

Vol. 2. No. 2. August, 1926.

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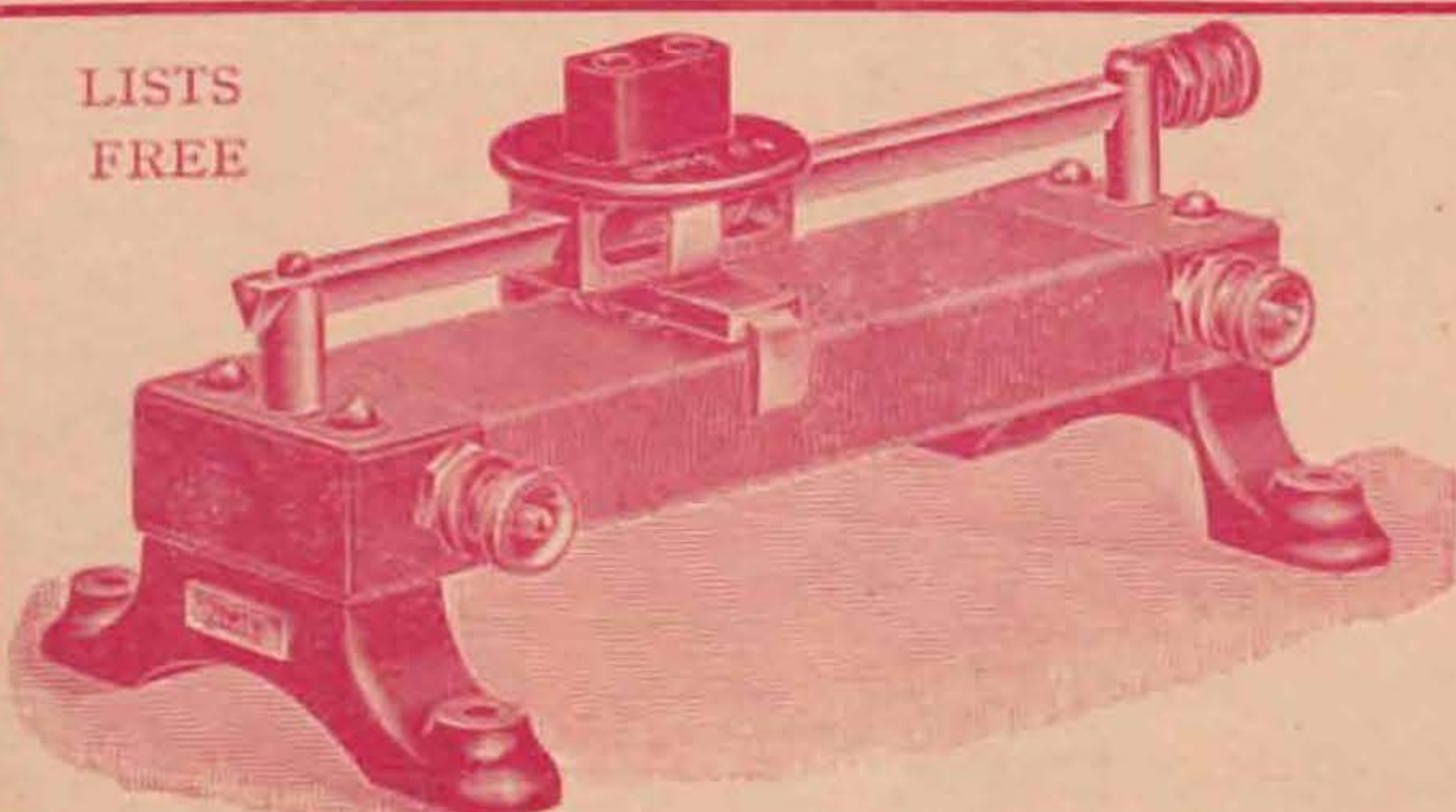
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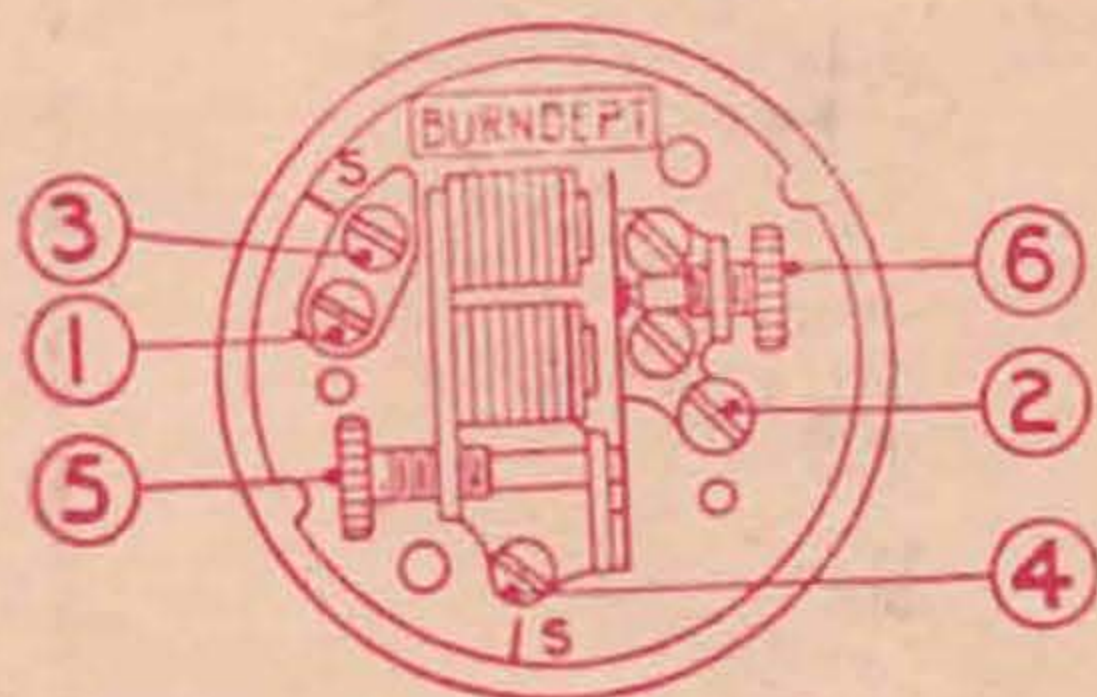


