICH WILL BE YOURS NEXT YEAR?

The first photograph of our Senior, Junior and Receiving B.E.R.U. Contest Trophies. Miniatures are presented to all winners as a perpetual memento of their success.

- | | |
|----------|--------------------------------------|
| District | 1.—June 3, Chester or Manchester. |
| " | 2.—July 1, Leeds. |
| " | 3.—March 18, Birmingham. |
| " | 4.—July 15, Nottingham or Leicester. |
| " | 5.—May 6, Bristol. |
| " | 6.—April 15, Plymouth or Torquay. |
| " | 7.—April 22, Guildford. |
| " | 8.—March 4, Cambridge. |
| " | 9.—June 17, Southend. |
| " | 10.—April 8, Newport. |
| " | 11.—Combined with No. 1. |
| " | 16.—Combined with No. 9. |
| " | 17.—October 28, Hull or Grimsby. |

Mr. Stollery agreed to act as D.R. for Norfolk and Suffolk owing to the difficulty in obtaining a D.R. who could cover these counties. It was agreed to consider the formation of a new District to cover Bucks, Beds., Cambs. and Herts.

A recommendation was made to publish a list of C.R.'s in the BULLETIN at quarterly intervals.

Discussion arose around Mr. Forsyth's suggestion that D.R.'s should be either elected or selected by the C.R.'s. It was pointed out that from past experience the membership was apathetic towards elections consequently the majority of D.R.'s under

Council, and, if approved, give publicity to it via the T. & R. BULLETIN. The scheme is mentioned again under the Business Meeting report.

The question of what steps should be taken to arrest "piracy" was discussed, and certain decisions reached. A criticism of the Editorial which appeared in the August issue of the BULLETIN was made by Mr. J. W. Mathews (G6LL). No other question of policy was discussed, although several matters mentioned by the D.R.'s in their reports were informally dealt with.

The meeting closed at 12.45 p.m.

Visit to High Vacuum Valve Company.

Due to the kindness of Mr. S. de Lazlo, some 25 members in charge of Mr. L. Wilkins (G6WN) were given an opportunity of inspecting the works of the above-mentioned company on Saturday morning, August 19. All those who were fortunate to attend expressed their interest in the visit.

An anonymous contribution from a member who was present will be found elsewhere in this issue.

Delegates' Luncheon.

At the conclusion of the morning meeting an informal lunch was given to the delegates at Slater's Restaurant, Strand.

Photograph.

Someone mentioned to us last year that if our numbers continue to grow the I.E.E. authorities will be required to enlarge the "floor space" outside their building. Well, our numbers still increase, but the guile of our photographer seems to be unbounded, because, although nearly 150 heads appear this year, we all managed by dint of much "jamming" to get into the picture. As a record of our progress, Convention photographs are always well worth while, and we would urge all who can afford the few shillings to order a copy of the group. In ten years it will have become a valuable souvenir of your early (or late) ham life. Full details in connection with the placing of orders will be found under *Hic et Ubique*.

The Afternoon Meeting.

Uncle Tom—we nearly said "Cobbleigh and all"—has prodded us from time immemorial on the efficacy or otherwise of Convention Business Meetings, but in spite of his criticisms these meetings do give us an opportunity of obtaining outside views on topics of interest. Policy, we admit, except in a very general sense, cannot be tackled, but there are many other matters which affect our progress.

Messages of Greeting.

However, before reporting upon the business side proper, we must refer to the many messages which were received from absent friends at home and abroad. By radio came greetings from VQ4CRL, ZD2A, VQ3MSN, VU2JB and ZE1JE.

Commander Saunders, R.N., Mr. Wyllie (G5YG), Mr. Alan Smith (G6VP), Mr. Young (G2AK) and Mr. Vaughan Williams (G6IW) were others who joined in wishing Convention and the Society every success.

Presentation of Awards.

Then, too, a word must be said about the presentation of Awards and Certificates of Merit. We doubt whether more than half-a-dozen members outside Headquarters realise that at the present moment we have trophies valued at over one hundred pounds awaiting to be won each year. With the exception of the B.E.R.U. Senior and Junior Trophies, and the Powditch 28 mc. awards, our whole regalia was on show during the afternoon, and although some little disappointment was felt at the absence of two of the Scottish Cup winners, we are sure the applause which greeted Mr. S. A. French (G6FN) (himself the winner of the 1.7 mc. contest) when he accepted the awards and certificates on behalf of Messrs. Wyllie and Stove will remain a memory with him for some while. Messrs. J. Hunter (G2ZQ), L. Hill (2AGM), A. Forsyth (G6FO) and E. N. Adcock (G2DV) were with us in person to receive from the President the Rotab, Wortley Talbot, Courtenay Price and B.E.R.U. Receiving Trophies respectively, whilst most of the certificate winners were also present.

The N.F.D. award, not having been completed, will be awarded to District 15 at the Annual General Meeting.

Business Meeting.

Here follows a brief summary of the matters discussed during the Business Meeting.

1. The report of the Delegate Meeting was read by the Secretary. Conventionette dates were announced and mention made of the scheme proposed by Mr. T. P. Allen (GI6YW), whereby

the usefulness of C.B. may be extended. The scheme aims at formally recognising those members who have contributed in a practical manner to the science of amateur radio.

Mention was made of the D.R., C.R. scheme, and the members advised that Council are always prepared to accept the views of experienced members when considering new D.R. appointments. Nomination forms for new C.R.'s appear in this issue of the T. & R. BULLETIN.

Other points from the D.R.'s reports were mentioned.

2. The dates of future Contests were announced, and are as follows:—

The 3.5 mc. Contest (Transmitting and Receiving), November 4, 5, 11 and 12, 1933.

The 1.7 mc. Contest (Transmitting and Receiving), January 7, 8, 14 and 15, 1934.

The B.E.R.U. Contests, February, 1934.

The Low Power Contest, March 3, 4, 10 and 11, 1934.

The Second N.F.D., June 10, 1934.

The rules for the 3.5 mc., 1.7 mc. and Low Power Contests were read, but it was pointed out that the Awards Committee were agreeable to effect modifications, especially in the direction of scoring systems.

Considerable discussion arose on this point during which Messrs. Corsham, L. H. Thomas, Milne, Adcock, Walters, Kellett, Dedman, Jackson, Davies, and others contributed views.

Messrs. Milne and Davies recommended that for local contests code words should be exchanged, but it was pointed out that extreme difficulty would be experienced in checking entries.

At the conclusion Mr. St. Johnston, on behalf of the Awards Committee, stated that the various suggestions would be kept in mind, and carefully examined before the final rules were published in October.

3. Mr. A. E. Watts outlined the method of scoring which it is proposed shall be used during the next B.E.R.U. Contests, and illustrated his remarks by displaying a table (which had been prepared by VQ4CRL and G6LI) showing the number of points to be claimed for contacts between each and every part of the Empire. Mr. Parry (G6PY), supported by Mr. E. R. Cook, pressed for a revision of the Zone system. Mr. Parry pointed out that during the last contest British stations were more anxious to score from VK or ZL contacts than from nearer Empire stations. The Zone scheme in a modified form would, he thought encourage more general working. It was decided to consider the rules along these lines with a view to granting a definite number of extra points for each "prefix worked."

4. Methods of rendering assistance to non-transmitting members were mentioned by Messrs. Corsham, Milne, Kellett and L. H. Thomas, and attention directed to the new "Guide to Amateur Radio" recently issued.

5. Mr. Milne (G2MI), as official BULLETIN draughtsman, outlined suggestions which, if duly noted, should result in considerable time being saved in the preparation of blocks.

6. Mr. Chisholm drew attention to the sterling work which had been carried out by Mr. G. W. Thomas (G5YK) during the time he had served as Honorary Editor of the T. & R. BULLETIN.

He therefore proposed, and Mr. Dedman seconded, that "this meeting pass a cordial vote of thanks to Mr. G. W. Thomas." The motion was carried amid sustained applause.

Mr. Thomas, in thanking the meeting, asked that the members of his Editorial staff should be included in the expression of appreciation.

The meeting closed at 4.30, when tea was served.

The Dinner.

No Convention would be complete without a dinner, least of all an Amateur Radio Convention. Acting on suggestions from local and provincial members, Headquarters set about the task of finding a more suitable venue for this event than that chosen in previous years. That their choice was successful can be judged by the numerous letters and words of appreciation which have reached us recently.

The Florence Restaurant was the venue and right well were we catered for at the modest price of five shillings a head.

Over 150 members sat down under the chairmanship of Mr. H. Bevan Swift (G2TI), our President, and we had as distinguished guests Dr. E. H. Rayner, of the N.P.L., Mr. Hugh Pocock, Editor of *Wireless World*, and Lieut.-Commander W. S. Mann, R.N., Secretary, R.N.W.A.R. Committee.

In proposing the toast of the Society at Home, Mr. Pocock referred to the splendid work carried out by members in the early days of short-wave transmission, and recommended that greater attention should be given by the present membership to the problems surrounding television. He considered that the Post Office authorities would welcome applications from members desirous of experimenting on television problems, using ultra short wave-lengths, and he was convinced the manufacturers would appreciate assistance in that direction. In replying, Mr. Clarricoats thanked Mr. Pocock for the cordial manner in which he had proposed the toast and endorsed his views that much useful work can be achieved by the transmitting amateur interested in television. He considered that in the near future it would be possible to transmit television programmes over long land lines to ultra short-wave Televisor Exchanges, located in small towns where reception was now impossible, owing to the fading of medium-wave transmissions. Experimental work in this direction could be undertaken by amateurs as the power required to cover these small service areas would be well within the capabilities of many. Co-operation with the Post Office would, of course, be essential.

The Secretary announced that the membership was now within a few of 2,000, and expressed the hope that the new "Guide to Amateur Radio" would go a long way towards introducing amateur work to many keen radio enthusiasts.

The toast of the Society Overseas was ably given by Mr. Arthur Watts (G6UN) (President Elect). He drew attention to the many projects in which the B.E.R.U. had been interested, including the Kingsford-Smith and South African flights, and mentioned that in several instances useful help and advice had been given to groups of members overseas, in connection with the issuance of licence facilities. He reported that the B.E.R.U. membership was now over 400, and included practically every well-known overseas amateurs.

Lieut. Cole (SU1EC) replied, and gave some interesting opinions on the value of overseas co-operation with the Home Society. On behalf of the B.E.R.U. members present and abroad, he thanked Mr. Watts and the home members for the many kindnesses shown to himself and his colleagues. He told a little story about the "blue" which space will not permit us to reproduce!

The toast of "Our Visitors" was proposed by Mr. Austin Forsyth (G6FO), who in well-chosen words expressed the Society's appreciation to those gentlemen present who, although visitors, were in every sense closely connected with the amateur cause. He drew attention to the valued work performed by Dr. Rayner at the N.P.L., especially in connection with frequency standards. Mr. Pocock's position as Editor of the oldest radio journal in this country was held in high regard by all amateurs, whether old or new, whilst the work of the new R.N.W.A.R., the birthday of which we were then celebrating, owed much of its success and achievement to Commander Mann.

Commander Mann, in reply, thanked the Society for the tremendous assistance its officers and members had given to the Admiralty since the Reserve was first mooted, and gave a brief résumé of its progress.

Dr. Rayner joined Commander Mann in expressions of appreciation, and in an excellent speech gave an outline of the activities of amateur interest which are being undertaken at Teddington. The value of accurate frequency measurement was made abundantly clear by our distinguished Vice-President.

In words sincere and earnest Mr. Arthur Watts proposed the toast of our President. His many attributes he said, were well known to us all, but he was anxious that the gathering should realise how much the Society has depended for years upon Mr. Swift. As originator of the BULLETIN and Conventions, his name will live long in the memories of all who have been associated with him.

Mr. Swift, in reply, referred to his retirement from the Presidential office at the end of the current year, but said that his interest in the welfare of the Society would never fail. He referred to the co-operation given by his colleagues at Headquarters, and expressed a hope that this support would be given to his successor.

Mr. Swift was accorded musical honours and vociferous applause at the conclusion of his speech.

During the evening an excellent musical programme arranged by Mr. G. Ceci was given. The witticisms of Mr. Jock Walker, and the well-sung duets and solos rendered by Mr. Ceci and Miss Ruby Shepherd, were encored time and again. Miss Dorothy Holden was the accompanist, and livened the early proceedings by giving rollicking choruses.

The Surprise Item.

The Secretary, in introducing the surprise item, explained that some forty well-known manufacturers and publishers had co-operated with him in making the item possible.

Remembering the success of previous lucky number draws, he had approached the leading manufacturers, and invited them to donate goods for inclusion in the draw. He had much pleasure in reporting that through their good offices nearly

£40 worth of goods were now available for distribution.

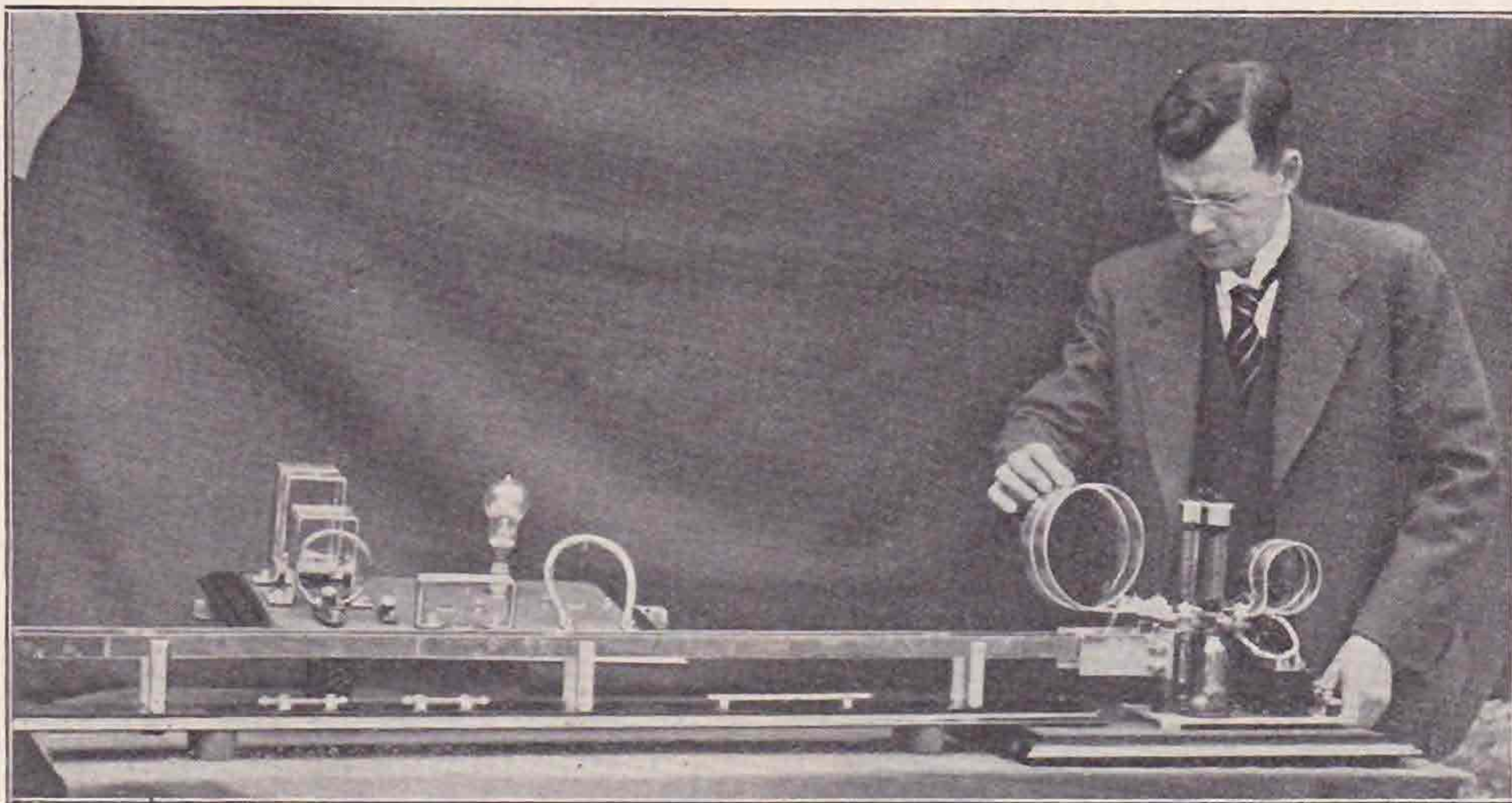
The full list of donors and successful winners were as follows:—Messrs. Celestion, Ltd. (Mr. C. J. Charman), Messrs. Igranic (Mr. C. H. Chorley), Trevor Pepper, Esq. (Messrs. W. C. Gault, H. V. Wilkins and H. W. Sadler), Messrs. Lectro Linxs, Ltd. (Messrs. J. Lees, R. S. Jackson and G. Wells), Messrs. Wilburn & Co. (Messrs. R. S. Jackson and G. Robinson), Messrs. T. C. C., Ltd. (Messrs. W. A. Nokes and M. E. Edwards), Messrs. Belling & Lee, Ltd. (Mr. A. Scott), Messrs. Benjamin Electric Co. (Messrs. W. F. Moore and L. A. Moxon), Messrs. Burne-Jones & Co. (Mr. D. E. Bridges), Messrs. Wilkin & Wright, Ltd. (Mr. A. J. E. Forsyth), Messrs. Westinghouse Brake and Saxby Signal Co. (Messrs. Haas and G. W. Thomas), Messrs. Colvern, Ltd. (Mr. A. G. Hayles), Messrs. Iliffe, Ltd. (Messrs. S. A. French, B. G. Wardman and L. N. Wilkins),

not be complete without some reference to the Society's stand at the National Radio Exhibition, held at Olympia from August 15 to 24.

It is safe to assert that no more popular stand existed in the Exhibition. Every day from 11 a.m. to 10 p.m. it was the centre of interest, not only to the visiting amateur (and over 400 of them signed the visitor's book), but to the layman. Whole pages could be devoted to the questions fired at our assistants, and still more pages to the many interesting personal experiences which were related by those who came to bid us welcome.

Dealing first with the exhibits, pride of place must be accorded to the quasi-optical transmitter, lecher wire system and coil case, built especially for the show by Mr. W. B. Weber, G6QW, of Bristol. The glitter of the silverwork, and the excellent workmanship, brought us many compliments.

Next in importance were the high power crystal-



[Photo by courtesy of "Bristol Evening Post."]

Mr. W. B. Weber, G6QW, with the quasi-optical Transmitter and Lecher system, which was an outstanding feature of the Society's stand at Olympia.

Messrs. R. Martin & Co., Ltd. (Mr. L. Fryer), Messrs. Barnes & Humby (Messrs. W. E. Russell, H. D. Price and N. E. Read), the Dubilier Co., Ltd. (Mr. W. E. Corsham), the Mullard Valve Co., Ltd. (Mr. M. W. Pilpel), the High Vacuum Valve Co., Ltd. (Mr. A. W. G. English), Messrs. Wingrove and Rogers, Ltd. (Mr. P. Johnson), Messrs. Ward and Goldstone, Ltd. (Mr. T. B. Cocking), Messrs. Stratton & Co., Ltd. (Messrs. G. Merriman and E. R. Martin), Standard Telephones and Cables, Ltd. (Mr. C. H. Starr), the Quartz Crystal Co. (Mr. A. O. Milne), the Radio Mart (Messrs. C. A. Reid, B. Costin, F. J. Caton, and L. O. Jones).

Miss N. Corry (G2YL), who was present, assisted in the work of drawing the numbers, a task which was followed with intense interest by all present.

An expression of sincere thanks is conveyed through this medium to all who contributed to the success of the draw.

Stand 201 Olympia.

An historical record of the Convention would

controlled transmitter, described in the June and August issues of the BULLETIN, and the 56 mc. gear used by G6QB, 6NF, 5CV, 6YK and 6JP during the recent Crystal Palace and aeroplane tests. The medium power (25 watts) crystal-controlled transmitter, the low power (10-watt) transmitter, the two-valve receiver, absorption wave-meter, and triode oscillator described in the new pamphlet, were also displayed.

The interest exhibited in the "Guide" was astonishing. Covering as it does almost every angle of short-wave work likely to interest a new or prospective member, we imagined it would have a fair demand, but that we should actually sell at sixpence per copy close on 2,000 copies speaks well for the interest which is being shown in our work.

The stand was manned throughout the duration of the Exhibition by a group of volunteers, whose assistance can best be described as "invaluable."

(Continued on page 78).

PRACTICAL WORK ON 56 MC.

By C. A. SHARP (G6KU).

WORK on 56 mc. appears to have held many attractions for the amateur worker during the past year, with the result that the number of stations experimenting on this band, both in the North and South of England, is increasing rapidly. Endless possibilities present themselves in many directions, and the amateur who wishes to try something a little out of the ordinary is recommended to seriously consider operations on these frequencies.

For local telephony contacts, particularly when work on other bands produces broadcast interference, 56 mc. seems ideal, whilst duplex working, providing the frequencies are slightly separated, is comparatively easy without the necessity of screened receivers or band-pass filters. It is the writer's intention to give a brief outline of the 56 mc. transmitter and receiver used by him in Bradford during the past few months, in the hope that it will interest others who are, or will be, working on this band.

H.F. transformer has been found useful on which to wind the quenching coils. A .002 mfd. condenser is fitted across the grid coil. Several valves have been found to work quite satisfactorily in the detector and quench stages, but the final choices were an S.D.2 and an H.L.210, respectively. Practically any L.F. valve will work well in the output stage. A lead from the grid end of the coil is taken to the bushed terminal at the side of the case, to which terminal an aerial may be connected. The circuit for the complete receiver is shown in Fig. 2, whilst the assembly can be clearly seen from an examination of Fig. 3.

The receiver will oscillate quite smoothly over the tuning scale when an aerial 8ft. in length is connected. If a longer aerial be used it will be found necessary to feed through a small neutralising type condenser, with vanes nearly all out. The rushing sound, which indicates that the super-regenerative circuit is functioning correctly, is controlled by means of the variable resistance in the detector H.T. lead, which is shunted by a 1 mfd. condenser, the control being seen above the tuning dial. This latter operates the grid-tuning condenser, which is of the .00005 mfd. neutralising type.