HERE is the Buzzer for which you have been waiting. Ideal for wave-meters and many other purposes. One that is self-starting, and trouble free. The note is clear and steady, and of constant frequency. By means of a convenient thumb screw it can be adjusted to vibrate at any frequency from about 500 to 800 per second.

A single $1\frac{1}{2}$ -volt dry cell is usually sufficient for operation, the current then being about 40 milamps. but two cells may be used if desired. *The Buzzer is provided with a self-contained non-inductive shunt across the magnet bolbins, and therefore may be placed straight across any coil and condenser to generate radio frequency oscillations.* The Buzzer is circular, $2\frac{1}{2}$ inches in diameter, $1\frac{1}{8}$ inches high. The whole is protected by a bright nickelled brass cover.

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Referring to the Diagram:—



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- 2** Screws 3 and 4 are connected to the two ends of the 30-ohm shunt which is wound in the grooved flange of the moulded base; this shunt may be reduced in value if desired by removing some of the wire (each turn equals about 3 ohms.)
- 3** Thumb screw 5 adjusts the tension of the armature and therefore the frequency of the note.
- 4** Thumb screw 6 adjusts the make-and-break contacts (which are made of special non-burning alloy).

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T. & R. Bulletin

Devoted to the Interests of the Transmitting Amateur

— The Official Organ of —
THE TRANSMITTER AND RELAY SECTION
of

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



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The EDITOR will be glad to receive articles and illustrations within the scope of the BULLETIN. The illustrations should preferably be double size and should be original. Contributions should be addressed to 53, Victoria Street, S.W.1., and marked EDITORIAL, ADVERTISEMENTS, Etc.



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The T. & R. BULLETIN IS SENT POST FREE TO ALL T. & R. MEMBERS.