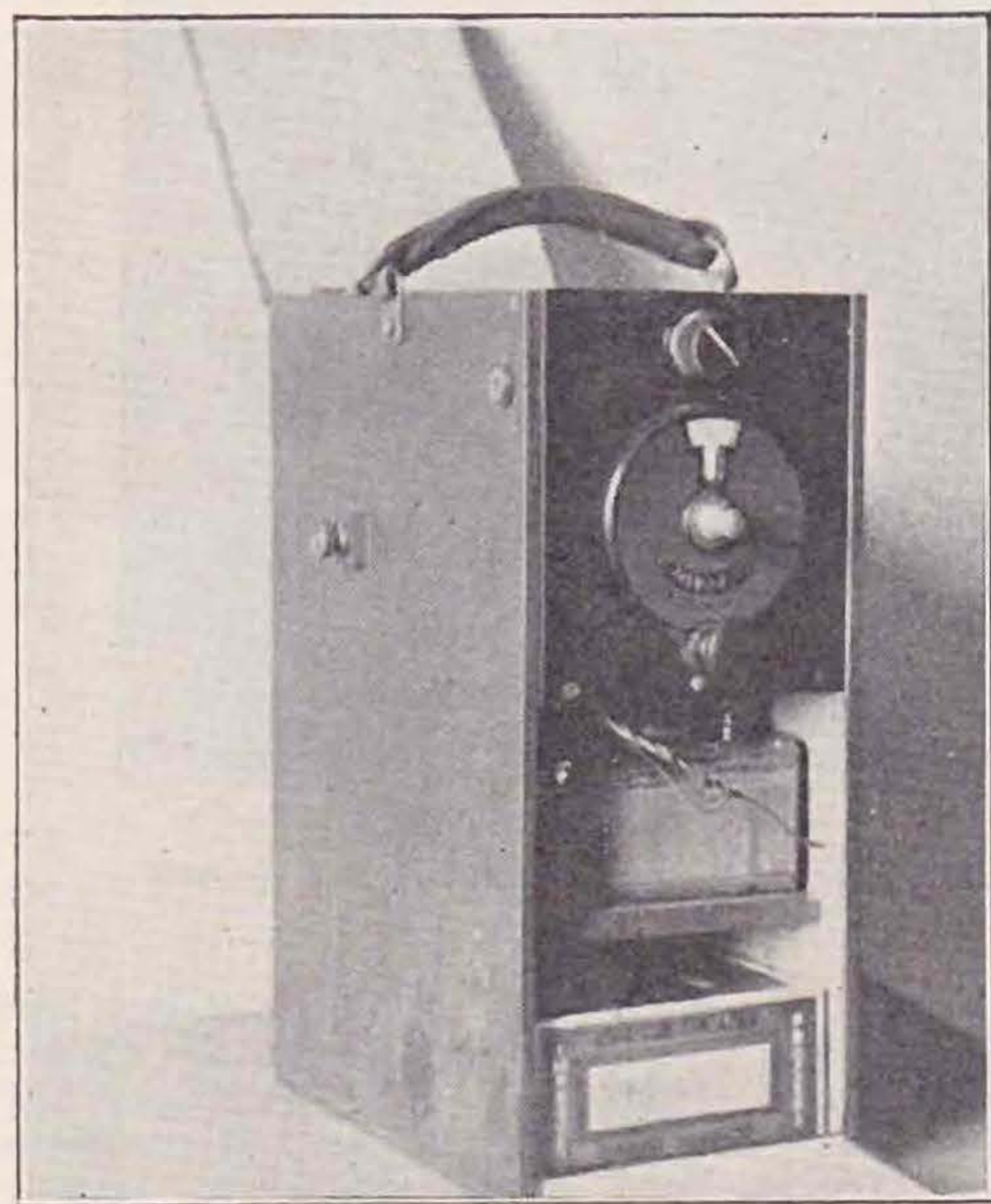


Fig. 1.—Front view of 56 mc. Receiver and Batteries.

The Receiver.

The receiver is of the 3-valve super-regenerative type and was built with the idea of making it compact and portable. Complete with batteries, it weighs about 24 lbs. Shelves are fitted to accommodate a standard 120-volt dry battery, a two-volt non-spill low-tension accumulator and a grid battery. The receiver itself, which is mounted on the top shelf (see Fig. 1) is of conventional design and employs a grid coil consisting of one loop of No. 10 S.W.G. wire 5 ins. in diameter. Chokes have been placed in the H.T. feed to the detector and also in the phone leads, whilst an old barrel type

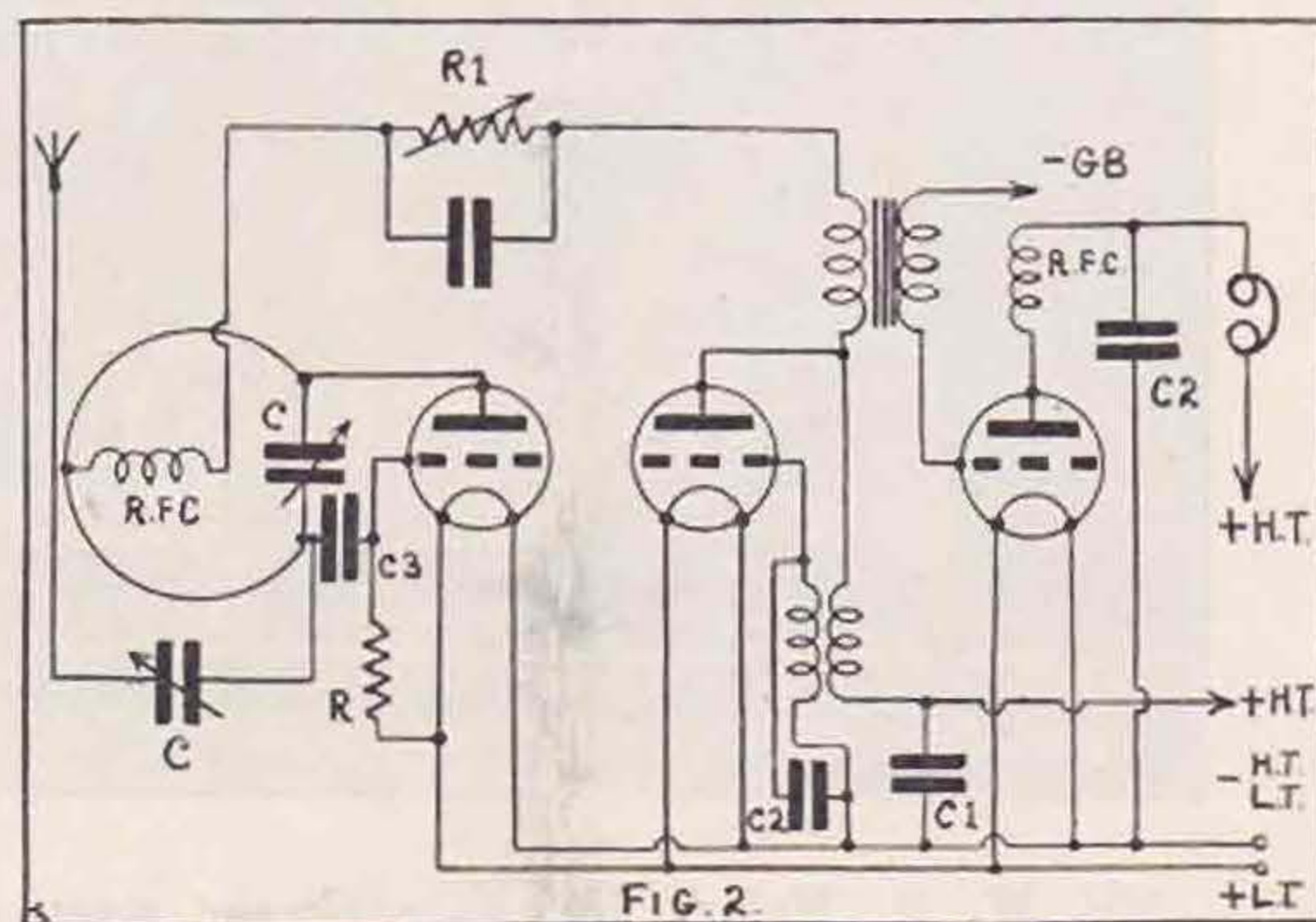


Fig. 2.—Circuit of 56 mc. Receiver used by G6KU.

When a signal is tuned in the rushing noise will disappear if the carrier is of good strength, whilst if it is only weak, the background will be reduced to a proportionate level and the speech or modulated C.W. will be super-imposed.

Adjustment of the series aerial condenser will assist in obtaining maximum signal strength. Tuning should be effected with the super-regenerative circuit working as mentioned above.

The Transmitter.

The transmitter consists of two push-pull oscillators arranged in a conventional circuit and employs SP55 Red Spot valves. These valves have proved very satisfactory, providing the H.T. supply does not exceed 250 volts. The radiation in the aerial is approximately 0.2 amps, as indicated by flash lamp bulbs.

Neutralising condensers are used for tuning the tank circuit, the coils for which are made with No. 10 S.W.G. wire about 6 ins. in diameter, one turn proving sufficient. Small fixed condensers are

connected in series across the filaments, with the centre points earthed as A.C. is used for heating at the home station. The grid circuit is not tuned, the resonant grid system being preferred. The coil consists of 7 turns 1 in. diameter.

The layout of the transmitter is shown in Figs. 4 and 5, and the circuit diagram in Fig. 6.

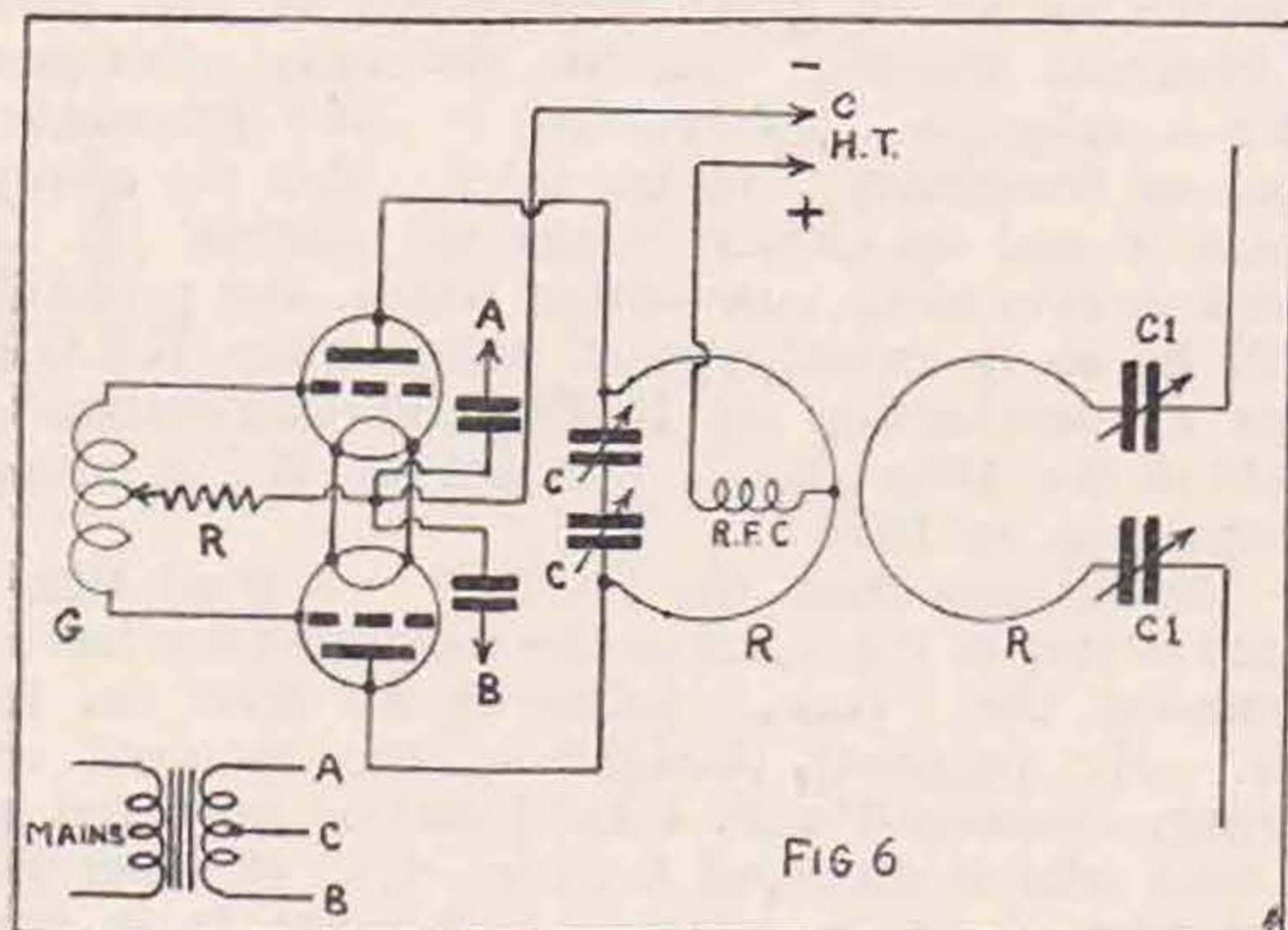


Fig. 6.—Circuit of 56 mc. Oscillator.

When the station is operated at home the oscillators are modulated by a choke control system normally used for work on other bands. This comprises a two-stage amplifier and modulator. For outdoor work the two-stage transformer

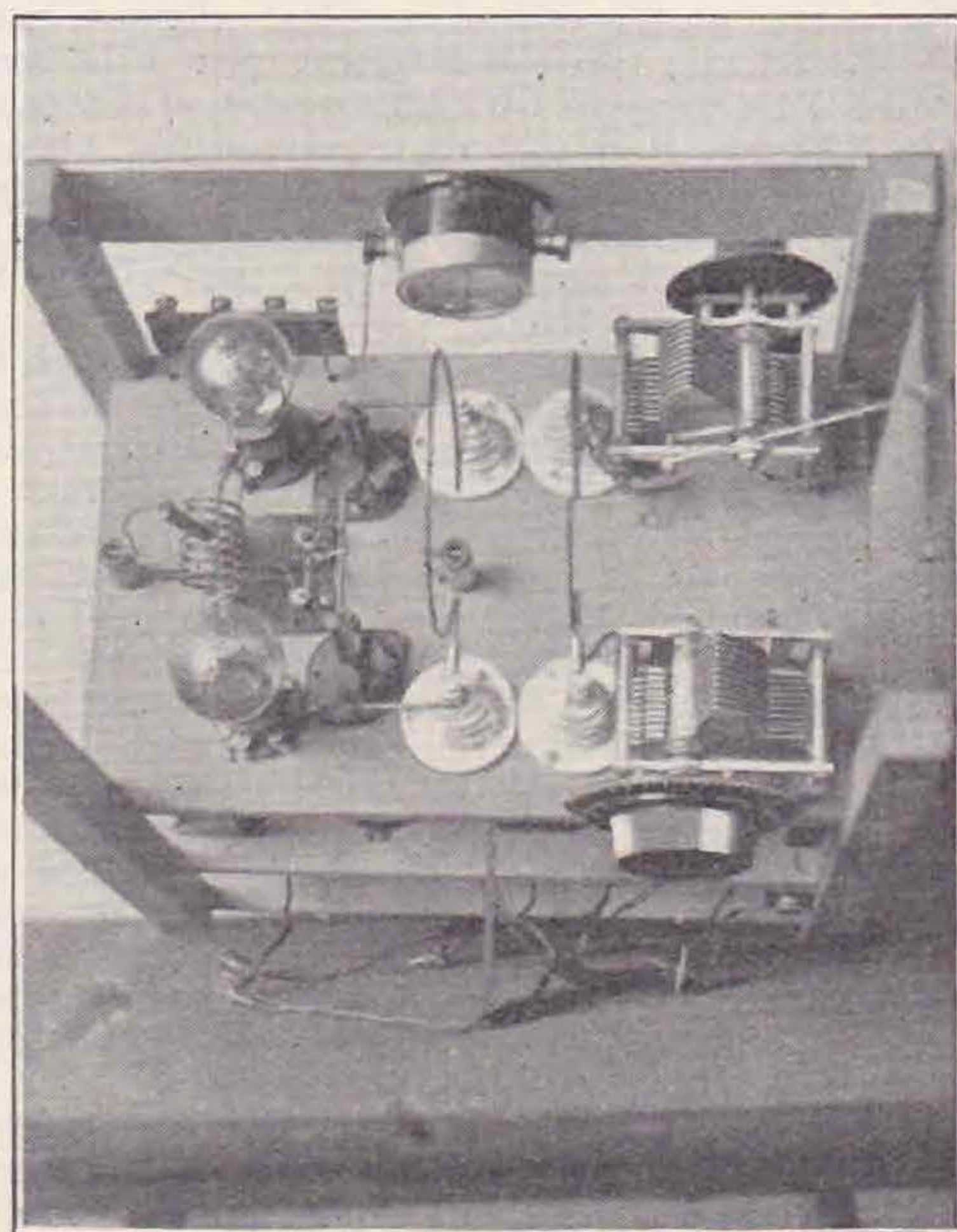


Fig. 5.—Close-up view of Transmitter.

Whilst it is realised that modulating an oscillator in the manner described is not the best practice because of frequency modulation, it has been found that the flat tuning characteristics of the super-regenerative type receiver cover the range of the flutter. Reports on the reception of speech and

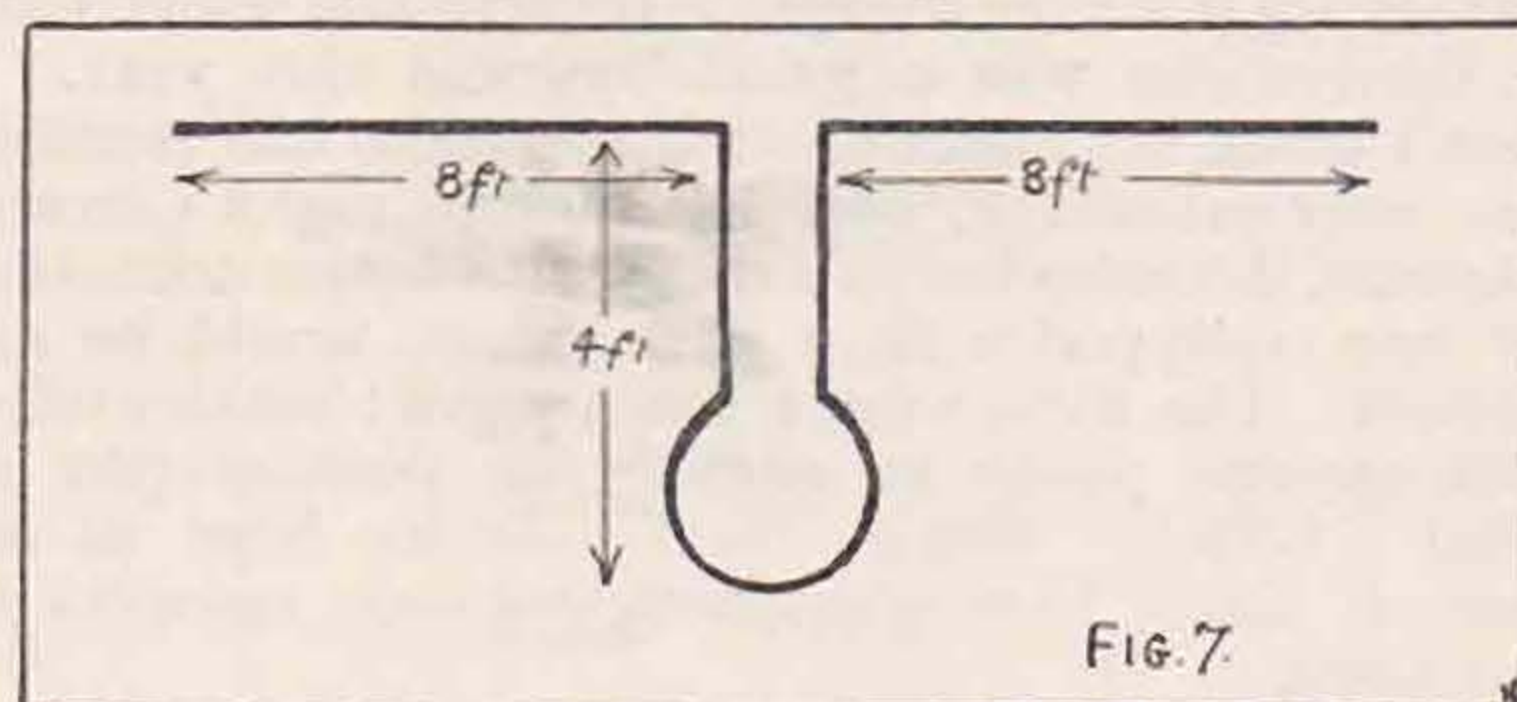


Fig. 7.—Radiator System used by G6KU.