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Edgewise Wound Copper Strip

I MUST apologise for the delay in deliveries of my edgewise wound copper strip.

The machine which we primarily used for winding the strip was satisfactory for small quantities, but now that the demand is so tremendous, it was imperative that I should devise some more efficient means of production.

The new arrangements have now been completed, and supplies are now available.

The coils in future will be much harder, another great improvement, brought about by the improved method of manufacture, and can be supplied either made up into the finest low loss self-supporting transmitting inductances ever designed, or alternatively, we can supply the strip only, wound on edge in coils of up to 150 turns.

We have supplied these inductances not only to amateurs, but to commercial concerns all over the world, in fact, the demand has been so vast that, whereas we used to refer to it in terms of so many turns, we now refer to it in TONS.

Write for a free sample and particulars.

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T. & R. BULLETIN

The only British Wireless Journal Written and Published by Amateurs

AUGUST, 1926.

Vol. 2. No. 2.

EDITORIAL

Well Done !

IN our June issue we directed attention to the position of the transmitting amateur as regards the lack of helpful technical literature since the advent of Broadcasting. It was stated that but for the BULLETIN his needs in this direction are entirely overlooked in this country, and likely to remain so for so long as the Broadcast listener remains the greatest source of revenue to the commercial technical press. That short editorial resulted in a marked increase in the membership of the T. & R. Section, and we are happy to say that the number of really useful and instructive articles submitted have also increased considerably. Some of these appear in our present issue, and we are sure that they will be greatly appreciated.

Ourselves and the B.B.C.

At the present moment the Broadcast public is evincing much concern as to the future of Broadcasting and in what manner it will be affected by the proposed Government control. We also are concerned in this question, and somewhat intimately at that. For a long time past we amateurs have worked amicably with the B.B.C. in controlling the ether and keeping it as clear as possible for all concerned. Closed hours, during which our members refrained from transmitting, have been in force and so far as possible our Executive has curbed the not unnatural desire of many headstrong people to avail themselves to the full of the terms of their licences. In doing this we felt sure that it was for the good of all concerned. Complaints of interference caused by amateurs to Broadcast programmes have been carefully investigated, with the result that whenever such interference did in fact exist it was stopped immediately. Happily, however, the majority of them have been unfounded so far as the amateur is concerned, and most of them were attributable to entirely different sources to that suggested by the complainant. All this work has only been possible through the very sympathetic, impartial and fair-minded attitude displayed by the responsible B.B.C. officials, and it is our earnest hope that such relations will continue to exist under the new system of control at present contemplated.

Quo Vadis ?

We were particularly interested in an editorial appearing in a contemporary journal. The article under discussion makes it clear that the amateur

transmitter of America is the mainstay of the wireless industry. A previous issue of the journal is said to have contained more advertisements than any other American wireless magazine.

The reason for this is not hard to seek. Every B.C.L. experimenter is an embryo amateur transmitter, and sooner or later he becomes satiated with listening and yearns to make use of the ether himself. The result is that he wants literature on this particular aspect of radio work and there is only one place to get it—from the people who have specialised in producing it. Therefore we see QST forging ahead as it deserves to do, large numbers of recruits flock to the A.R.R.L., the publishers of the journal, and amateur radio is firmly established in America.

What has happened in America may also happen in this country. Although physical and other conditions differ, we find that fundamentally British and American amateurs have much in common. The popularity of Broadcast in this country is already, we think, bordering on the saturation point, for it is not easy to foresee another wireless boom such as we experienced a few months ago.

The unexpected often happens, however, and it may well be that the coming winter will see the peak of the popularity of broadcast, in which case it may only be a matter of a few months ere we shall begin to experience the same symptoms as those referred to in QST, an influx of new members, and a stabilising of our position with a corresponding increase in the size of the BULLETIN. May it be soon !

In the meantime, our membership steadily increases, thanks to the splendid work of Jamblin, Hampson, Wyllie and Wright. The flat part of our membership curve, which rested for about a year, has long been passed, and new members and therefore T. & R. BULLETIN readers come in at about thirty per month, **even in midsummer** ! Surely an excellent sign.