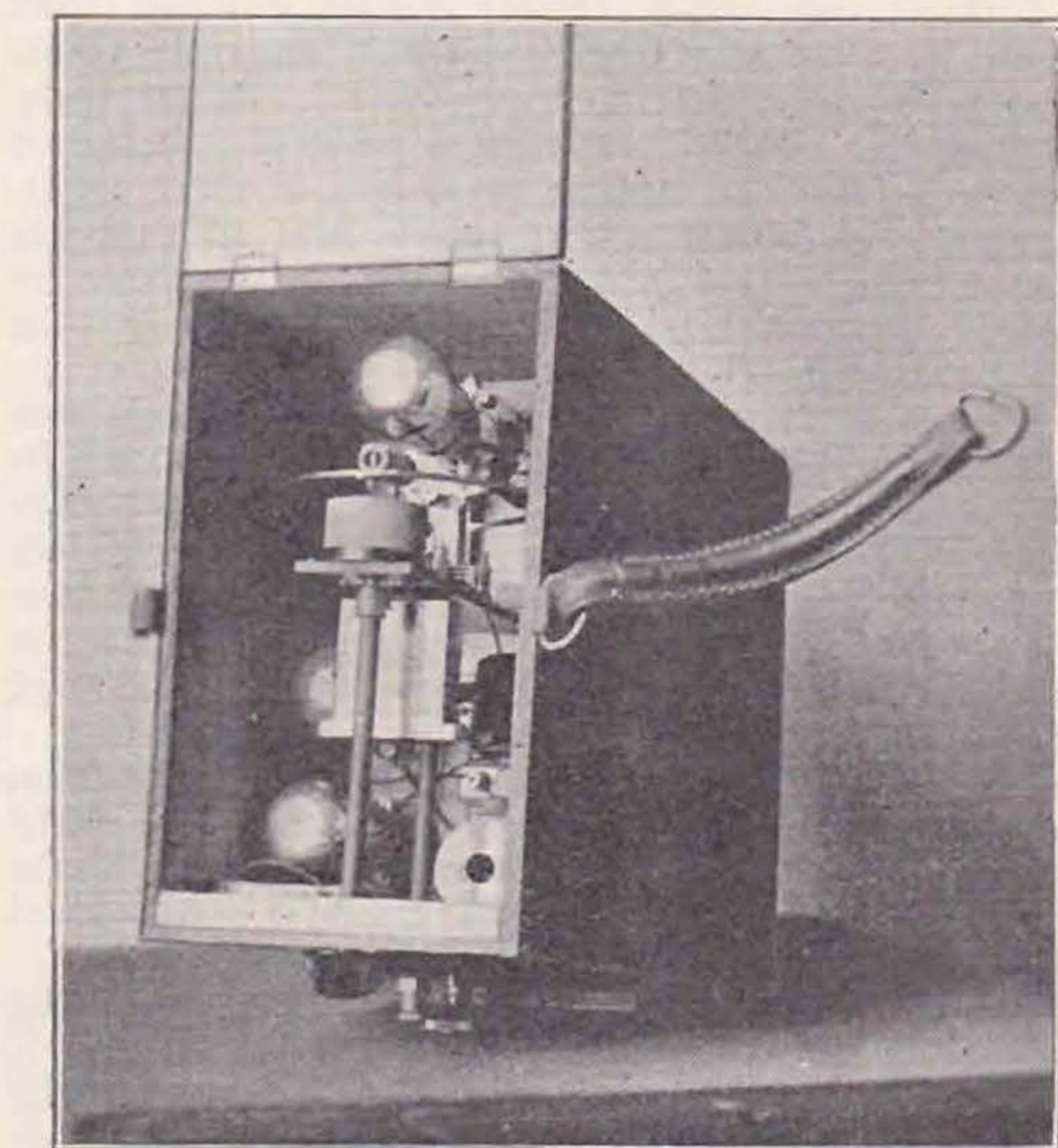


Fig. 3.—Top view of Receiver.

coupled amplifier seen in the middle shelf is used (Fig. 4); the speech choke and modulator being to the left at the rear. H.T. is then supplied for the modulator and oscillators from accumulators. The bottom shelf accommodates the speech amplifier, high-tension and grid bias batteries, whilst the 2-volt non-spill cell is housed just behind the transformer, below which is the plug for a P.O. type microphone. The modulator valve, when the transmitter is used at home is a DFA.7 with about 500 volts on the plate, the feed to the

music have been received when experimental relays of broadcast matter have been transmitted, and on these occasions little noticeable loss in quality has been observed as compared with the original broadcast. Whilst the writer believes that future development of 56 mc. communication will lie in the use of a stable master oscillator followed by suitable amplifiers before modulation, or some form of quartz or tourmaline control, the apparatus described will be found productive of many hours of interesting work.

(Continued on page 81.)

"SOLILOQUIES FROM THE SHACK."

By UNCLE TOM.

(The aged one returns, under a new title, to continue his unctuous utterances.)

BON matin, mes enfants (French). The paragraph at the end of my last effusion provided me with the excellent new title seen above. One energetic ham suggested it, in company with "Ruddy Ruminations," "Avuncular Articulations," "Vuncular Vernaculations," and sundry others. But he thinks the one I have adopted is best, because he suspects that I *am* talking to myself most of the time.

Only one solitary ham was outspoken enough to tell me (in the kindest possible way) that he considered this page a complete waste of my time and his. He suspected that its sole merit was that it filled up space, which is difficult to fill nowadays. Strange though it may seem, however, it was actually *asked* for, and it must continue until your poor old Uncle is told that he isn't wanted any more. He will try to be more instructive in future.

Those of you who don't agree with your Uncle's views must have chuckled heartily when you heard him "busted up" on the Friday night of Convention, and his one-valve receiver described as "the height of imbecility." He has practically decided to forfeit his transmitting licence next year and enter for the receiving competition, just to show some of these nineteen-valve "half-a-signal" superhet people what he thinks of them.

No one ever said that any old single-valver was all that the amateur wanted. But a good single-valver, for weak C.W. work, is, I maintain, better than any of the usual run of 0-V-1 and 0-V-2 sets that one meets. My own single-valver has a tuning condenser of less than .00001, and needs *seventeen turns* of $2\frac{1}{2}$ in. diameter to tune to 7 mc., and $7\frac{1}{2}$ turns for 14 mc. Those of you who use "band-spread" condensers might try adding turns to the coils until the "spread" part is at minimum instead of half-way in, and see the difference it makes to signal-strength and selectivity.

Convention was a great business this year. I don't think its effect on amateur radio can possibly be over-estimated, and the Friday night Conversation, if conducted in a room with better acoustics, or one equipped with a PA system, would be excellent. The films were a brain-wave; incidentally, did anyone pause to admire the photography in that "G5ML" film? Next year we hope to see one of Uncle Tom manufacturing rude remarks in his cabin.

Those who didn't avail themselves of G2YL's kindness on the Sunday afternoon missed a great treat. It isn't often that we have a chance of being present at a lantern lecture on Alpine climbing by a real authority on the subject, or a cathode-ray demonstration such as we were given by Mr. Weston. Incidentally, a treasured possession of mine is a photograph of Ernie (Quartz) Dedman playing bowls, with G6QT standing over him in a distinctly menacing posture, and G5SY, G2OA and G6CW apparently doing complicated feats of juggling in the background.

Harking back to Convention, I always marvel at the way in which quite unimportant topics

assume an air of great importance at that great "Business Meeting" on the Saturday afternoon. It's a splendid "safety-valve"; any grievances, real or imaginary, can be aired. But we always seem to end up exactly where we started. It has been so ever since Convention began, and probably will be so in twenty years' time, when R.S.G.B. has a membership of 15,000 and Convention is held in the Albert Hall. (Correct me, if I'm wrong, somebody, in 1953!)

"Soliloquies from the Shack" is a good title—I am sitting in the shack at the moment after having removed the "cans," following an hour on the air. My personal thoughts at the moment are largely concerned with a local station operated by a man who is *never* off the air. Out of sheer idle curiosity, I am wondering just what it is that makes a man come on day after day and simply *work* people. I don't think this particular bird is a QSL-maniac; yet he never does any experimental work, never handles B.E.R.U. traffic or anything of that sort, and rarely has more than a "formula-QSO" with anyone. How long would it take any of you, my readers, to get fed-up with that?

I think one could almost devise a robot that would do what this man is doing. Surely to goodness he'll get tired of it one day? If anybody reading this page experiences a pang of conscience and feels that he, too, is becoming a mere QSO-machine, I do seriously implore him to pull his transmitter to bits and start again, or to work on another wave-band—in fact, *anything* to get out the beastly habit.

I have a whack to deliver on the old tub this month, on the subject of *Hay-wire*. Someone in QST mentioned stations that looked like the result of an explosion at a spaghetti-factory. By gosh, we've got 'em, too. But the unfortunate part of it is that the man with a hay-wire station is generally the experimentally-minded man and not the QSO-machine.

Let's do a bit of clear thinking. If a station is to be "experimental," and therefore readily altered about, does it follow at all that it should be wired up with straggly D.C.C.? An ideal experimental station can be perfectly tidy.

Far too many hams imagine that they're giving a new circuit a good try-out when they wire it up just anyhow. The fact is that they are strangling the thing at birth. If you imagine that it's not worth while making a thing look presentable because it's only a temporary lash-up of some new arrangement, just get the idea out of your noddles right away. It doesn't have a chance of working at all unless it's decently and cleanly laid out, complete with decent joints, even if not soldered.

Personally, I find it a quicker job to make soldered joints throughout, even on a temporary rig, than to go through the fiddly business of screwing thin wire down under terminals.

This applies to receivers especially. Many a good receiving circuit has been given the go-by

(Continued on page 75.)

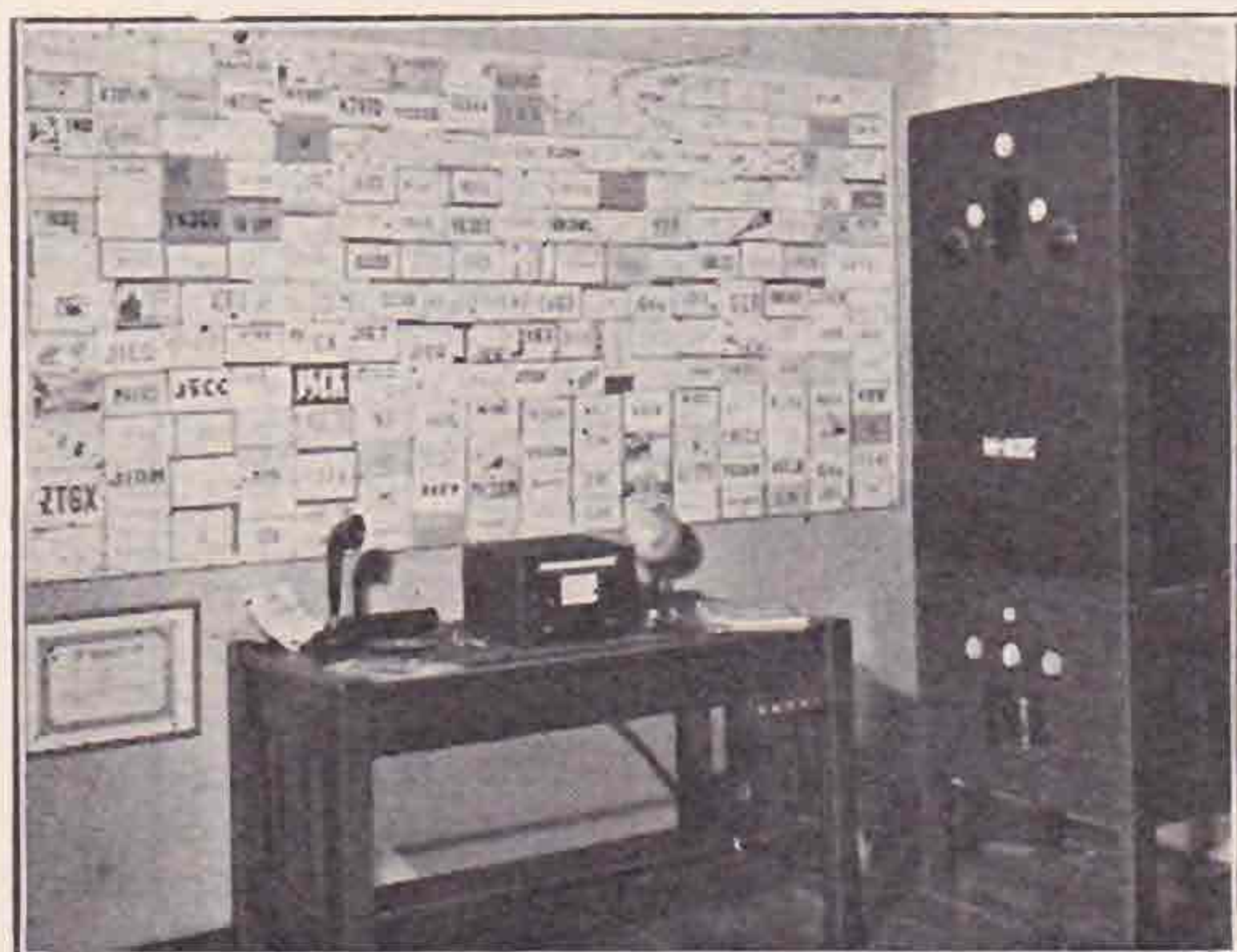
STATION DESCRIPTION No. 36.

W6DE

[We have pleasure in publishing for the first time in this Journal, a description of a North American station. Mr. Howard Voss is a well-known Pacific amateur, and was the first W6 to be awarded a W.B.E. Certificate. Descriptions of other overseas stations are invited.—Ed.]

W6DE is located in Los Angeles, California, about five miles from the Pacific Ocean, and has been on the air since August, 1929, on 7 and 14 megacycles.

Many transmitters have been used during the past four years. The original was a T.P.T.G. with UX.210 tube and 500 volts on the plate; next a T.P.T.G. with an 852 tube and 2,300 volts. In 1931 three transmitters were used, first an M.O.P.A. with 852 oscillator and UX.860 screen-grid amplifier with 500 watts input; then a crystal-controlled transmitter, with four stages, using the 860 as an amplifier in the final stage, with about 500 watts input. Next another T.P.T.G., using a Western Electric 212D tube, with 750 watts input.



During 1932 considerable experimenting was done with push-pull transmitters, and the most efficient was found to be with two UV203A tubes in push-pull T.P.T.G., with about 300 watts. During the tests it was found that parasitic oscillations were very evident when using this type of tube in push-pull. The application of chokes in the grid circuits of each tube finally cleared this trouble; the chokes were one-quarter inch diameter and two inches long with eighteen turns of No. 16 wire. Three sets of tubes were burned out before the proper size chokes were installed, the tubes would arc across in the base with only 500 volts on the plates; normal plate voltage on this type of tube is 1,250 volts.

Soliloquies From the Shack.—(contd.).

simply because someone lashed it up all anyhow and found that hand-capacity or threshold-howl was bad. Spend an extra half-hour (or even more) on a job and make it workmanlike right at the outset. It's well worth it. (Yes, Mr. Pillworthy, that means you.)

The transmitter now in use at W6DE, as shown in the photograph, is the same as described above, and has given excellent service on 7 and 14 megacycles with 300 watts input.

The power supply shown in the lower part of the transmitter rack, is a 1,500 volt, each side of centre transformer feeding into two UX.866 rectifiers; the filter has two 2,500 volt 2 mf. condensers, one on each side of a 300 milliamperere 30 henry choke. Individual filament transformers are used for rectifiers and oscillators.

The receiver is the new National FB-7 super-heterodyne, with air condensers and coils with air condenser trimmers for the 28, 14, 7 and 3.5 megacycle bands. The National SW-3 was used for some time before the FB-7 was put into service, both receivers have given exceptional results. The FB-7 is accurately calibrated and can be used as a monitor and frequency meter in case the dynatron oscillator and frequency meter gives trouble.

There are two transmitting antennas: for 7 mc. a current fed Hertz using 33 feet vertical and 33 feet horizontal radiators. The 14 mc. antenna is a voltage fed Hertz or Zeppelin with a 33-foot vertical radiator and 16 feet horizontal feeders. The antenna current is 4 amperes on 14 mc. and 4.25 amperes on 7 mc.

The receiving antenna is a 150-foot horizontal wire about 30 feet above ground.

During the four years of operation at W6DE 47 countries have been worked on 14 megacycles, and 63, including 12 European countries, on 7 megacycles. This station was WAC in 1932 and WBE in 1933.

Many happy hours have been spent at the key, most of the time listening very carefully for some of my good friends in the British Empire; many enjoyable contacts have been made with England, South Africa, Australia, Hong Kong and Canada.

I would like to take this opportunity in thanking my many friends in the R.S.G.B., for their fine co-operation during the testing and experimenting of W6DE, and also for the pleasure of the many QSO's I have enjoyed with them. I also would like to convey my thanks to our secretary, Mr. J. Clarricoats, for introducing me to such a loyal group of amateurs as is found in the Radio Society of Great Britain.

It now remains for me to say cheerio till next month. But *please* won't someone else be good enough to criticise this page for me? I do like reading uncomplimentary letters—it improves my style for future articles.

GN, OM's. Pse QSL es FOTO!

A CHASSIS-BUILT BATTERY OPERATED RECEIVER FOR AMATEUR USE.

BY J. G. BARTLETT (BRS974).

THE receiver described and illustrated in this article is an attempt to fulfil the requirements of amateur use, and whilst no abnormal claims are made for its performance, it can safely be said to produce results consistent with average requirements.

As it was intended that the set should work on all bands from 1.7 mc. upwards, and should be capable of receiving telephony with some degree of quality, arrangements were made to use two valves with an optional third for loud-speaker reception.

Technical Details.

After many experiments, a screened grid detector with choke coupling was found to give the best stage gain. The complete circuit is shown in Figure 1, which also contains a list of the components used, together with their values.

The resistance R6 (0.5 megohm) across the choke was found essential in order to obtain smooth reaction control, and its value was arrived at by practical test. The lower the value of this resistance, the smoother the control, but this advantage is at the expense of stage gain. Reaction control is obtained by two methods, first, the usual anode coupling method with variable condenser control, and second, by varying the screen voltage by means of a potentiometer. The latter method gives particularly fine control, but is of course limited in its application. Screen grid valves vary considerably in their susceptibility to variations of screening voltages and it will be found that some are far more suitable for this purpose than others.

The audio-frequency stages are both resistance-coupled, the last valve being a pentode, with an output transformer in its anode circuit. This has high

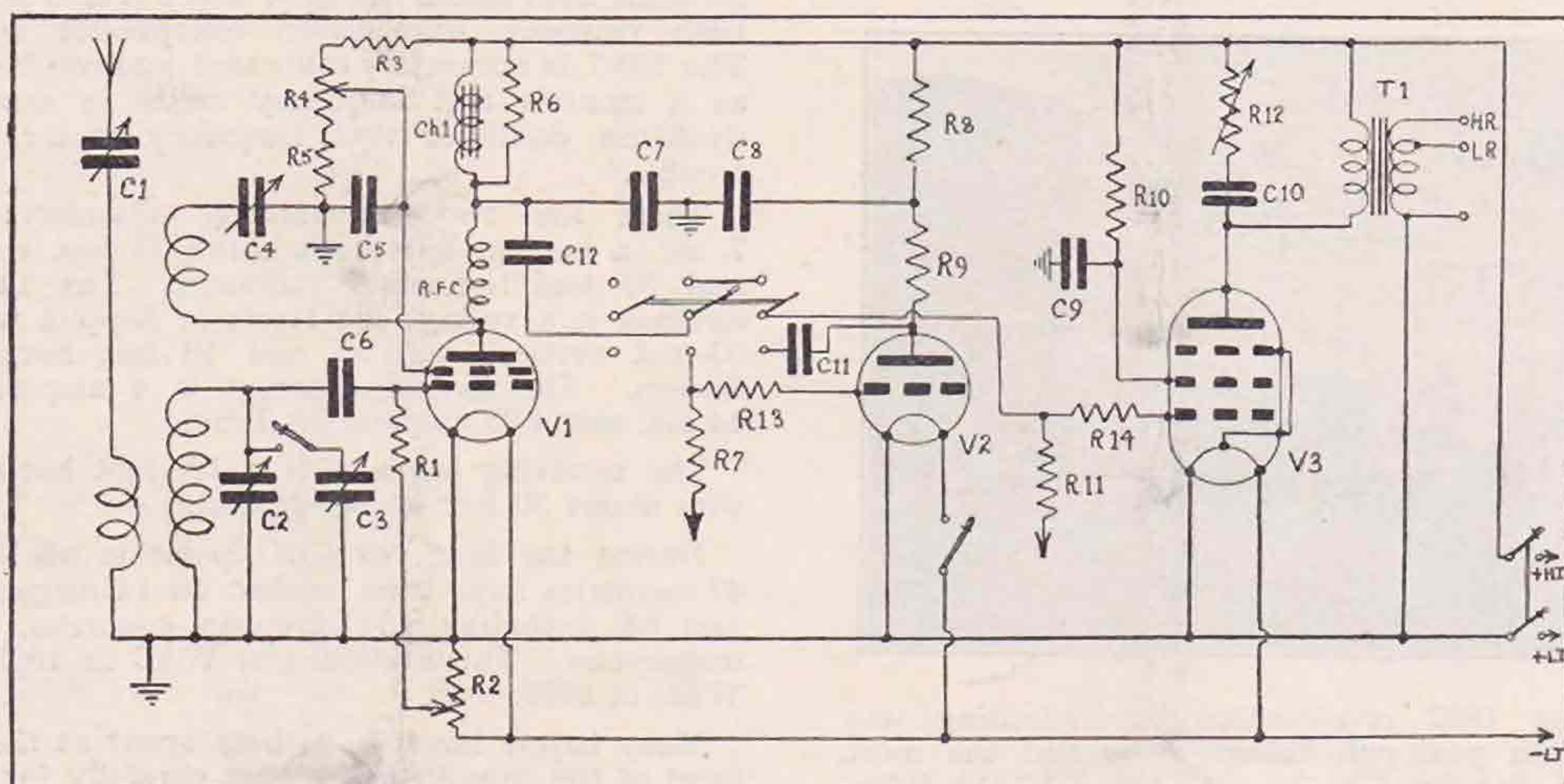


Fig. 1.—Circuit Diagram of Chassis Built Receiver.

C1 .00005 mfd.
C2 15 mmfd. (Eddystone).
C3 70 mmfd. (ditto).
C4 .0001 mfd. (Cydon).
C5 .01 mfd. (T.C.C. non-inductive).
C6 .0003 mfd. (T.C.C. Mica "M").
C7 .0002 mfd. (ditto).
C8 1 mfd. (T.C.C. paper).
C9 2 mfd. (ditto).
C10, 11 and 12 .01 mfd. (T.C.C. Mica "M").
R1 3 megohms (Dubilier).
R2 400 ohms (Varley).
R3 and R9 100,000 ohms 1 watt (Pepper).
R4 10,000 ohms (Varley).

R5 40,000 ohms 1 watt (Pepper).
R6 0.5 megohm (Dubilier).
R7 and R11 1 megohm (Dubilier).
R8 20,000 ohms 1 watt (Pepper).
R10 5,000 ohms (ditto).
R12 50,000 ohms (Varley).
R13 and R14 100,000 ohms (Pepper).
Ch1 300 henry choke (Varley).
HFC (Eddystone).
TR (R.I. Pentamu).
V1 (Hi-Vac SG210 or Cossor 215 S.G.).
V2 (Hi-Vac L210 or Mullard LF210).
V3 (Hi-Vac Z220 or Mazda 220A).

It will be noticed that the *Wearite* triple pole throw-over switch seen in the centre of the diagram, allows the middle or first low frequency valve, to be brought in or out of circuit at will. A *Bulgin* switch is also provided in the filament circuit of this valve to prevent a drain on the low tension supply when not in use.

and low resistance tapings which are brought out to jacks for easy connection to either telephones or loud speaker. A tone control of conventional design consisting of a variable resistance R12 and a condenser C10, is placed across the primary of the transformer. This has been found particularly useful when neutrodyning is troublesome.

The main tuning is affected by the two condensers (C2-C3) which are mechanically ganged and arranged with three coils to cover the complete range from 15 to 200 metres. The smaller condenser C2 is an *Eddystone* No. 900 (15 mmf.), which is used for the 7 and 14 mc. bands, to obtain the necessary spread. For work on the 3.5 mc. band the same coil is used as for 7 mc., but with C3 (70 mmf.) connected in parallel across it. It should here be mentioned that C2 and C3 have been ganged by the writer. When C3 is brought into use a short connection is made as shown in the circuit diagram. The small aerial condenser C1, is so arranged that when in its maximum position, one of the moving vanes touches one of the stationary vanes, thus shorting the condenser and putting the aerial straight through to the coil.

modern lines, embodying the use of a chassis which enables it to be fitted into a cabinet. The base is made from No. 18 S.W.G. aluminium sheet, and takes the form of an inverted tray. The size is 18 ins. by 14 ins., with the sides turned down 3 ins., leaving a finished base 12 ins. by 8 ins., an overlap of $\frac{1}{2}$ in. is provided for at each corner joint, which allows for bolting together.

At first sight there appears to be an unnecessarily large number of tuning controls, but actually the manipulation of the set is surprisingly easy. After the correct position of the potentiometer has been found this will require no further adjustment until a new valve is fitted. The potentiometer is mounted underneath the set for convenience. The aerial condenser is also adjusted for the particular coil in use, and subsequent tuning of both the tank and



Fig. 2. Front view of Receiver with screening cans removed. Note the method of assembling the tuning condensers.

The coils and audio-frequency valves are screened, in order to obviate interference. This is an important point to be observed if satisfactory performance is to be obtained. The general tendency amongst amateurs is to very thoroughly screen the high frequency and detector stages, leaving the low frequency side to take care of itself.

Assembly.

In the construction of this set much existing gear was utilised, and whilst this has not enhanced the appearance of the set, it has not interfered with its performance. It will be noticed from the photographs, that the receiver has been constructed on

vernier condensers. is quite simple, whilst reaction is smooth over the whole band. The tone control only requires adjustment when neutrodyning becomes troublesome.

A small dial light is mounted to the main condenser spindle. This requires only a single wire from positive L.T. for its connection, as the return circuit is made via the frame.

The ganged tuning condensers are mounted centrally, with the valves, coil base and H.F. choke, arranged symmetrically on each side of them in approved broadcast set fashion. The aerial condenser is fitted under the coil base and is operated by an extension rod from the front panel. Beneath

the low frequency valves and the choke are mounted the inter-valve coupling and de-coupling components, together with the transformer. The output leads from this are connected to three jacks on the right-hand side of the chassis. The "on and off" switch is also mounted on this side.

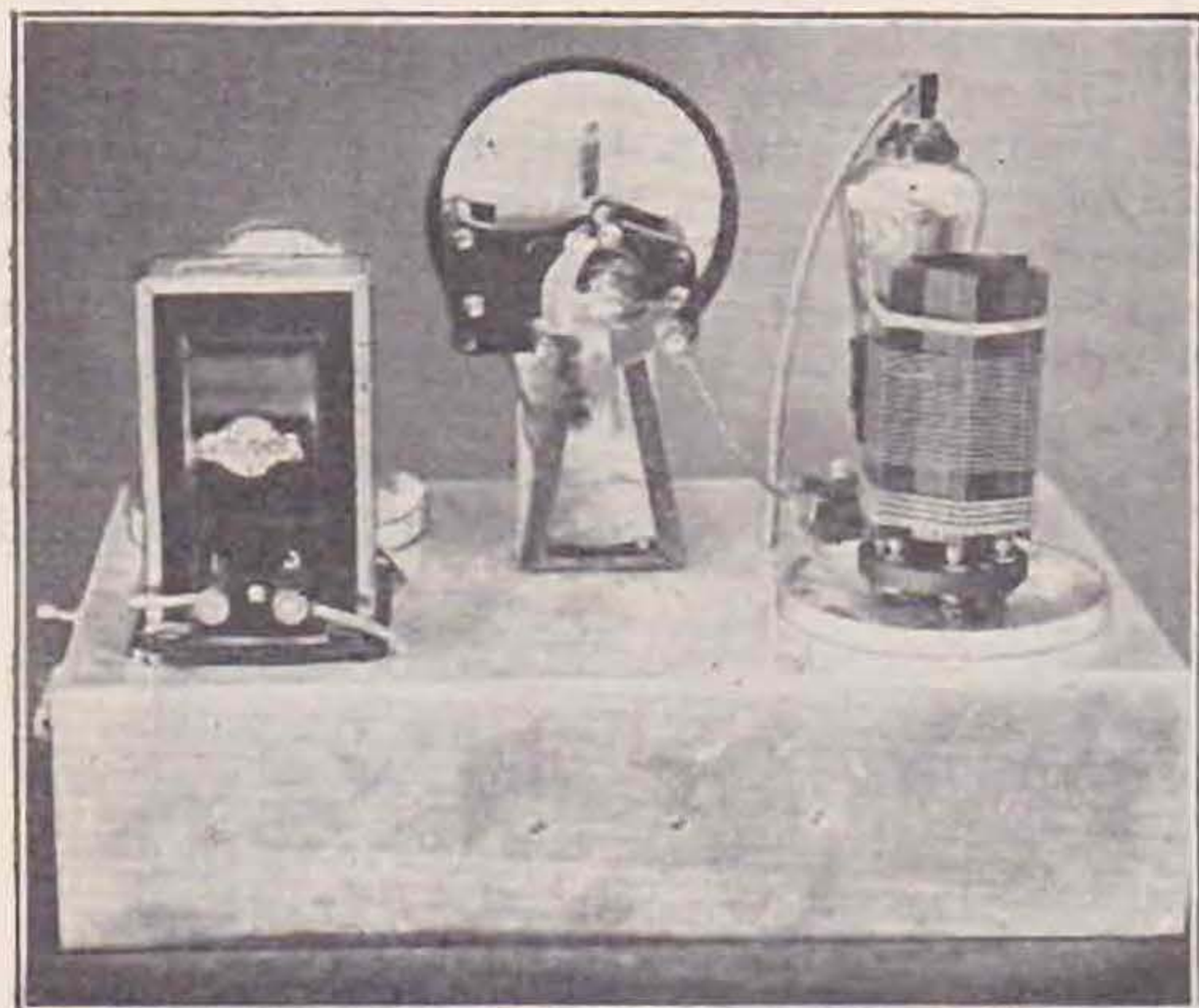


Fig. 3. Rear view of Receiver showing coil in position but screening can be removed.

The controls leading from right to left are as follows:—

1. Aerial tuning condenser.
2. Reaction control.
3. Reaction potentiometer for fine control.
4. Switch controlling the middle valve.
5. Tone control.

The switch is of a triple pole type, one blade of which controls the filament of the extra valve. For the sake of simplicity these connections to the switch are omitted from the circuit diagram.

CONVENTION—Concluded from page 71.

Without their help we at Headquarters could not possibly have kept the wheels going round in other directions. Our especial thanks are due to Messrs. J. C. Watts and J. M. S. Watson for taking duty on Convention Saturday evening. At no time during the show was help more urgently required, yet they carried on in spite of dense crowds and stifling heat. Thanks, OM's.

To Messrs. G. Exeter (G6YK), E. A. Dedman (G2NH), R. L. Loomes (G6RL), N. E. Read (G6US), H. V. Wilkins (G6WN), A. Wilberforce (G2IY), F. Ingleton (G6FI), S. Buckingham (G5QF), W. T. Cooper (BRS29), and many others, we record our sincere appreciations for their efforts to keep the work of the Society before the public. We wish, too, to thank Miss N. Corry for the very valuable help rendered in connection with the transport of gear to Olympia, and to Mr. Alliston for his work in the direction of advertising.

To all and sundry who helped to make the stand a success we say "Thank You."

Visit to G2YL.

Through the generosity of Miss Corry and her family, a visit was arranged on Sunday, August 20, to the former's station at Walton-on-the-Hill, Surrey. Some 40 Provincial and London members were present.

A *Clix* ante-microphonic-non-metal chassis-mounting type valve socket will be found an advantage in V1 position, whilst their standard type are satisfactory in the other positions.

Coil Data.

The coils were wound on 2 in. diameter ribbed ebonite formers 3 ins. long, having five pins, one in each rib and one blank, this latter serves to locate the correct position of the coil when inserting it in the socket. The base was made to suit, using a ring of ebonite and valve legs. The turns required for the three coils are as follows:—

1.7 mc. Grid 50 turns, 24 s.w.g. D.S.C., close wound. Reaction 16 turns, aerial 11 turns.

3.5 mc. and 7 mc. Grid 19 turns, 22 s.w.g. D.S.C., space wound, $\frac{3}{32}$ ". Reaction 6 turns, aerial 5 turns.

14 mc. Grid 6 turns, 18 s.w.g. D.S.C., space wound $\frac{1}{8}$ ".

Reaction 4 turns, aerial 3 turns.

The aerial winding is placed at the base of each coil, the grid winding in the centre and the reaction winding at the top.

In the event of the constructor requiring to obtain ready-made coils the *Eddystone* types LB, Y, R and W will be found satisfactory, but when these are used the aerial circuit must be changed from semi-aperiodic to direct coupling.

Furthermore when using these coils, an *Eddystone* .00016 mfd. condenser will be required for C3.

Eddystone formers No. 508 and 936 may be purchased if the constructor does not wish to build up his own coils.

Conclusion.

The writer will be glad to hear from any member who constructs this receiver, and will be pleased to demonstrate it to London members who may be interested. Suggestions for improvement will also be appreciated.

Conclusion.

In drawing to a conclusion this account, the writer wishes to thank all who lent him a hand. He realises only too well that many imperfections still exist in the organisation of our Conventions, but he is convinced that with the passage of time improvements will be effected which will place these events to the forefront of amateur gatherings.

An apology is extended to those whom he was unable to greet personally, but he hopes to renew acquaintanceship with all at the District Conventionettes next year.

J. C.

YOUR COPY
OF THE NEW
"Guide to Amateur Radio"
AWAITS YOU—
Price 6d.

WITHIN THE GATES.

By THE STRANGER.

ON the morning of Friday, August 18, the rather hesitant figure of a provincial visitor might have been seen near Euston Station. Provincial born and bred, he stood for a few minutes getting the "feel" of London; yes, it was good to be back again, but what a difference.

In the old days he worked here for almost a year; lonely days in the loneliest place on earth for the stranger. There had been a few friends, but they would have forgotten him in a busy world of money-making and passing interests.

Despite this depressing thought, he was far from lonely, for he came to London as a "number" and among the teeming crowds were other "numbers," yet undisclosed as real flesh and blood, but "numbers" which in the past had chattered of cabbages and kings over the ether. They would be disclosed at Convention as real personalities. Would the transition from a number to a personality be pleasant or otherwise? Disappointments seemed sure, but then pleasant surprises seemed just as certain. He dreaded the disappointments, for radio had meant so much comradeship to him.

So, feeling a little like Alice and very much like the white rabbit, he looked at his watch and hurried off underground.

At Maison Lyons he found quite a number of members assembled in a large upstairs room containing many small tables. "King Watty of Beru," who evidently had a good memory for faces, surprised him with a personal greeting, and the evening felt warmer immediately. A quiet look round the room and figures from Convention photographs had become alive; the President and Hon. Treasurer were well enough known to be spotted immediately.

The buffet (running, one, troops for the use of) could not have been better, and introductions, chats, call-signs, and names followed one another as in a bewildering kaleidoscope.

Cockaigne, Wales, Scotland, Ulster, Germany, Lithuania, Holland, South Africa, Hongkong, Egypt—round a few tables in the heart of London. And an air of good fellowship over all.

The *Conversazione* proved invaluable to the provincial for he met the men he had long wished to meet and had time for a good rag-chew with them. It was a most delightful meeting, and in every way a great success.

* * * *

The business meeting on Saturday afternoon was held in the very beautiful lecture theatre of the I.E.E. Famous faces looked down upon the exponents of a young science.

Several strong impressions were received at this meeting, but the main one was of thankfulness that the Society had such an enthusiastic, energetic and capable secretary. The way "Clarry" puts a thing "across" and his infectious enthusiasm are an invaluable asset to the Society.

Discussion on the new contest regulations provided many flashes of humour, and by far the most scintillating was a dry remark from the President.

As the provincial sat near the front and looked back at the rows of faces, he was very much im-

pressed by the *type* of man now in amateur radio. Sensible, thoughtful, keen faces in the vast majority and, in his experience, comparing more than favourably with any meeting he had ever attended. Not film stars, bless you, but the sort of fellows one *could* go tiger-shooting with.

A cup of tea after the meeting and a few more personal contacts, and then on to dinner at the Florence Restaurant.

* * * *

Well, dinners are all very much alike, but that was the first at which he had seen valuable radio gear distributed to those who held the lucky numbers. How really sporting of the manufacturers! But what blood-pressure until that last Ferranti meter was decided; the heart of the provincial's neighbour could be heard about R8 but could not be copied due to bad spacing and QRM from his own.

The space on the menu for signatures was a happy thought: the menu now forms a pleasant souvenir and a remarkable study of the various people. There is the sloppy, the sprawling egotistical, the business-like, the modest, the foolish, the hesitant, the childish, and even the rubber-stamp signature.

* * * *

The provincial realised on Sunday just what London's hospitality is like. He spent the day visiting well-known stations, and everywhere he received a very cordial welcome. Taken from one station to another by car, he must have talked radio for some 12 hours without a break. Everything that could possibly be done for his enjoyment was done, and the warmth of the welcome touched him very deeply.

* * * *

As a north-bound train left Euston, the provincial visitor knew that he was not now a mere number, and that others were the most friendly of fellows remembered by many little kindnesses and cheery good comradeship.

Good luck, London, and a thousand thanks!

EDITORIAL—(Concluded).

of vision to the brain. The obvious equivalent in an artificial eye would be a bank of photo-electric cells, each complete with its own connecting wire or radio transmitter, but such a system was, of course, found to be impractical, with the result that investigators turned their attentions to the problem of breaking up the picture into a number of tiny spaces, relying upon the lag of the eye to convert them into a concrete whole. An ingenious system, no doubt, but to our mind hardly the solution of the problem.

Whether the ultra short-wave lengths (and we mean really ultra short) will provide the answer, remains to be seen. We realise the enormous difficulties which surround the production of stable oscillations at such enormously high frequencies, but we do not consider them insurmountable.

At all events, the matter should provide a most interesting investigation, and if a solution can be found, fame and fortune awaits the discoverer.

SELF-RECTIFICATION CIRCUITS.

By A. S. CLACY (ex-G6CY).

MR. C. J. PADDON'S article entitled "A Novel Power Amplifier System," in the March BULLETIN, interests me considerably, in that he has forestalled me in drawing the attention of amateurs to self-rectification circuits, as I have had the matter in mind for some months, but have been unable to complete my tests as I wished before bursting into print.

I do not necessarily claim originality for the circuits reproduced with this article, although to the best of my recollection I have not seen them before, and they are merely the result of a certain amount of cogitation on the above subject.

As regards the circuit shown in Fig. 1, I would say that I have actually tried it on frequencies of the order of 100 megacycles (3 metres wave-length), but circuit 2 has not yet got beyond the pencil and paper stage.

The grid tuning condenser is a home-made variety pulled from the junk box, and has a maximum capacity of about 0.0001 mfd. It is clipped to the grid coil, theappings being adjusted until the circuit oscillates and a reasonable note is produced. I have used a Hartley circuit receiver and have picked up the signals from this oscillator in various parts of the house, but as I have at present no transmitting licence I have, of course, been unable to see what is the effect of coupling the oscillator to an aerial. However, I hope shortly to apply for my call sign again, and shall then make some further experiments with the oscillator, probably with much larger input.

The Hartley receiver referred to is a one-valve affair using a Weco valve running from a dry cell, and the coil is similar to the grid coil in the oscillator, tuning being effected by a neutralising condenser (Ormond make, the moving vanes meshing with two sets of fixed vanes and not connected to any part of the circuit, thus giving a "series gap" type of condenser). A slow-motion dial (original type Burndy) is apparently essential, and so is the 3-in. extension rod. The reaction control is very crude, being by filament rheostat, but serves its purpose fairly well as critical settings are not called for. No aerial is used, pick-up by the coil being relied upon.

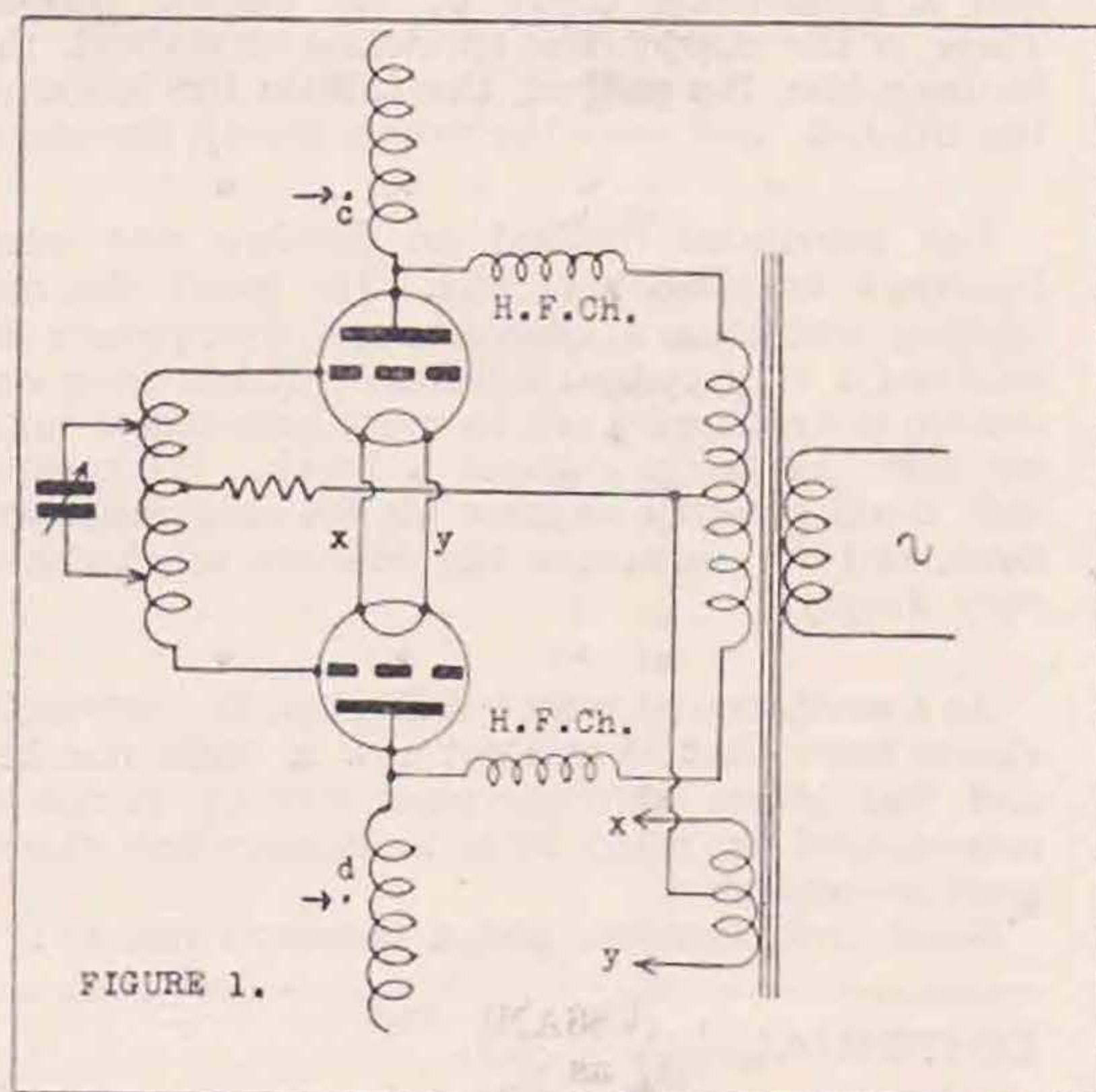
Using the receiver (if one may grace it with such a name!) the signals from the oscillator have a note somewhat reminiscent of an arc transmitter if the oscillator adjustments (which are critical) are made carefully and are not unpleasant to listen to. The modulated note so produced is really no disadvantage on such high frequencies where there is plenty of room and no QRM, and greatly assists in finding the signal on the receiver.

Unless much care is taken in adjusting the condenserappings on the grid coil of the oscillator, however, a genuine raw A.C. note will be produced.

I might mention that the circuit will also oscillate effectively if the tuning condenser is tapped across points "C" and "D" on the plate coils, these points being, in my case, remote from the free ends of the coils.

I am inclined to think that a better note would be produced on lower frequencies, as there is then more likelihood of the valves maintaining oscillations during the times when the voltages on the plates are below their maxima, for the following reasons.

It really means that the upper valve (in the diagram) oscillates when its plate potential reaches a certain positive value, maintains its oscillations through the condition of maximum positive potential, and then ceases oscillating after the potential drops below a certain value. The plate potential of the lower valve subsequently rises to such a value that it will commence oscillating and go through a similar cycle. As valves will oscillate more readily on low plate potentials at lower frequencies, it seems reasonable to expect an improvement in the note on such frequencies as



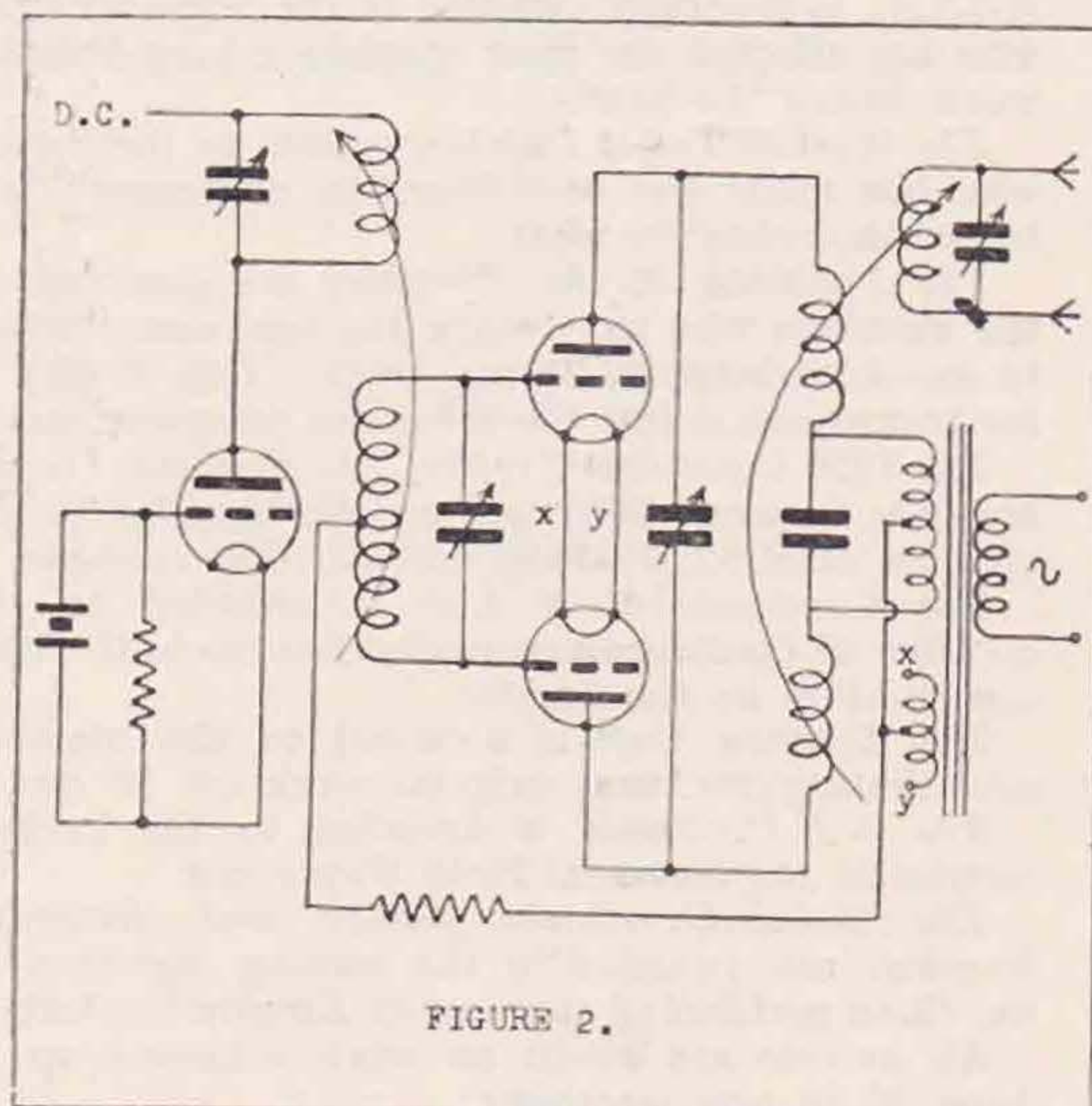
Circuit 1, as I have it arranged, is built round a Parmeko transformer manufactured for use with a U5 rectifier, and the 5-volt rectifier filament winding is used to heat the filaments of two old American UX201A Cunningham valves. These are of the DE5 variety, and were used merely because they happened to be at hand.

The two H.F. chokes are merely a yard or so of 40 S.W.G. D.S.C. wire scramble wound on $\frac{5}{8}$ -in. ebonite rods, and the grid-leak is a Bulgin 30,000-ohm spaghetti resistance. A lower value would probably be more suitable.

The plate coils are 16 S.W.G. tinned copper wire, and are five turns, approximately 1 in. diameter, spaced about $\frac{1}{4}$ in., the ends remote from the plates being free. The grid coil is similar, but six turns. All coils are wound in the same sense and are coaxial.

the non-oscillating period will be reduced, but this has yet to be tried experimentally.

I hope before long to try out circuit 2, and if there is anything to report I will write a few more notes for the "BULL," but in the interim, if anyone else cares to try it, I shall be most interested to hear the result.



As regards the *modus operandi*, this is, of course, similar to that already outlined for circuit 1, except that the crystal oscillator will help to maintain the system in a condition of oscillation and generally "clean up" the note.

The arrangement is clear from the diagram, and I think it should produce a reasonable result—T7 at least, but I hope for something much better.

The great advantages of the circuit to my mind are the elimination of rectifier valves, smoothing chokes and condensers, with consequent gain in available voltage and reduction in expense.

Practical Work on 56 m.c.—(Continued from page 73).

Radiators.

Many types of radiating systems have been used, but the one considered most satisfactory consists of a single-turn coupling coil with 4 ft. or slightly less, feeders (quarter-wave) series tuned, connected to two 8-ft. radiators (half-wave), arranged vertically and mounted on two domestic clothes props joined lengthwise together, the wires being fixed to stand-off insulators. The arrangement of this system is shown in Fig. 7.

Observations.

It has been observed that if two super-regenerative receivers are operated within a distance of a few hundred yards of one another, when one is tuned past the other, a peculiar squeal is produced, with the result that C.W. working becomes possible by making and breaking the H.T. lead. Incidentally, when two local stations are receiving signals from the same distant station, a considerable drop in signal strength is noticed.

Little useful purpose seems to be served by increasing the power of the transmitter above ten watts, whilst the receiver described has been successful in receiving signals from G6QB at a distance of 200 miles.



Fig. 4.—Front view of 56 mc. Transmitter and Modulation Panel.

Thunder clouds have been observed to blanket and fade signals on this band, whilst reception is frequently possible when the receiver is totally screened by hills and buildings, probably due to reflection of the transmitted wave.

The 56 mc. band is full of surprises and unexplored fields, and it is hoped that the above description may induce others who have held back to enter into a study of this work. The writer will welcome reports and co-operation from other interested members, as he is hopeful of conducting tests in the near future on a fairly large scale.

Strays.

Mr. Rosario (VS6AN) has succeeded Mr. P. O'Brien (VS6AE) as our representative in Hong Kong. Mr. O'Brien has resigned on business grounds.

* * *

Mr. T. Gleed (BRS689), of Bristol, heard W3ND calling W9GYK at 0035 B.S.T., July 27, on 28,700 kc. This is believed to be the first North American signal heard in England on 28 mc. for some years.

* * *

Mr. F. E. Rogers tells us that he was licensed as G6OA on September 24, 1932, when only two months over his 16th birthday.

* * *

G6FY and PA0HI were operating 56 mcs. gear in an aeroplane over the Folkestone District on Sunday, August 27. Reports on signals heard under Mr. Fereday's call will be appreciated.

HIC ET UBIQUE.

Interference to Broadcast Listeners—Society Trophies—W.B.E. and W.A.C. Telephony Awards—Calibration, QRA and QSL Sections.

Interference to Broadcast Listeners.

With reference to the leading article in the August issue of the T. & R. BULLETIN, a special committee of Council members has been appointed to examine this question thoroughly, with a view to safeguarding further the interests of transmitting members. The committee consists of Messrs. E. A. Dedman, G2NH, J. W. Mathews, G6LL, T. A. St. Johnston, G6UT, and G. W. Thomas, G5YK, with Mr. A. E. Watts, G6UN, as Chairman, who is already in touch with the G.P.O. on this matter.

Meanwhile, it is recommended that any transmitter who receives a complaint from a neighbour should act as follows:—

1. Verify that his transmitter is suitably arranged for transmissions during Broadcast hours.
2. Endeavour to assist the complainant to improve his receiver.
3. In the event of the complainant refusing to co-operate, the transmitter is advised to state his case in writing to the Engineer in Chief, G.P.O., London. A copy of this letter should be sent to Headquarters.

D.R. Appointments and Resignations.

Mr. W. B. Sydenham (G5SY), Sherrington, Cleveland Road, Torquay, Devon, has been appointed Representative for District 6 in succession to Mr. H. A. Bartlett (G5QA), who has been compelled to resign on account of poor health.

Mr. W. Graham (GI5GV), 5, Ratcliffe Street, Donegall Pass, Belfast, has been appointed Representative for Northern Ireland, in succession to Mr. C. Morton (GI5MO), who has resigned owing to business pressure.

Mr. W. E. Brigden (G6WU), who was recently appointed Representative for District 4, has been compelled to resign that position on taking up a new appointment with his company in London. A new D.R. will be appointed as early as possible. Recommendations from senior members living in the District will be appreciated.

Mr. F. Stollery (G5QV) has accepted the responsibility for the counties of Norfolk and Suffolk, which have now been added to District 9.

It is hoped in the near future to appoint a new D.R. for the counties of Cambridge and Hunts; meanwhile, all correspondence of a local nature from members living in these counties should be addressed to the Cambridge C.R., Mr. Scudamore.

Steps are being taken to rearrange certain of the Districts in order that the D.R., C.R. scheme shall operate more efficiently. Suggestions should be sent to Headquarters.

Society Trophies.

In view of the recent large increase in membership we consider it desirable to publish a complete list of trophies which are available for annual award.

The Rotab Cup, donated by Mr. G. Marcuse

(G2NM), is generally awarded to the home member who has effected the most consistent long-distance work during the year.

The Wortley Talbot Cup is awarded to the person who has made the best scientific or general contribution during the year.

The Powditch 28 mc. Trophies are awarded to the members who have made the best contribution to our knowledge of 28 mc. work. One trophy is for transmission and the other for reception work.

The 1930 Committee Trophy, The Somerset Trophy and The Somerset Goblet are usually awarded to the winners of R.S.G.B. local transmitting contests.

The Courtenay Price Cup is awarded to the member of Contact Bureau who has made the best contribution to the Section.

The Dedman Cup is awarded to the member contributing the best original work on 56 mc.

The N.F.D. Shield is awarded to the leading district in the National Field Day event.

The B.E.R.U. Senior, Junior and Receiving Trophies are awarded to the leading members in the three sections of the annual Empire Contest.

All awards are based on work achieved up to June 30 in any one year.

W.B.E. Telephony Award.

The first Overseas Award for working the British Empire on telephony has been granted to Mr. I. Hill (SU6HL), who contacted YI6WG QSA 5 R8 on December 3, 1932, SU1EC QSA 5 R9 on October 26, 1932, ZL2HA QSA 5 R5 on January 1, 1933, G2AK QSA 5 R6 on October 20, 1932, and VP2MR on May 20, 1933. All QSO's were on 14 mc., except that with YI6WG, which was made on 7 mc.

W.A.C. Telephony Award.

During August Mr. J. S. Owner (G6XQ) submitted cards to Headquarters as proof of having worked all continents on telephony. This is the first occasion an R.S.G.B. member has claimed this award, and congratulations are therefore extended to Mr. Owner. We are now awaiting advice from the A.R.R.L. that the claim has been accepted.

Bulletins Returned.

We wish to give notice that BULLETINS addressed to the undermentioned members have been returned to us by the G.P.O. as undeliverable.

In all cases the Society has been compelled to pay a fee for their return.

The members listed will be removed from our mailing list until such time as they advise us of their present whereabouts: S. Hobson (G6SH), Doncaster; G. Knewstubb (BRS1080), London, N.; W. J. Sinnott (BERS145), Bombay.

Convention Photographs.

Copies of the Convention photograph can be obtained direct from Mr. G. C. Green, 25, Kenton Lane, Kenton, Middlesex. Mounted copies are priced at 5s. 9d. and unmounted copies at 3s.

Calibration Section.

Manager, A. D. GAY (G6NF).

Now that Convention is over, and winter approaches, our thoughts will more closely be centred around our own stations. In planning new work we must not forget the construction of a monitor frequency meter which can be calibrated and used for frequency checking purposes. A suitable type of instrument is described in "A Guide to Amateur Radio."

For the amateur who has passed from the GEOM PSED QSO CUL PSE QSL GB VA stage, a simple calibrated oscillator will enable him to carry out many tests with similarly interested amateurs in connection with frequency measurement. A word of advice is also given to B.R.S. members. If you wish to make your reports more interesting, why not include the frequency of the station you have heard on your QSL card? In reporting a transmitter's signals some indication should be made as to the accuracy of your meter. This information would undoubtedly ensure a 100 per cent. return for cards sent out, for even if you have made a mistake in measurement, you are certain to receive an acknowledgment pointing out that you are wrong!

For our own part, plans are being made for a series of experiments upon the stability of various simple oscillator circuits, including the Dynatron and Electron coupled devices. These will occupy considerable time owing to the lengthy nature of the necessary observations.

As a result of some enquiries last winter as to whether DE5 valves could be used instead of LS5's in the type of oscillator described in the December, 1932, issue of the BULLETIN, arrangements were made with Messrs. G.E.C. to supply us with a matched pair of Osram DE5's for the purposes of an experiment. We found that they were noticeably more sensitive to fluctuations of filament current than valves of the LS5 type, and are only suitable for D.C. heating. Their maximum anode current of 15 mls is, however, well within the usual feed to a calibrated oscillator, and we found that after 200 hours' use, at 10 milliamps, there was no change in frequency due to increasing impedance. They are, therefore, perfectly suitable, providing the calibration filament voltage is rigidly maintained, and that D.C. is used for filament heating.

As many new members may be interested in the fees charged by the Section for calibrating crystals and meters, the following scale of charges is reproduced from a recent issue:—

Crystals, 1s. 6d. (plus postage both ways) per calibration.

Frequency Meters, 2s. 6d. (plus carriage both ways) for 5 points spread over any band. Additional points 50 kc. apart may be supplied at a charge of 6d. per point. All measurements being within 0.01 per cent.

Crystals and frequency meters should be sent to Mr. A. D. Gay, 49, Thornlaw Road, West Norwood, London, S.E.27, at owner's risk.

QSL Section.

Manager, J. D. CHISHOLM, (G2CX).

In accordance with our usual practice, we are publishing the rules of the Section this month so that our many new members may use the QSL Bureau to the best advantage both to themselves and to our staff.

THE QSL SECTION.

AN EXPLANATION OF ITS FUNCTIONS AND USE.

The full use of the section is reserved exclusively for members of the R.S.G.B. and B.E.R.U., but non-members may collect cards forwarded by foreign societies to R.S.G.B. which are intended for them.

The section gives to members a two-fold service. In the first place it collects and forwards to British amateurs cards which are received from the various Radio societies of the world, and secondly, it receives from members their cards for free distribution at home and abroad.

The methods of the section are best dealt with under separate headings, and are as follows:—

CARDS FOR YOU.

These should be collected from the section by means of stamped addressed envelopes, and the following points should be noted:—

1. Cards for stations outside of Great Britain and Northern Ireland cannot be sent separately except when there is no QSL section in the country concerned.
2. Envelopes must be stamped by the sender and clearly addressed.
3. The sender's call-sign *must* be printed in block letters in the *top left-hand corner* of the envelope.
4. Envelopes must be of a standard size (6 in. by 4½ in.), or as near to these dimensions as possible. (Envelopes of the "paper bag" type and the commercial size cause the section much needless trouble and waste of time.)
5. If special instructions as to the number of cards to be sent in each envelope are to be given, they should be written immediately under the call-sign in the top left-hand corner, and should be in the form "Wait for.....cards." Envelopes are despatched where possible when there are three cards in the files for one call-sign, and the above applies only if this arrangement is not convenient.

If it is not desired to go to the trouble of preparing envelopes for this purpose, it is possible to procure them from the section, already addressed and stamped to the value of 1½d., at a price of 2d. each envelope.

Your cards will be kept for three months if you have no envelopes at H.Q., and after this time they will be disposed of at the discretion of Council.

CARDS FROM YOU.

The section is in a position to accept for distribution cards addressed to any amateur in the world, and a rapid exchange of QSL cards is maintained with foreign societies. These cards are sent in bulk at periods of a week or so, and it is, therefore, unnecessary to place each card in a separate envelope. The section would be grateful if

following points are borne in mind when cards are sent for distribution :—

1. Do not put any cards in envelopes, but sort the cards together in countries. (Photographs should be pasted to the back of the cards.)
2. Write the call-sign of the station to whom the card is addressed clearly, and in large letters, so that it may be seen at a glance. If the space on the face of the card is insufficient or obscure, write it plainly on the back.
3. Weigh the packet carefully before despatch, and make certain that the Society does not have to shoulder the all-too-common burden of excess postage.
4. Address the packet to QSL Section, R.S.G.B., 53, Victoria Street, London, S.W.1, which is the *only* address of the section.

Enclose no stamps, as the service is entirely free to members.

QRA Section.

Manager : M. W. PILPEL (G6PP).

NEW QRA's.

- G2GT.—W. G. SMITH, "Shaugh," Gloucester Road, Road, Patchway, Glos.
- G2HX.—L. O. ROGERS, "The Cottage," Hambutts, Painswick, Glos.
- G2HZ.—L. S. STIRLING-WILKINSON, Manfield Vicarage, Darlington.
- G2KG.—T. JOHNSON, 19, Eden House Road, Sunderland, Co. Durham.
- G2LR.—FLT./SGT. W. E. DUNN, Electrical and Wireless School, R.A.F., Cranwell, Lincs.
- G2ND.—H. S. BENNELL, 14, Sandwich Buildings, Swan Lane, London, S.E.16.
- G2NK.—H. MILES, 35a, Nightingale Lane, Bromley, Kent.
- G2NN.—F. C. CROCKER, 17, Cross Deep, Twickenham, Mddx.
- G2PN.—A. POLLARD, 31, Donkin Terrace, North Shields, Northumberland.
- G2QH.—C. HEWINS, "Fairview," Fairfield Avenue, Scarthoe, Grimsby.
- G2RB.—R. M. HARDY, 10, Westcliffe Walk, Nelson, Lancs.
- G6DO.—W. H. GLEN DOBIE, "Braehead," Poplar Road, Oxtou, Birkenhead.
- G6GQ.—D. ROBERTSON, c/o Miss Milton, 16, Park Crescent, Portsoy, Banff.
- G6MI.—R. MAYNARD, 110, Bucks Road, Douglas, I.O.M.
- G6PJ.—B. PASHLEY, 124, Nicholson Road, Sheffield, 8, Yorks.
- G6RH.—R. HOLMES, 3, Chartley Road, Erdington, Birmingham.
- G6SV.—M. SAVAGE, "Noss Mayo," Pheasants Way, Rickmansworth, Herts.
- 2AZD.—H. R. SCOBELL, "Sherborne," Bucknalls Drive, Watford, Herts.
- 2AZX.—P. SEYMOUR, No. 15 Married Qtrs., R.A.F., Boscombe Down, Amesbury, Wilts.
- 2BAJ.—R. H. STREETS, Waverley Lodge, Haven Baulk Lane, Littleover, Derbyshire.
- EI7C.—J. B. SCOTT, 55, Garville Avenue, Dublin, S.3, I.F.S.

The following are cancelled :—G5IU, 2AJW, 2AXX, 2BCH, 2BKF, 2BLL, 2BQF.

R.S.G.B Reception Tests.

In publishing Series 20 of these tests, we wish to emphasise some of the advantages which may be gained by participation.

These tests are open to every member, whether he be an old-established transmitter or a recently enrolled B.R.S.

At the conclusion of each series a letter budget is circulated to all participants, which contains the logs and letters received from the contributors. The letters contain information concerning the members' gear or other details likely to prove of interest.

The tests themselves enable a transmitting member to obtain useful data, particularly of a local nature, whilst the non-transmitter will find them invaluable as an aid to learning procedure and improving his knowledge of the morse code.

Past series have been supported by members in all British Districts, and by many European amateurs.

In order to obtain consistency in reporting participants are required to use quarto size paper headed as below :—

Series No.....

Name.....Call or BRS.....

Address.....

Band.....mc. Receiver..... Test Letter.....

Aerial Details..... Direction.....

Date.....

Other Information

A separate sheet should be used for each period, which is designated by a Test Letter (A. to R.). Some periods may produce nil results, viz., 28 mc. and 56 mc. periods, but separate logs should in all cases be forwarded.

At the conclusion of Series 20 all logs should be sent to Mr. T. A. St. Johnston (the Honorary Organiser), at 28, Douglas Road, Chingford, London, E.4.

The closing date for this series is October 24, 1933. Logs will be despatched as soon after that date as possible.

List of Bands and Periods.

Series 20.			
Test Letter.	Date. 1933.	Period. B.S.T.	Band. mc.
A	Sun., Sept. 24	00.00-01.00	3.5
B	" " 24	08.00-09.00	1.7
C	" " 24	09.00-10.00	56
D	" " 24	22.30-23.30	7
E	" Oct. 1	00.00-01.00	14
F	" " 1	07.00-08.00	14
G	" " 1	09.00-10.00	3.5
H	" " 1	10.00-11.00	28
I	" " 1	22.30-23.30	1.7
G.M.T.			
J	" " 8	00.00-01.00	7
K	" " 8	08.00-09.00	28
L	" " 8	09.30-10.30	56
M	" " 8	23.00-24.00	14
N	" " 15	00.00-01.00	1.7
O	" " 15	07.00-08.00	3.5
P	" " 15	08.30-09.30	56
Q	" " 15	09.30-10.30	7
R	" " 15	22.30-23.30	28

TRADE NOTICES.

Wearite Catalogue.

MESSRS. WRIGHT & WEAIRE have recently sent us a copy of their new catalogue "Radio Components." Their newly developed "Nucleon" Iron Core Coils are dealt with in detail, and numerous useful circuit diagrams given, showing where these coils can, with advantage be used. Information is given regarding their Ganged and Superhet Coils, Power Transformers, H.F. Chokes, Switches and Resistances. Copies may be obtained from their works at 740, High Road, Tottenham, N.17.

* * *

How many times in the course of a year do we require a strong glue? Test Waterproof Glue, of 30, Red Lion Street, Holborn, have submitted to us a sample of the glue which bears their name. Useful in a hundred ways; suitable for sticking together bakelite, ebonite, glass, rubber and many other awkward substances, it becomes at once a true amateur commodity.

The glue is heat and acid proof, and is delivered in powder form, thus dispensing with the sticky apparition usually associated with "ham" stations.

A sample tin is available at 6d. and a ½-lb. tin at 1s. 9d.

Strays.

Mr. Rancombe, who was known to us for some years as YI6KR, of Basra, and who has recently been located in Egypt and Palestine, left the latter country towards the end of August and has returned to No. 6 (B) Squadron, R.A.F., Ismailia, Egypt, where he hopes to be on 7, 14 and 28 mc. in the near future, using the call SU6KR. Mr. Rancombe only recently obtained a full licence to work on amateur frequencies as ZC6KR, though temporary permission had been granted him some months earlier. He wishes to thank all members who helped him in various tests, and he hopes to have a personal QSO with many G members before or shortly after Christmas. We understand he has already applied for a British licence.

* * *

G6TV reports that his call has been pirated.

* * *

Mr. B. Pashley, ex BRS889 and 2AJW, is now G6PJ, and would appreciate reports on his 7 mc. signals.

* * *

G5OU, H. J. Ahier, is now on A.C. mains and operates on 3.5, 7 and 14 mc. bands every week-end. He would appreciate reports at his new address, 4, Roseville Street, St. Heliers, Jersey.

* * *

Mr. S. Riesen (G5SR) reports that his call has been used by an unlicensed station working on 1.7 and 7 mc. Mr. Riesen only operates on 14 mcs.

* * *

Mr. R. V. Allbright (G2JL), of Newport, Mon., advises us that he is not yet 16 years of age, and believes he is the youngest holder of a personal G call in this country.

BERS74 suggests that transmitting stations requiring reports on their signals from specific parts of the world, should preface their test calls as follows: Test DX de G6EE --- reports VU, Pse, or if requiring reports from several countries, Test DX de G6EE . . . reports VU, ST, VK, Pse. He considers that if this procedure were adopted, many BERS stations who, for certain reasons, are unable to transmit, would forward reports of value. He, in company with BERS79, complains that more than 50 per cent. of the British stations he has QSL'd have failed to acknowledge receipt of his card.

* * *

Mr. H. McTrusty (BERS180) is now VU2BN. His QRA is Embarkation Staff, Keamori, Karachi, and he will be glad to receive reports from G stations.

English and Welsh County Representative Elections, 1933.

In accordance with the notice printed in the June, 1933, T. & R. BULLETIN, nomination forms for County Representatives are published below.

All corporate members are entitled to nominate other members to serve as C.R.s for the year 1934, providing the person nominated is agreeable to his name being submitted.

Members nominating others must be resident in the county in which the nominee normally resides.

Nominations must reach Headquarters not later than October 28, 1933. In the event of more than one person being nominated in any one county, an election will be held. Ballot forms for this purpose will be published in the November issue of this Journal.

For the purposes of these elections, the main London postal areas will rank as counties. These are as follows: N., N.W., S.W., S.E., W. and E. Middlesex will be considered as a separate county, as will the East Riding of Yorkshire.

In the event of no nomination being received from the members in a particular county, Council will either invite the present C.R. to serve or appoint a new member to the position.

English and Welsh County Representative Elections, 1933.

To the Secretary,
R.S.G.B., 53, Victoria Street,
London, S.W.1.

I wish to nominate Mr.
Call Sign....., of.....
to serve as Representative for the County of
during the year 1934,
and have obtained his permission to put forward this nomination.

Signed

Call Sign

Address

Date.....

N.B.—(a) All nominations must be received by October 28, 1933; (b) the nominated member must live in the nominee's county; (c) each corporate member may only nominate one other person.

NEW MEMBERS.

HOME CORPORATES.

- H. W. STEWART (G2CY), 47, Dynevor Road, N.16.
 C. W. ANDREWS, M.C., R.E. (G2TP), 4, White Horse Drive, Epsom, Surrey.
 A. R. GARDNER (G5RD), Ashleigh, Abbots Langley, Watford, Herts.
 W. E. RUSSELL (G5WP), Wych Dell, Oak End Waye, West Byfleet, Surrey.
 J. W. MOORHOUSE (G5XJ), 3, Highlands, Royton, near Oldham, Lancs.
 E. L. GARDINER (G6GR), 45, Conduit Street, W.1.
 C. REYNOLDS (G6GX), 71, Siddall Street, Oldham, Lancs.
 MAJOR J. TIMBRELL (G6OI), Rydal, Wall Heath, Kingswinford, Staffs.
 E. J. PICKARD (G6VA), 107, Alexandra Road, Croydon, Surrey.
 G. GHEY (G6VJ), R.N. College, Dartmouth, Devon.
 M. B. EDWARDS (2ALX), 38, Junction Road, Brentwood, Essex.
 F. J. TOMLINSON (2ATL), 115, Haslingden Old Road, Rawtenstall, Lancs.
 F. W. EILINGER (2AZU), 53, Nuns Road, Winchester, Hants.
 A. OATES (2BGS), 12, Tolson Street, Dewsbury, Yorks.
 A. V. WHITE (BRS1199), 4, Brockman Road, Cheriton, Kent.
 E. A. MACKAY (BRS1200), 46, Rosslyn Crescent, Edinburgh.
 C. H. RODDIS (BRS1201), 88, Kent House Road, Beckenham, Kent.
 R. H. PRITCHARD (BRS1202), Bronderv, High Street, Prestatyn, North Wales.
 B. LYTHABY (BRS1203), 14, Rose Street, Peterhead, Scotland.
 R. H. GILL (BRS1204), Old Farm House, Grand Bouet, Guernsey, C.I.
 J. CLOUGH (BRS1205), 1017, Leeds Road, Bradford, Yorkshire.
 M. J. HEAVYSIDE, B.Sc. (BRS1206), 325, New Hey Road, Bradford.
 N. SMITH (BRS1207), 45, Sheridan Street, Wakefield Road, Bradford.
 R. P. DENMAN (BRS1208), Heston Airport, Hounslow, Middx.
 S. D. PERRY (BRS1209), 19 and 21, Artillery Street, Colchester.
 H. D. A. POCOCK (BRS1210), 15, Hilgrove Road, N.W.8.
 J. H. WOOD (BRS1211), "Deepdale," Marine Road, Prestatyn, North Wales.
 A. G. CLARKE (BRS1212), 175, Bacup Road, Rawtenstall, Lancs.
 W. A. LAIDLAW (BRS1213), Brockmoor, West Sleekburn, Northumberland.
 C. JAMES (BRS1214), 3, Newick Road, North Moulsecoombe, Brighton.

- H. T. DEAS (BRS1215), 116, Cromwell Road, St. Andrews, Bristol.
 W. GOODEY (BRS1216), 35, Riverside Walk, Isleworth, Middx.
 H. DIGGLE (BRS1217), 165, Lord Street, Southport, Lancs.
 L. O. JONES (BRS1218), Carisbrooke, Avenue Gardens, Horley, Surrey.
 W. J. E. BROWN (BRS1219), Applemead, New Chapel Road, Lingfield, Surrey.
 P. HAWKER (BRS1220), Station Road, Pulham Mary, Norfolk.
 M. T. MASON (A), 26, Parsons Green, Fulham, S.W.6.
 J. C. YOUNG (A), 150, Southgate Road, N.1.
 E. D. TRUMAN (A), 10, Arundel Road, Cheam, Surrey.
 DOMINION AND FOREIGN.
 ING. MARIO SANTANGELI, Paolo Giovio 45, Milano, Italy.
 A. J. WELLS (VK2FI), "Rosedale," Girral, N.S.W., Australia.
 W. M. MOORE (VK2HZ), 348, Miller Street, North Sydney, N.S.W., Australia.
 F. M. GRAY (VK5MU), 52, Ormond Grove, Toorak Gardens, Adelaide, South Australia.
 F. E. GILFILLAN (VQ4CRO), P.O. Box 460, Nairobi, Kenya.
 S. G. FISHER (VQ4CRP), P.O. Box 1033, Nairobi, Kenya.
 C. S. MACLACHLAN (VS7AL), Sheen Group, Pundaluoya, Ceylon.
 M. K. MIN, I.C.S. (VU2BH), Deputy Commissioner, Minbu, Burma.
 N. C. STAVROU (W2DFN-W3AWB), 51, South Orange Avenue, Newark, N.J., U.S.A.
 A. C. SPEYER, Jr. (W8DML), 5639, Bartlett Street, Pittsburgh, Pa., U.S.A.
 A. CHENIK (ZS6Q), P.O. Box 745, Johannesburg, South Africa.
 A. A. GOLDIE (BERS182), Manora, Sind, India (temp, 16, Derek Avenue, Hove, Sussex).
 C. A. BROWN (BERS183), H.M.S. *Royal Sovereign*, c/o G.P.O., London.
 I. le D. HUGHES (BERS184), C.S. *Norseman*, c/o J. C. V. Mendes, Esq., Rua Misericordia 12, Rio de Janeiro.
 G. H. COLEMAN (BERS185), c/o United Africa Co., Ltd., Warri, Nigeria.
 N. S. MOUNSDON (BERS186), Hukan Pukri T.E., Tinsukia P.O., Assam.
 J. C. MORRIS (BERS187), Wireless Station, Pishin, Baluchistan, India.
 W. A. ATTERBURY (BERS188), Post Office, Dar-es-Salaam, Tanganyika.
 R. E. ROLLER (BERS189), Villa La Vedetta, Chiberta, Anglet, B.P., France.

R.S.G.B.
NOTEPAPER.

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RADIO SOCIETY OF GREAT BRITAIN

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The T. & R. BULLETIN is published on the 14th of each month. Orders, Copy and Blocks should reach us by the 30th of each month for the following month's issue.

All applications for space or specimen copies should, please, be sent to Advertisement Manager,

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PATENTS

PATENTS obtained, Trade Marks and Designs registered, British and Foreign.—GEE & Co., Patent and Trade Marks Agents (H. T. P. GEE, Member R.S.G.B., A.M.I.R.E.), 51-52, Chancery Lane, London, W.C.2. Telephone: Holborn 1525.

A. MATHISEN, B.Sc., Patent Agent. Specialist in obtaining patents for Television and Radio Inventions. Working drawings, circuit diagrams prepared. Exploitation Advice. Preliminary interview free.—FIRST AVENUE HOUSE, High Holborn, London, W.C.1. Holborn 8950.

CORRESPONDENCE.

The Editor does not hold himself responsible for opinions expressed by correspondents. All correspondence must be accompanied by the writer's name and address, though not necessarily for publication.

Modulation.

To the Editor, T. & R. BULLETIN.

DEAR SIR,—*Re* Mr. Canning's article "Modulation," in your July issue, I would like to call the author's attention to what I believe to be a misstatement in the last paragraph of his article. He says, in short, an aerial used for telephony must not have too high a resistance, else the oscillations will not build up or decrease rapidly enough to follow the variations of amplitude of the carrier current. Surely he must mean the aerial must not have too *low* a resistance. The lower the resistance, the less the damping and the greater the persistence of oscillation.

I have no doubt that the long-wave telephony aerial demands some consideration on this point, since the ohmic resistance is low and, in general, the radiation efficiency poor, but in the case of short-wave working, the much higher ohmic resistance plus the high radiation efficiency make it unnecessary to even consider the point.

In the paragraph where the author discusses aerial coupling for maximum coupling, I think his statements need some qualification. In the case of a self-excited oscillator it is usually not possible to work at the point of maximum aerial current owing to an instability effect of the oscillator, but in the case of the properly driven P.A., provided that the driving excitation is sufficient to completely swing the anode volts when 100 per cent. modulation is applied, *i.e.*, when the anode voltage is doubled, and if the filament can emit sufficient electrons and not cut off on peak modulation, then why not couple the aerial to a point of maximum aerial current?

In his remarks regarding Series Plate modulation, the author says that it is a disadvantage that the modulator's filament has to be at the same D.C. potential as the anode of the R.F. valve. If the circuit is arranged as described in an article by the undersigned in the December, 1932, BULLETIN, the modulator filament and other apparatus associated with the modulator are no longer at a potential above earth. With this arrangement, the filament supply to the oscillator will be at the D.C. potential of the anode of the modulator, but since the use of A.C. for filament lighting is very general in amateur transmitting equipment, it is no very great disadvantage that one must arrange that the filament transformer's insulation shall stand this potential difference. In any case, the extra expense is well offset by the saving of the cost of a speech choke that would be required in the choke control method, since one is not needed in Series Modulation.

I must also take exception to his statement that full and undistorted modulation is unobtainable with series modulation. It is easily possible to obtain equal results as with choke control, and with the added advantage that the reverse applies regarding his statement concerning non-linearity of modulator characteristics. For some reason which I have been unable so far to discover, the modulated

R.F. output remains linear with series modulation even though the modulator be swung to bottom bend portion of its characteristic. It can be swung from immediately below where grid current starts to where cut-off begins. I believe I am correct in saying that the B.B.C. are using series modulation in some of their latest stations, and, since they have the choice of all the systems of modulation, that speaks well for the fidelity of series modulation.

Yours faithfully,
P. JOHNSON (G5IS).

To the Editor of T. & R. BULLETIN.

DEAR SIR,—In reply to Mr. Johnson's letter, I should like to make the following remarks:—

First of all, in the last paragraph of my article dealing with telephony aerials I attempted to convey the impression that the resistance of a telephony aerial must be a compromise. I was wrong only inasmuch as I stated that if the resistance was too high the oscillations would be sustained. What I actually intended to say was that if the resistance was too high the oscillations would not build up quickly enough and if it was too low they would die away too slowly—hence the compromise. I certainly did not mean too low a resistance, as Mr. Johnson suggests, as that would be equally incorrect.

Where he discusses the ohmic resistance of long and short wave aerials I presume that he is referring to the impedance and not the ohmic resistance. Surely the resistance of a long wave aerial is higher than that of a short-wave aerial, but owing to the smaller reactance on the long-wave aerial the resultant impedance becomes lower than that of the short-wave aerial. My article was intended to be a general outline of the subject of modulation, and that is why I took aerials into consideration.

With reference to aerial coupling, I fear Mr. Johnson has misunderstood my meaning. I intended to point out that very often in practice maximum aerial current does not give the cleanest signal. He outlines the ideal conditions necessary for drawing maximum aerial current, but how frequently do these conditions prevail? It has always been my experience that a value of aerial current just below the maximum value gives the best signal. There are two such positions, but one tends to give a rough signal.

No doubt he has made a study of Series Plate modulation and brought it to a high degree of perfection in spite of its disadvantages. In his modification of the system, which can only be utilised on A.C. mains, and requires a relatively higher voltage from the power pack, he has certainly practically overcome one of the main disadvantages of this system of modulation. There are many amateurs who have neither A.C. or the means of producing the high anode voltage necessary for Series modulation. Also I fail to see that the cost of a speech choke is a matter of importance when the complete outlay on each system is considered. I venture to suggest that the cost of series modulation

is the greater. Not having had experience with this form of modulation, I cannot dispute the fact from a practical standpoint that he has obtained complete and linear modulation in spite of all theory, but I must take exception to his statement that results are equal to choke control with an added advantage. Choke control is certainly a more flexible and universal system.

Finally, I should like to say that the B.B.C. exclusively use "Anode modulation by choke or transformer," and in their latest ultra-short-wave transmitter they are using "a high power choke control system." This fact speaks a good deal for the advantages of choke control.

Yours faithfully,

F. R. CANNING (G6YJ).

A QSL Appeal from India.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I am writing this to those transmitting members who receive QSL cards from non-transmitting members like myself, and have failed to acknowledge receipt of same.

At the cessation of the B.E.R.U. contest, I despatched 71 cards, but to date, six months later, only thirteen replies have been received. This is hardly fair, because we are not receiving stations through any lack of technical or operating skill. Amateur transmission is not permitted here and reception therefore is our only means of rendering assistance to our fellow-amateurs.

I hope this will catch the eye of some of those that have not acknowledged the cards from BERS74 and 79, which are now on their walls.

73 and best DX, O M,

R. EVENETT (BERS 79).

VISIT TO "HIVAC" VALVE FACTORY.

THOSE of us who were fortunate enough to visit the "Hivac" valve works in Farringdon Street on Saturday, August 19, were treated to a practical and interesting demonstration of the firm's endeavours to compete with the cheap foreign valves which are being marketed in this country.

We were shown over the factory by Mr. S. de Lazlo, one of the directors of the company. The thorough knowledge of the subject which he was demonstrating proved of great value to his listeners, and that which might have been just an ordinary "showing round the works" resolved itself into a highly technical demonstration of how valves should be manufactured. Enquiries elicited the fact that only an average of 3 per cent. of the valves issued are returned as "duds" or not coming up to the purchaser's requirements. This in itself speaks well for the meticulous care which is exercised in order to produce and supply a valve to the public which shall be second to none.

The intricate parts of the valve are entrusted to the adept fingers of the girl workers, while the more sturdy operations are undertaken by the male staff, the whole of the work, from start to finish, being performed in perfect harmony.

We were first shown how small glass tubes were heated and manipulated in order to form what is

known as the "Pinch" or "Stem." Into this are fixed the various wires for the electrodes, the whole being pinched together while the glass is practically at melting point, then cooled off gradually by means of small gas flames.

The various electrodes are electrically welded together, and to the supports in the "Pinch," and after the filament has been fixed in position, the whole, with its mica supports, which produce a very robust element, is fitted into the glass bulb, which is heated and the bottom run together with the "Pinch." The glass is then gradually cooled off by passing it through gas flames of varying sizes and shapes.

Finally, the valve is put on the evacuating pumps. These are so designed that they draw every scrap of air from the inside of the valve. A flame is then directed against the glass sealing-off tube, thus closing the air inlet to the valve. Not satisfied with the vacuum thus produced, the valve undergoes a further process. By means of a coil carrying H.F. currents at varying high voltages the residual gases are trapped to the glass and a still higher vacuum is obtained. Thus the company lives up to its name "Hivac."

We were particularly interested in the unique methods adopted for producing a non-microphonic detector valve (D.210). The rigid assembly leaves nothing to be desired, and one of these valves, since purchased by the writer, compares favourably with other makes of similar characteristics on the market.

Finally, a visit to the laboratory where real research is in progress. We were courteously received, and a considerable amount of trouble was taken by the assistant to let us all see, by means of a microscope, the filaments, etc., of the valve. The process of making the filament was also minutely explained. Several valves taken at random were subjected to exhaustive tests in our presence, the results being extremely impressive.

In the finishing and packing department a special testing panel, through which every valve is passed, ensures that only good quality valves shall reach the public.

The care and individual attention given to each valve provides that "Hivac" valves shall be equal, and in some cases better, than the standard "Ring" valves. The firm is also turning its attention to the production of mains type valves.

The courtesy and attention meted out to the parties by Mr. de Lazlo during a busy morning was appreciated by all, and we came away feeling that the R.S.G.B. had given us an unexpected treat by obtaining permission to see the works.

Further types of these valves have not been examined by the writer as to performance, but judging by the results of the D.210, they should be quite reliable.

The up-to-date methods used by the "Hivac" company can only lead to good results, and their work can be relied on to produce "the goods."

STRAY.

Mr. R. Holmes, G6RH, would like to receive reports from stations in the West of England, and is also anxious to get into touch with amateurs in VQ5. He requests the QRA of FF8SUD.

CONTACT BUREAU NOTES.

By H. C. PAGE (G6PA).

THE chief point of interest in this month's Notes seems to be the report from the 56 mc. Groups. It will be seen that our 56 mc. men have been by no means idle, and I must congratulate them on the results they have obtained, and still more for the full report of the same.

G6MB reports that the Fading Groups have nothing of interest to report this month. Owing to pressure of business, G6MB finds it necessary to relinquish the Group Managership at the end of September, and it has been decided to amalgamate the Fading and Atmosphere groups under the Group Managership of G2GD. In future, therefore, the groups will be known as the Atmosphere and Fading Groups, and after September all reports should be sent to G2GD at "Aethelmar," Seabrook Road, Hythe, Kent.

The following paragraphs come from VQ3MSN, and those interested in aerial design will no doubt have an answer to his questions.

"How often does one read that so-and-so has erected a Zepp-fed antenna of such-and-such a top dimension, but finds that it is only really satisfactory on one band, and this, one perceives, is usually when series tuning of the feeders is employed.

Given a top, within a foot either way off the working frequency, and feeders of such a length that series tuning can be employed, provided the coupling coil is of normal proportions and that there is a fair amount of capacity in circuit with each feeder wire, adjustment is simple. But, when we come to parallel tuning, the closed circuit formed by the condenser and coupling coil can be the seat of serious derangement. The aim seems to be to load the feeders to their correct working wave, with the paralleled capacity, well away from the point at which the closed circuit would resonate.

Here, one is forced to conclude, that a given length of feeder which can be reduced by series tuning to work on, say, 14 mc., cannot, satisfactorily, be loaded by a condenser alone to operate on 7 mc. To quote an instance, my own aerial is approximately 67 ft. long and therefore $\frac{1}{2}$ wave on 7 mc., and full wave on 14 mc. Feeder is about 18 ft. in length and on 14 mc. tunes down to $\frac{1}{4}$ wave. The coupling coil has five turns.

In order to get satisfactory working on 7 mc., parallel tuning now being employed, it becomes necessary to add 9 ft. to the feeder.

There seems, also, to be a definite relationship between the C/L ratio and the feeder length in order to obtain maximum output, as has been proved by adjusting the length a foot at a time.

With the latter arrangement, the output valve (an L.S.5) can be loaded up to 60 mil-amps. without showing signs of distress, the aerial current then being about .6 amp.

There is, of course, the disadvantage of having to alter the feeder when changing from one band to another, but this is the only alteration, there being no juggling with different size coupling coils or clips.

The wiseacres may say, 'this is stale news.' Nevertheless, it has taken me some time to find

it, despite the numerous articles that have appeared of late, and if I can find a satisfactory solution to the 'feeders by tapemeasure,' you'll be welcome to it."

28 MC. Group.

G6VP (Manager).

Although many stations have been inactive on account of holidays, and reports omitted, perhaps, through the Show, Convention, etc., yet plenty of work seems to have been done. It is also to be remarked the consistency with which a limited few are working out of England, which makes one wonder whether the long spell of supposed impossible conditions were really so.

From other parts of the world, reports of real DX are to hand. On August 20 SU1AA heard two W5 stations, constituting, I believe, some sort of record. Many high power, and certainly efficient, American stations are regularly on 28 mc., keeping a special watch for British signals, viz., W1CCZ, NY1AB, to mention only two.

The results of our work recently all seem to point to extremely high angle radiation, due to the fact that we are either producing very little useful low-angle rays or that the skip from these is too long. There would also seem to be indicated some gap in the arc of our radiation.

From personal experience, aeriels will not "harmonic" with any degree of efficiency, but must be cut to the precise length for each frequency.

It is not a difficult matter, however, to have a portion at the end that can be cut into and out of circuit.

The activities of the Groups are as follows:—

Group 1A.—G5MP: Heard FM8IH, OK1AW, F8WE, F3AK, EAR227, SM6GM. He noted that most of these are harmonics, and wants to know whether the harmonic has ever been heard when the fundamental was inaudible? (Yes. G6VP.)

G5FV worked D4TGN on the 14/8/33 R9, and again the following day, also OK1AW. He used 100 watts to a pair of DETI's—no push-pull.

G6OY heard EAR227, F8HS, F8CT, D4RPT, F3AK, OK1AW, OK1WX, G5WY, G2FN.

Group 1B.—G5SY states that little more has been possible on the band on account of "understudying" G5QA, the D.R., who has been ill.

G6RP has heard D4TEN, D4ABO, SM6WL, OK1AW, which proves that the S.W. is not a dead area.

Group 1C.—G6VP has heard OK1AW, F8IH, D4TEN, G2FN, G5VB, and numerous harmonics of 14 mc's. Skeds have been kept with NY1AB, W1CCZ, without results.

G5PJ (this is last month's report) worked OK1AW, OK2VA, D4TEN, HAF1G, F8CT, and SU6HL. He remarks that F8CT's signals at 18.00 G.M.T. on June 18 blocked his receiver. Contact with D4TEN was also maintained at R9 each way. He used a 7 mc. $\frac{1}{2}$ λ A.O.G. Since then a horizontal dipole has been erected with the usual twin wire feeder. He predicted a good spell to occur during the first fortnight in August!

G5VB has worked G2YL, F8CT, F8UU, and F8RG, and heard FM8OK.

G2DV joins the group, and at present is using 10 watts to a "doubler" He heard D4TEN, OK2SI, EAR185, and his signals were reported R5 in Germany. His aerial is a 28mc. Windom, coupled inductively, and aerial is $2/2\lambda$ high, 45° to horizontal. He expects to be QRO shortly.

Group 1F.—BRS25 complains that only two of his members are active, and wants a few hard workers to join. He has logged G2YL, YM4ZO, EAR227, OK1AW, OZ7PU, OK1WX, D4TEN, G2YL, I1XX.

G2OA found July 15 the only good day, and did some excellent work. Between 16.45 and 19.05 G.M.T. he QSO'd F8OL, PX0APX F8GQ, F8CT, and SM6WL, and heard G2BM, EAR228 and G2FN. Incidentally G2FN heard G2OA.

SU6HL writes that Egypt seems to be just out of range at the present moment. He uses 85/100 watts to a DETI. Nevertheless he has some excellent work to report. Besides commercial and broadcast harmonics, he heard D4TEN, G5PJ, G2FN, FM8CR, and was heard by OK1AW, YI6HT, F8MI, F8EF, F8LK, FM8IH, OK2VA, G2FN, DEO626, G5PJ, G5VB.

NOTE.—Some of these stations were heard on several occasions, as were the signals of SU6HL. The best periods of the day seem to have been 13.00 to 19.00 G.M.T., with many good contacts just prior to the latter time.

Atmosphere Groups.

G2GD, Manager.

This group has now been divided into three sections: 6A, under the G.M.; 6B, under G5AM; and 6C under 2BCM. All three sections are active in spite of the fine weather and 56 mc.'s, and are collecting a vast amount of material. Very considerable support for the Isobar theory has been given by the month's observations, and it really does appear that for good DX on the shorter waves atmospheric pressure has to be uniform at ground or low levels in the path of the waves. The G.M. would be very glad to hear from any members of the Society who find DX conditions good when these conditions do not prevail.

Now as to the sectional work of the group.

Group 6A.—An interesting log has been sent in by G5MP, and a letter dealing with "Fronts" has been received from ZC6CN, whose observations are in strong support of the theory. Perhaps the greatest interest comes from BERU 165 in Iraq, who says, "Short-wave signals come through best when our machines are on the ground, but when in the air they are very poor. A.P. drops roughly one inch for every thousand feet up, and we normally fly at 2000-3000 feet. Poor reception in the air has baffled everyone here up to now."

Group 6B.—This section is getting down to business, and a report has been sent in by BRS960. The G.C. is keeping a watchful eye on the ionosphere, and useful information from this section is confidently expected.

Group 6C.—Logs were sent in by 2AGR, BRS1093 and the G.C., all of which gave confirmation of the theory. This section is to be congratulated on the excellent manner in which they report.

Ultra High Frequency Group.

G6XN, Manager.

There is some good news this month. Two new

groups have come into being, with centres GIGTK and G2KB, and the membership of this section of C.B. has been trebled. Much interesting work has been done, as is shown by the following group reports.

Group 7A.—Stations G5VY and G5MG have been very active as usual. The former erected 56 mc. gear on top of a 60 ft. tower in Tottenham, and G5MG was worked, with R8 phone both ways. With the aerial very close to the ironwork of the tower, signals from G5VY fell off to R6, but a receiver amongst iron lattice-work at the foot of the tower produced signals from G5MG nearly as strong as those obtained at the top! G5MG finds his new QRA a great improvement for 56 mc. work, and has worked duplex phone with G5QF. Both these stations have been heard by G6XH (Sidcup), G2IH, BRS956, and 565.

G2JH has been busy experimenting with aerial systems, his difficulty being to feed a high aerial from a transmitter on the ground floor. Long feeders and long aerials were not satisfactory, and the best arrangement was found to be a transmitter in the rafters with direct coupled half-wave vertical aerial. This arrangement is also used at G6XN. G2JH is using a push-pull untuned grid transmitter, but finds the size of the grid coil has a large effect on both frequency and output.

With co-operation from G2KB, G2OW, and BRS1105, much work has been done this month at G6XN, and this, together with previous work done by the group and other published work, has produced certain conclusions. Some phenomena perhaps not very generally known has been confirmed. Observations on transmissions from G2OW and G6XN were obtained at the following points: (1) Richmond Park, 6 miles; (2) Chobham Ridge, 21 miles, altitude 400 ft.; (3) Hindhead, 35 miles, 900 ft.; (4) Leith Hill, 24 miles, 1,000 feet; (5) Near Welwyn, 20 miles, 300 ft. G6XN used the aerial already mentioned and about 9 watts input, and G2OW used a long horizontal aerial with only 5 watts. The receiver was O-V-1, with optional quench and a quarter-wave vertical aerial, as described in previous reports. Results in position (1) were poor. Three locations were tried, nothing being heard in one, and in another modulation being just audible with the aerial horizontal only. This applied to both stations in spite of the vertical aerial at G6XN. In the third location moderate signals were heard, and the angle of the aerial made little difference.

Position (2) at first yielded no results, so a long vertical aerial was slung up to a 20 ft. pole, and the carrier of G6XN was heard R4 in intervals of modulation. Equal strength was obtained with the normal aerial provided the receiver was raised 6 ft. above ground level. At ground level no signals were heard with the receiver at the top of the hill, but a few feet below the top the carrier was R5-6 unmodulated and R2 when modulated, phone being QSA3 R7. Still no sign of G2OW—until about 30 feet of horizontal aerial was tried on the receiver. An R5 carrier with tone modulation QSA4R5 was then heard! Signals from G6XN were unaltered. An aerial half as long was useless, and directional effects were very marked. The "45° theory" was found to hold accurately.

The best DX was obtained in position (3) where the carrier of G2OW was R4 on the slope of the

hill (using the horizontal aerial) and R1 at the top. G6XN was inaudible, due, it is thought, to screening near the transmitter.

In position (4) G6XN was R6 at ground level, and in position (5) R2 with the vertical and R4 with the long horizontal aerial. In the last two cases observations were only made on the unmodulated carrier of G6XN. Further tests from Leith Hill produced a contact with G2OL (24 miles), R6 c.w. being obtained with only 0.4 watt in the aerial. G2OL, whose aerial was similar to that used by G2OW was inaudible at ground level with the vertical, and R2-3 with the horizontal $\frac{1}{4}$ -wave aerial. On top of the tower, 30 ft. higher, signals were relatively R5 and R6-7, however. During the contact the long horizontal receiving aerial was used at ground level, signals being R6. The transmitting aerial was $\frac{1}{2}$ -wave semi-vertical.

G6XN has also been working on 2.5 metres. The 5-metre receiver was found to work well on this wave, the only alterations necessary being a smaller coil and an increase of detector H.T. to 100 volts—nearly double. The detector valve is a Cossor 210 H.L. Little difference was observed between a 66 ft. outside aerial, and half and quarter-wave indoor transmitting aeriels, the radiated power being about 0.3 watt. The receiving aerial was 2 ft. vertical. With a clear view, signals were R8 at $1\frac{1}{2}$ miles on the "super," but houses reduced the range to about half-a-mile! Over three miles of flat country with a fairly clear view modulation and modulated carrier were just audible, the transmitting aerial being 2 ft. vertical.

Tests on 5 metres conducted around Welwyn showed that signals could be followed almost continuously in a moving car within 4-5 miles of the transmitter, in spite of the hilly nature of the country. No great differences in results were observed between three aeriels similar to those used in the $2\frac{1}{2}$ metre tests.

The foregoing results have been given in some detail because of their bearing on the following conclusions:—

(1) Vertical and horizontal aeriels, for transmission or reception, are capable of equally good results. Vertical aeriels need not exceed $\frac{1}{4}$ -wave, but horizontal aeriels can with advantage be two or three wave-lengths and must be pointed at an angle of 45° to the direction of propagation.

(2) Horizontal receiving aeriels should be used if the transmitting aerial is horizontal. If the transmitting aerial is vertical, a vertical receiving aerial may be desirable, but a horizontal one is often as good or even better, since vertically polarised waves tend to become horizontal at a distance, especially in the absence of a clear view.

(3) If portable work is to be conducted from a hill-top, the aerial should either be located well above ground level or at a point below the summit. The results obtained in positions (2) and (3) were presumably due to the steep hillside acting as reflector.

(4) For DX an unmodulated wave is advisable. In most cases modulation reduces the carrier strength in about the ratio R6 to R2. This is probably due to the frequency modulation inevitable with self-excited transmitters on these wavelengths, and it accounts for the legend that the modulation range exceeds the carrier range. For consistency and ease of operation, modulation and a "super" are admittedly ideal.

(5) These wavelengths are excellent for portable work. There is evidence that gear can be designed enabling operators on hills 20 and perhaps 40 miles apart to converse while carrying the entire station, without fatigue! The shorter the wave the better, provided screens do not intervene.

(6) 2.5 metres is the shortest wavelength that can be conveniently reached with ordinary apparatus, and there is much to be said for establishing a new band in that region. What about it, O.M.'s?

G6FO and BRS1132 are new members of the group. BRS1132 reports hearing G6SM when the latter was in G-ACCY. G6FO has done much work on push-pull oscillators, and his work with portable gear provides further confirmation of some of the foregoing conclusions.

Group 7B.—The formation of this group has just been completed, with centre G2KB. An interesting report is to hand from G2IC. He has been working in conjunction with G2IG, G2AX/FX, of Bexhill, and 2ASC. His gear was taken to a spot east of Folkestone at 540 ft. above sea-level and contact was made with G2FX, who was 30 miles away at North's Seat, near Hastings. G2FX was R9, and G2IC was R5, using only 4 watts. The latter was heard QSA5 R5 by G5JZ at Heathfield, 40 miles. Unfortunately, G5JZ had an accident with his transmitter, but nevertheless managed to hook G2FX with G6CL at the key.

Group 7C.—The G.C. GI6TK, after taking his gear up 1188 ft. heard faint modulated C.W. from G5BY (Snowdon). Good work, O.M.!

G6XM is working with G6NA. He uses both a 7-valve "super-het" and a 3 valve "super-regen," and finds the "super-het" by far the best. He obtains good results with a 66 ft. transmitting aerial.

G6MF has a transmitter and receiver working, but needs co-operation from other Edinburgh stations.

BRS1082, 2BAB, and 2ABT are experimenting with receivers. BRS877 is co-operating with the G.C. GI5UR will be taking the air shortly.

The hour of 14.00 to 15.00 on Sundays (B.S.T. or G.M.T. according to season) has been suggested as a 56 mc. hour. If all stations who can do so will be on the air during that period, not only will much useful local work be done, but there is a real chance of DX. Several stations are already keeping this schedule, and it is hoped that everyone will do their best to make it a success.

Please note Sunday, October 1, when a West London field-day is to be held on 56 mc. One or more portable stations will be operated at high points in Surrey or Middlesex, and all stations within a radius of 100 miles are asked to co-operate.

1.75 M.C. Group.

G6FO, Manager.

Group 10A.—No reports, but we still want RX station for the WX tests.

Group 10B.—No report.

Group 10C.—BRS689, the G.C., reports little activity, though he has done some listening with a portable RX and has noted some remarkable fading and skip effects. G2UV and G5VT are temporarily inactive. Will 10C members please note that BRS689's QRA is now 58, Gurney Drive, Hampstead Garden Suburb, London, N.2?

NOTES and NEWS



BRITISH ISLES

DISTRICT REPRESENTATIVES.

DISTRICT 1 (North-Western).

(Cumberland, Westmorland, Cheshire, Lancashire.)
MR. S. HIGSON (G2RV), "Hebblecroft," Egremont Promenade,
Wallasey, Cheshire.

DISTRICT 2 (North-Eastern).

(West Riding, Durham, Northumberland.)
MR. L. W. PARRY (G6PY), 13, Huddersfield Road, Barnsley,
Yorks.

DISTRICT 3 (West Midlands).

(Warwick, Worcester, Staffordshire, Shropshire.)
MR. V. M. DESMOND (G5VM), 199, Russell Road, Moseley,
Birmingham.

DISTRICT 4 (East Midlands).

(Derby, Leicester, Northants, Notts.)

DISTRICT 5 (Western).

(Hereford, Oxford, Wiltshire, Gloucester.)
CAPT. G. C. PRICE (G2OP), 2, St. Anne's Villas, Hewlett Road,
Cheltenham, Glos.

DISTRICT 6 (South-Western).

(Cornwall, Devon, Dorset, Somerset.)
MR. W. B. SYDENHAM (G5SY), "Sherrington," Cleveland Road,
Torquay.

DISTRICT 7 (Southern).

(Berkshire, Hampshire, Surrey.)
MR. E. A. DEDMAN (G2NH), 63a, Kingston Rd., New Malden, Surrey.

DISTRICT 8 (Eastern).

(Cambridge, Huntingdon).

DISTRICT 9 (Home Counties).

(Bedfordshire, Hertfordshire, Essex, Buckinghamshire,
Norfolk and Suffolk.)
MR. F. L. STOLLERY (G5QV), "Kingsmead," Lancaster Gardens
East, Clacton-on-Sea, Essex.

DISTRICT 10 (South Wales and Monmouth).

(Monmouth, Glamorgan, Breconshire, Carmarthen, Cardigan,
Pembroke.)
MR. A. J. E. FORSYTH (G6FO), "St. Aubyns," Gold Tops,
Newport Mon.

DISTRICT 11 (North Wales).

(Anglesey, Carnarvon, Denbighshire, Flintshire, Merioneth,
Montgomery, Radnorshire.)
MR. T. VAUGHAN WILLIAMS (G6IW), "Malincourt," Grosvenor Ave.,
Rhyl, Flintshire.

DISTRICT 12 (London North).

MR. S. BUCKINGHAM (G5QF), 19, Oakleigh Road, Whetstone,
N.20.

DISTRICT 13 (London South).

MR. A. D. GAY (G6NF), 49, Thornlaw Road, West Norwood,
S.E.27.

DISTRICT 14 (London East).

MR. T. A. ST. JOHNSTON (G6UT), 28, Douglas Road,
Chingford, E.4.

DISTRICT 15 (London West and Middlesex).

MR. H. V. WILKINS (G6WN), 81, Studland Road, Hanwell,
W.7.

DISTRICT 16 (South-Eastern).

(Kent and Sussex.)
MR. H. A. M. WHYTE (G6WY), Killiney, Worsley Bridge Road
Beckenham, Kent.

DISTRICT 17 (Mid-East).

(Rutland, Lincoln and E. Riding.)
MR. A. E. LIVESEY (G6LI), Stourton Hall, Horncastle, Lincs.

SCOTLAND.

MR. J. WYLLIE (G5YG), 31, Lubnaig Road, Newlands,
Glasgow.

NORTHERN IRELAND.

MR. W. GRAHAM (G15GV), 5 Ratcliffe Street, Donegal Pass, Belfast.

District Notes for publication should be written as concisely as possible and should be in the Editor's hands by the 25th of the month preceding publication. They should be of a general rather than personal nature. Individual reports from County Representatives will not be accepted for publication.

DISTRICT 1 (North-Western).

AS no reports of any kind have been received from the C.R.'s, it is presumed that the holiday period has put a temporary stop to radio activities. Our ranks have lately been increased by the obtaining of the call G6DO by 2ADG and G2RB by 2BCH. May I request that C.R.'s forward reports to me by the 20th of next month, however scanty they may be?

DISTRICT 6 (South-Western).

This month has been a comparatively quiet one in the District. The only reports to hand are from BRS1089, BRS958, G5SY, G5QS, G5WY and G5QA. The D.R. was not able to be present at the Convention owing to illness, but his place was taken by the Devon C.R. (G5SY), of Torquay. DX conditions have been good, all continents having been heard and worked by G5SY and G5QA, the latter with a 66-ft. A.O.G., about 14 ft. high. The 28 mc. band is also improving, but no QSO's are reported. What has happened to the letter budgets, O.M.'s? I hope enthusiasm for them is not on the wane. Let me hear from you by the 20th of the month, so that your activities may be mentioned.

DISTRICT 10 (South Wales and Mon.).

Few direct reports have been received this month, and it seems that the counter-attractions of the summer, and the fact of there being several members away on holiday, account for the apparent lack of activity in the District.

Nothing is known of what is happening down in Swansea, except that 2BJH is now G2UL. In the neighbourhood of Newport, G2PA, 2XX, 5FI, 6FO and 6YJ are busy on 56 mc., and several attempts, so far unsuccessful, have been made to contact Bristol. BRS727 (Cardiff) also has a five-metre receiver under construction.

A number of stations appear regularly on 1.75 mc., which is still our most useful band for local working. G2PA is putting out a remarkably strong signal with very low power, while G5FI maintains a weekly schedule with G5FJ in Kent. G2XX, 6FO and 6YJ are also active on this band.

The District was represented at Convention by G5BI, 6YJ and the D.R. The proceedings are fully reported elsewhere, and were in every way a great success. Convention was exceptionally well attended, and the new arrangements reflect great credit on H.Q. The Society's stand, with a very

good display of apparatus, was always a centre of interest. I can assure the District that the conduct of our affairs is in very good hands, and if this year's Convention is any criterion, the Society is going from strength to strength.

Your D.R. had the honour of receiving the Courtenay-Price Trophy, awarded this year for the first time, and was also lucky in the prize-draw!

Our Conventionette has been fixed for April 8 next, at Newport.

Finally, as winter activities are now in full swing, will you all please report to your C.R.'s regularly by the 15th of every month? Send in as much or as little as you like, but please report, as we want the information for this column.

DISTRICT 12 (London North).

A 56 mc. Field Day was held at The Orange Tree, Totteridge, on Sunday, September 3, when some 15 members attended. Little was achieved in the way of QSO's (G5CD and G5ST being the only contacts), but numerous signals were heard, and many test calls sent out under the call G6CL. Reports will be welcomed. G5CV and G6JP co-operated and made tests with their own gear from various points in the neighbourhood.

Arrangements for the next three District Meetings have been completed, and these will take place as follows: September 23, at G5MG, 24, Morton Way, N.14; October 21, at G5VY, 274, Mount Pleasant Road, N.17; November 18, at G6CL, "Ciel," Hartland Road, N.11.

Meetings will commence at 8 p.m. All members are requested to advise the various hosts if they propose attending.

A very cordial invitation is extended to *all members* who have so far failed to enter into the social life of the district.

DISTRICT 13 (London South).

Just after last month's notes had been sent to Press, four more members reported, which brings us up to 11 people who *read* these notes. We might be in some remote district of China instead of one of the biggest districts (numerically) in the British Isles!!

We have pleasure in extending a welcome to G5SA and BRS250, who have come back to the district again.

Mr. Hunter (G2ZQ) is reluctantly compelled to resign from the position of Sub-D.R. for S.E. London, and therefore the D.R. would be pleased to receive offers or suggestions of help.

G2AI, 2GZ and 5SH report active. G6NF was away on holidays during Convention, and was reluctantly compelled to miss the proceedings.

DISTRICT 14 (London East).

There is little of interest to record owing to the holiday season. At our last meeting G5SY was welcomed. We were particularly interested in his one-valve portable receiver, which was being used during his visit to Convention to ascertain reception conditions around London as compared with Torquay. It is understood he was not in favour of exchanging his QRA! A report on the district's Anglo-Dutch Field Day will be found elsewhere in this issue.

DISTRICT 15 (London West and Middlesex).

The first of the meetings for the coming winter will be held at the QRA of Mr. Feldman (BRS953), 30, Ashworth Road, Maida Vale, W.9, on Wednesday, September 27, at 7.30 p.m. As there are one or two things which need to be discussed, will everyone make an effort to be present?

G6XN is running a 56 mc. field day on Sunday, October 1, and will be pleased to hear from any members in the area who will co-operate with him in getting portable and fixed stations on the air that day.

Reports are again scarce, and at the time of writing only two have arrived. This is absurd when one considers we have a membership of over one hundred within the area. Can anyone ever expect us to write up these notes without a few details of your activities?

Congratulations to BRS1064, who now holds the call sign G2NN. He intends to be on the air shortly on 7,070 kc. with a CO and PA rig, supplied with power from the D.C. mains. G6VP has reported again this month, and apologises for missing the last two months. He is still busy testing aërials, and one wonders whether there is anything he does not know about them. G6WN have not had too much time for the key, but managed to squeeze in a little time on both 28 and 14 mc.

Scotland.

Here we are at the old stance once again expressing the hope that you are all feeling physical benefit from your holiday and are exuding boundless enthusiasm for the winter's radio.

Such news as is available at the time of writing (QRA, Moray Firth by the way) is scrappy, but will have to serve for this occasion.

Bereavement fell upon one of our members, BRS1020 of "A" District, in very tragic circumstances while on holiday, and your sympathy was extended to him and his family.

G6IZ and G6ND have, I understand, been on the sick list, "ND" now having a clean bill of health. "IZ" was not so fortunate, however, as he was removed to hospital about the middle of August suffering from appendicitis. It was rather a shock to the writer, who had been conversing with him the night prior to his admission to hospital. He has made a rapid recovery, however, and hopes to be discharged at the end of the month. Prior to his illness he had been doing some remarkable QRP DX work on 14 mc., having worked four continents, and in addition Cuba, with an input of only 2 watts.

BRS924 of "D" District, who has been in ill-health for a long time, has now completely recovered, and hopes to join in the activities of his District.

So we just failed to drag home the National Field Trophy. Tough luck, me lads! but in congratulating the winners, let us serve them notice that if they wish to retain the Trophy next year will have to put their backs into the organisation of their stations. We have spuk!!

G6WL and his various assistants have been putting in a lot of work on the 56 and 28 mc. bands. Recently, one of the crew (G6ZX) was dragged out of bed after 11 p.m. by G6WL to undertake some special outdoor tests, which, by the way, terminated about 3 a.m. The summer revival of the 28 mc. band saw G6WL very active, and he has

now many QSO outside of Britain to his credit on this band. G5DK has returned from his long sojourn in Manchester, and is at present rebuilding. G6OW has been exhibiting lots of activity on 14 mc. and has now qualified for his W.A.C. certificate. G6RV has not been transmitting during the summer owing to a change of QRA, and we are not yet aware of his winter arrangements. G6GQ has removed from "C" to "B" District, where his address is c/o Milton, 18, Park Crescent, Portsoy, Banffshire.

Since these notes last appeared three "A.A." members have received full licence facilities. They are Mr. Ruthven, of "A" District (G6AR), Mr. Millar, of "C" district (G6WM), and Mr. Duncan, of "A" District, now awaits his call.

2BLJ, "C" District Officer, sends in an interesting report, which, of course, I cannot give *in toto*. The salient facts appear to be that there are quite a number of BRS and A.A. men in the District who are showing leanings towards transmission, and I trust that all will go forward in due course. BRS731 is now licensed as 2BCJ, and consequently relinquishes his BRS number. G5NW has now two new 60-ft. masts erected, and expects to make good use of them at an early date. 2BCJ is shortly to become a radio dealer, and we need hardly say that we wish him every success. His QRA, by the way, is now 152a, Locher Road, Dundee. G6RT and G5IM are known to be active on the 7 and 3.5 mc. bands respectively.

AN ANGLO-DUTCH FIELD DAY.

FIELD days have always formed a regular feature of the programme of activities in District 14, and an innovation was staged for the week-end of July 28-30, when an Anglo-Dutch field day was organised. This was attended by several District members, and a party of Dutch amateurs who travelled from Holland at our invitation.

When the time came for the event, PA0HI was already in London, visiting G6FY, and PA0TT was here on a business trip; the remainder of the party arrived at Liverpool Street Station on the Friday evening, and was met by a reception committee, headed by the D.R.-G6UT. With the assistance of most of the station porters, a party of six, together with their luggage and the district transmitter, were in some miraculous fashion packed into a small car and taken by 2APS for a thrilling midnight ride to our country headquarters at Abbess Roothing, Essex.

On the Saturday morning, after the excitement occasioned by upsetting a bottle of sodium into the duckpond had subsided, the Dutchmen busied themselves in erecting an 80-metre Zepp., and when the main party arrived in the afternoon, they were found strolling about the roof and doing toe dances on top of the chimney stacks! This performance, interesting as it was, was nothing when compared with the subsequent ceremony of re-erecting the aerial by floodlight after its untimely collapse in the middle of the night.

Catering was on our usual field-day lines—"hot dogs" were prominent at all meals, and our guests soon mastered the art of consuming them.

Various open-air sports—mostly of a decidedly novel nature—were indulged in during the week-end. We are still not quite clear who was the victor in the great football match, NVIR v. RSGB and the horse races would have been more successful if the jockeys had succeeded in mounting their horses. The midnight motor race was good fun for the riders, if not for the cars!

Meantime, no time was lost in visual QSO's and "rag-chews," and the district transmitter was in action on 3.5 and 1.7 mcs. On 3.5 mcs., contact was established with a number of Dutch stations, and we had a fine chat with "the voice of Europe"—PA0ASD, the operators of which station had unfortunately been unable to join us in person. These contacts afforded a first experience of 1.7 mcs. working to most of our guests—and Essex is by no means the least interesting county in which to make a first acquaintance with this band!

The party broke up on Sunday evening, to reassemble on Monday morning for a conducted tour of London by the district guide, G6FY. During the day, "land line fone" QSO's were made with various other London members, and the week-end was terminated by an informal gathering at the QRA of G6LL, when G6QB and G6HP joined us.

Those present at the field day were: PA0OF and YL, PA0QQ, PA0TT, PA0HI, G6UT, G6FJ, G6FY, G6HY, G6LL, G2NU, G6SG, and 2APS. On the Sunday, our old friend G2LZ came over with "Cooee," to see what the noise was about, and entertained us with some very acceptable musical items.

Success would have been impossible but for the kind offices of the Misses Rowe, of Rookwood Hall, who went to great pains to provide facilities for us and our guests. We received great help from 2APS, who constituted himself the District 14 Passenger Transport Board, and from G6FJ, G2NU, and PA0HI, who provided receivers. Last, but definitely not least, our thanks are due to our DR, G6UT, for his excellent organisation of the whole show.

R. E. F.

R.S.E.A?

Mr. E. T. Somerset is thanked for the kind greetings forwarded to us for display on our stand at Olympia. He is now located in Nairobi, Kenya Colony, his P.O. Box being 295. Mr. Somerset enquires whether a Radio Society of East Africa could be formed. Interested members in that part of the Empire are invited to write to him direct.

* * * *

Mr. L. Fuller asks us to state that his address for all radio matters is 13, Seagry Road, Wanstead, E.11, and not the Chelmsford address which was published in the June issue of the BULLETIN.

Small Advertisement from G2HL.

With reference to the advertisement published in our June issue by G2HL, we wish to point out that the address should have read: G2HL, Chesham Post Office, Bury, Lancs., and not Bury Lands. The rectifier mentioned as for sale was an H.T.11 not H.R.11.

Empire



News.

B.E.R.U. REPRESENTATIVES.

Australia.—H. R. Carter (VK2HC), Yarraman North, Quirindi, N.S.W.

Bahamas, Bermuda and the Eastern Part of the West Indies.—P. H. B. Trasler, (VP4TA) No. 2 Mess, Pointe à Pierre, Trinidad, B.W.I.

Burma.—W. G. F. Wedderspoon (VU2JB), Government High School, Akyab, Burma.

Canada.—C. J. Dawes (VE2BB), Main Street, St. Anne de Bellevue, Quebec; S. B. Trainer (VE3GT), 4, Shorncliffe Ave., Toronto, 5, Ont.; and A. E. Howard (VE4CJ), 2401, 25th St. West, Calgary, Alberta.

Ceylon and South India.—G. Todd (VS7GT), District Engineers Bungalow, Nuwara Eliya, Ceylon.

Channel Islands.—H. J. Ahier (G5OU), 4, Roseville Street, St. Helier, Jersey, C.I.

Egypt and Sudan.—Lt. E. S. Cole (SU1EC), Haking House, Abbassia, Cairo, Egypt.

Hong Kong.—A. P. Rosario (VS6AN), P.O. Box 391, Hong Kong.

Iraq.—S. A. Rance (YI2DS), A Bungalow, 203 Squadron, R.A.F., Basra.

Irish Free State.—Col. M. J. C. Dennis (EI2B), Fortgranite, Baltinglass, Co. Wicklow.

Jamaica, British Honduras, Turks Island and Cayman Island.—C. M. Lyons, (VP5MK), P.O. Box 36, 12, Port Royal Street, Kingston.

Kenya, Uganda and Tanganyika.—W. E. Lane (VQ4CRH), Box 570, Nairobi, Kenya Colony.

Malaya.—T. G. Laver (VS3AC), Government Electrical Power Station, Johore Bharu, Johore, Malaya.

Newfoundland.—James Moore (VO8AW), Carbonear.

New Zealand.—D. W. Buchanan (ZL3AR), 74, Willis Street, Ashburton; and C. W. Parton (ZL3CP), 69, Hackthorne Road, Cashmere Hills, Christchurch.

Nigeria.—Capt. G. C. Wilmot (ZD2A), Depot Nigeria Regt., Zaria, Nigeria.

North and South Rhodesia.—J. W. Mavis, ZE1JE, P.O. Box 160, Umtali, South Rhodesia.

North India.—T. C. Pratley (VU2AH), Aircraft Depot, Drigh Road, Sind.

South Africa.—W. H. Heathcote (ZT6X), 3, North Avenue, Bezuidenhout Valley, Johannesburg

Australia.

By VK2HC (via VK3WL, ZL4AI and G2ZQ).
During August conditions improved slightly on 7 and 14 mc. VK6SA is reported to have worked W6, using 4 watts, and on reducing to 0.28 watt was still readable. VK2LZ won an A.R.A. cup at a recent hidden transmitter field day.

Australian (Western)

By VK6FO (via VK2HC, VK3WL, ZL4AO and G2ZQ).

Contacts with South Africa have been reported recently, and Europeans have been heard at irregular intervals. The U.S.S.R. Commercials on 7 mc. have prevented that band being effectively used for DX purposes.

Canada.

FIRST DIVISION.

(By VE1BV via G5YH and G6VP).

Conditions during August were poor for local and DX work and very few contacts with Europe are reported. Many new stations are on the air and considerable activity is expected this winter. British stations are asked to look out for VE's on 3.5 mc. (In forwarding this report, G6VP says: "I have had nine contacts with Canada (VE1, 2 and 3) this month; average report R7, and have heard Canadian stations regularly."—Ed.)

FOURTH DIVISION.

By VE4CJ.

Activity has been quiet and QRM was troublesome as usual at this time of year. Steps are

being taken to circularise District 4 stations on behalf of the B.E.R.U. VE4CJ would like to arrange schedules with the other VE representatives.

Ceylon and S. India.

By VS7GT.

Conditions have been decidedly better on both bands and a continuance is hoped for. We welcome Mr. Walker-Alexander, of Hyndford Estate, Nawalapitiya, who as VS7RA makes his debut this month.

An epidemic of phone has broken out on 7 mc. to add to prevailing QRM. Medan, on 41.3 metres, is conducting lengthy regular programmes, and it is feared that VU2LZ is imitating his example. Please don't LZ!

Irish Free State.

By EI2B.

The I.R.T.S. recently held two field days in the Wicklow mountains near Brittas, about 15 miles from Dublin. The President, Commandant Smyth, was present on both occasions, and there was also a good attendance of members. An enjoyable time was spent in locating a hidden transmitter, and prizes were presented to the successful members. EI2D is the first EI station to work Japan, having contacted J6FT during July. This station was also raised a little later by EI5F, who sends me a long list of DX worked during July in Asia, Africa and North and South America, the last including HC and ZP. Both these stations were on 14 mc. The other active stations of whom I have received

reports are EI3C, EI4F and EI7F. EI4D has been on holidays. EI5B and EI8D hope soon to be on the air again after an unavoidable absence of many months. On the whole, activity in EI appears to be looking up again after a rather lethargic period, and I think that this is largely due to the energy and keenness displayed by the President, ably assisted by the Secretary, EI7F, and by EI5F who has volunteered to assist him.

In the Notes for July the call of Mr. H. V. Scott was given in error as 7C, whereas it should have been 7F. 7C is, of course, the call of the brothers J. B. and R. D. Scott. EI5F has moved to Clonsleigh, Shankill, Co. Dublin.

Jamaica.

By VP5MK.

VP5PZ has been active with an input of 9 watts and during the month all U.S.A. districts and ZL4AO were worked. Regular schedules will commence from his station this month. Conditions generally in VP5 have been poor.

Kenya, Uganda and Tanganyika.

By VQ4CRH.

There is nothing of interest to record this month, as all stations report poor conditions during July. Very few signals were heard on the 14 and 7 mc. bands, with the result that "ND" was the chief contributor to station logs covering this period.

However, the usual Sunday East African inter-territory 7 mc. schedules have been maintained by VQ4CRL and VQ3MSN. VQ4CRH has now formed a corner of this weekly sked, and it is likely that at least two more corners will be taken up shortly.

Interest in amateur radio in East Africa has been stimulated by the local press, who have recently given publicity to the B.E.R.U. activities, and it is anticipated that our membership in this zone will be increased by six in the near future.

Two new call signs have been issued, *i.e.*, VQ4CRO and VQ4CRP, both of whom have joined the B.E.R.U.

Malaya.

By VS3AC.

Our latest recruit to the B.E.R.U. is H.H. Prince Ahmad (VS3AE), State Commissioner at Muar, Johore. H.H. has already carried out many interesting tests, including a series from the Sultan of Johore's yacht, *Tenggorah*. VS3AC maintained daily schedules with him during the trip, which was made in the teeth of the S.E. Monsoon. VS1AF is showing signs of returning to activity, as is VS1AD, who occasionally works Java from VS3AC's station.

Fading is still bad when DX contacts come along, but an improvement should occur after the monsoons.

One of the last things done by the late Mr. G. Salt (VS2AF) was to persuade the Malaya group to go C.C. We have never regretted the decision.

VS3AC will be pleased to receive information from European members regarding the fees charged for transmitting licences, as he believes the Malaya fee of £3 for an input of 30 watts is the highest in the world.

Northern and Southern Rhodesia.

By ZE1JE.

Time and tide waits for no man, but the T. & R. BULLETIN does! It has waited patiently for months for news from B.E.R.U. members in Rhodesia.

ZE1JG, of Plumtree, our late B.E.R.U. representative, having intimated his desire to be relieved of his duties, the writer has undertaken to carry on hoping to receive a little support from his fellow B.E.R.U. members.

Heartiest congratulations to ZL4AI and VS7GT for their achievements in winning the Senior and Junior B.E.R.U. Trophies respectively.

Lieut. N. A. M. Swettenham (VQ2BC), one of our two members in Northern Rhodesia, passed through Umtali recently on his way home on leave. We are very sorry to lose him. Should this meet his eye, kindest regards from the Umtali Gang.

The following members are at present active: VQ2XD, ZE1JJ, ZE1JH and ZE1JF. ZE1JM is off the air temporarily owing to duty demands, and ZE1JE is busy rebuilding.

Northern India.

By VU2LJ.

Only two reports have been received, but many VU stations are known to be active.

In the Eastern and middle of India both the 7 mc. and 14 mc. bands have been very dull and uninteresting, especially the former, where frequent local lightning storms drown any signals heard. VU2FP reports VU-G contacts impossible till the end of the monsoon.

BERS150 states that conditions have been very good, especially as regards the reception of British stations.

VU2FP proposes forming an Eastern R.C.C. Interested members are asked to communicate with him direct or *via* R.S.G.B.

New Zealand.

By ZL4FD (*via* ZL4AO and G2ZQ).

Electron-coupled oscillators are being used by many ZL amateurs, and good results are being achieved. (Can we have an article from one of you for the T. & R. BULLETIN?—ED.) Over 100 N.Z.A.R.T. members have registered their crystal frequencies at H.Q.'s. The August issue of "Break In" includes an excellent article on portable equipment, and a complete list of ZL crystal registrations. ZL4CK (the N.Z.A.R.T. QSL Manager) handled 4,500 incoming cards for ZL members and forwarded 1,500 cards during the first six months of this year. Europeans can be worked up to 06.45 G.M.T. on 7 mc. and from 21.30 to 23.00 G.M.T. on 14 mc.

Palestine.

By ZC6CN (*via* G2DV).

ZC6CN has been active daily on 14 mc., but no other ZC6 stations are now working. ZC6CN is busy with Contact Bureau work on weather and DX, on which all notes have been sent direct to G2GD.

* * *

Stray.

YI2DS asks us to state that owing to his hurried departure from Iraq to Muscat, he has been unable to acknowledge all the reports on his signals.

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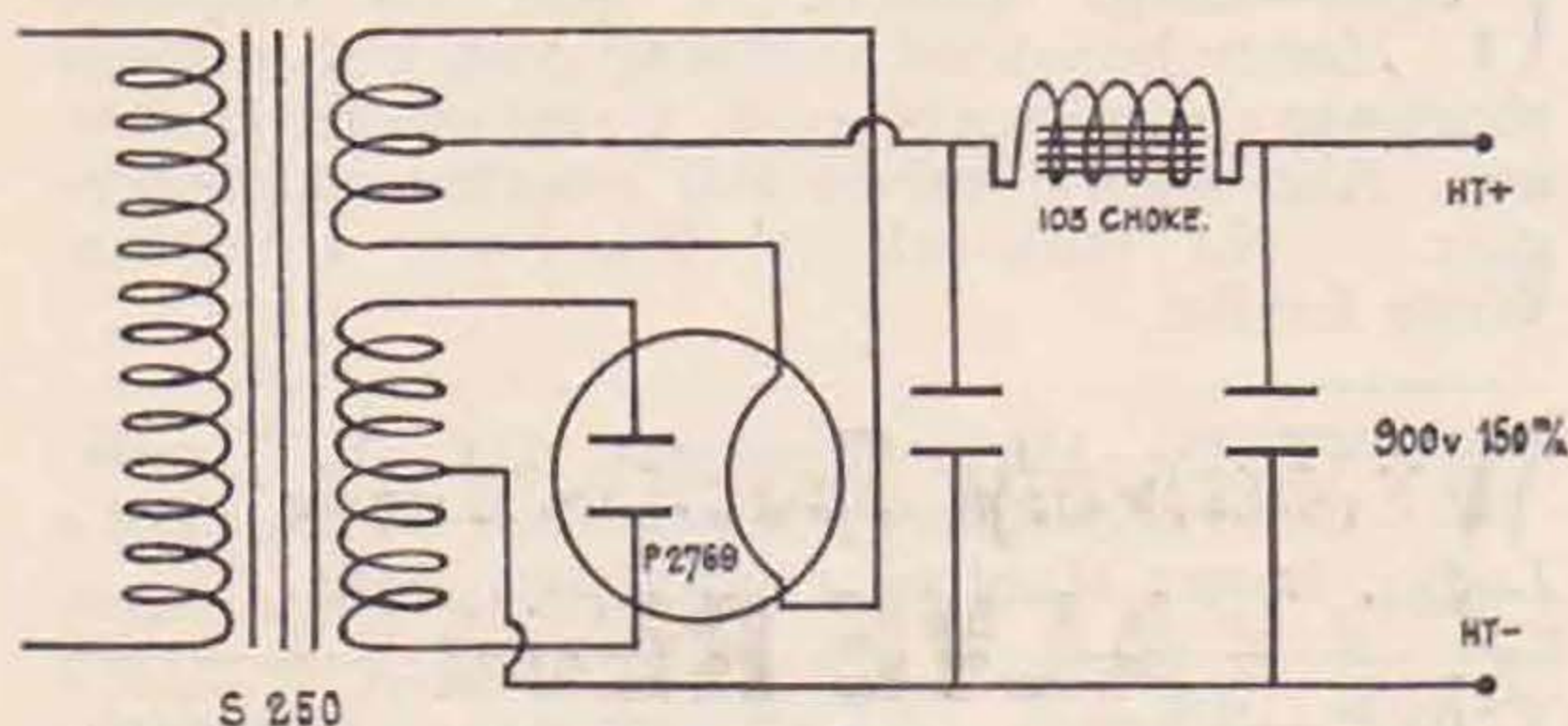
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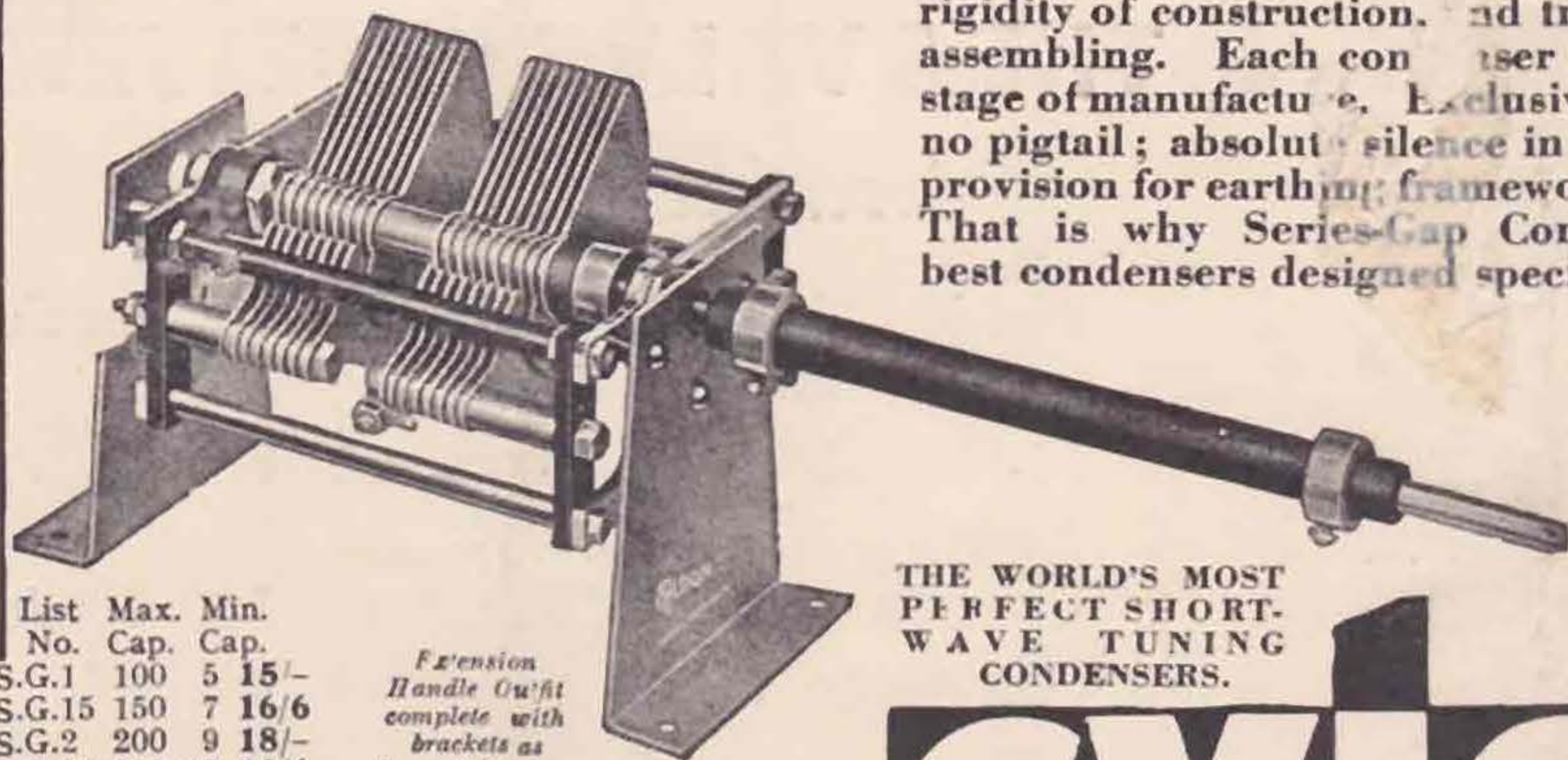
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