Trade Members.

The Section possesses a large number of trade members, and it is to be hoped that they will not lose sight of our advertising columns as a medium for bringing their goods to notice. Manufacturers and factors will find on studying our membership lists that a very large percentage of our members are associated with the trade either as dealers or in a professional capacity. Therefore we suggest that our columns are eminently suitable for bringing fresh lines before the retailer as well as the buyer.

Advertisers are assured of receiving the support of every one of our readers, for esprit de corps is one of the factors which is making this section of the Radio Society of Great Britain a real live body.

Methods of Signal Strength Measurement.

By W. HARTLEY (G6YR).

It is well known among amateur transmitters that the usual method of indicating signal strength is by rough guesswork on the famous "R" scale, but, unfortunately, what may be one man's R5 may be another man's R4 or R6.

Another method is the "shunted phones" idea, which is supposed to be much better than the "R" scale. Readers need hardly be reminded that the arrangement simply consists of a resistance, suitably arranged and capable of variation, which is shunted across the listener's phones and varied until the signal being received verges on the disappearing point. It may reasonably be supposed that some listeners have much more sensitive ears than others, and therefore this system of signal strength measurement is, in the opinion of the writer, not of sufficient accuracy.

There is another arrangement, which is undoubtedly much better than either of the previous two methods, and consists mainly of an iron core transformer, the primary of which is connected across the output of the receiver being used, and the secondary connected in series with a crystal detector and sensitive galvanometer or micro-ammeter. It will be found that an ordinary low-frequency transformer may be used and so arranged to give a current step-up, i.e., the secondary used as the input and primary joined to the detector and micro-ammeter. Fig. 1 explains this, and it may be pointed out that at x in the diagram a pair of phones may be placed, in order to keep a check on the signal being measured.

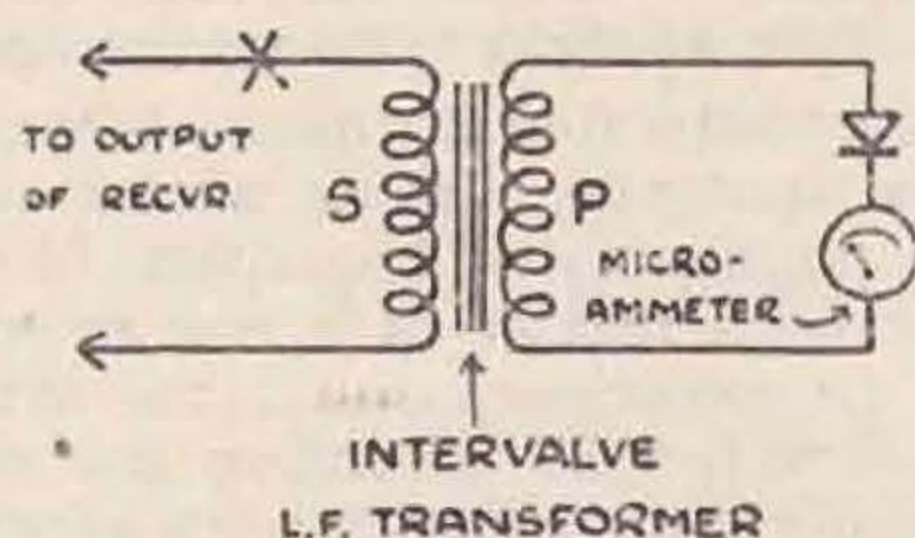


FIG. 1.

Now, even on the broadcast band of frequencies, it is quite a difficult matter to use such an arrangement and be absolutely certain of accurate results over long periods. The voltages of both the filament battery and anode battery must remain constant, the exact degree of regeneration must be maintained, and, lastly, the crystal setting must remain good.

Using accumulator H.T. and a good big L.T. battery disposes of the battery trouble to a certain degree, and discarding reaction and using plenty of H.F. amplification gets rid of the regeneration difficulty, but, apart from the so-called permanent mineral crystal detectors, very little can be done to really obtain a reliable crystal detector, consistent with sensitivity.

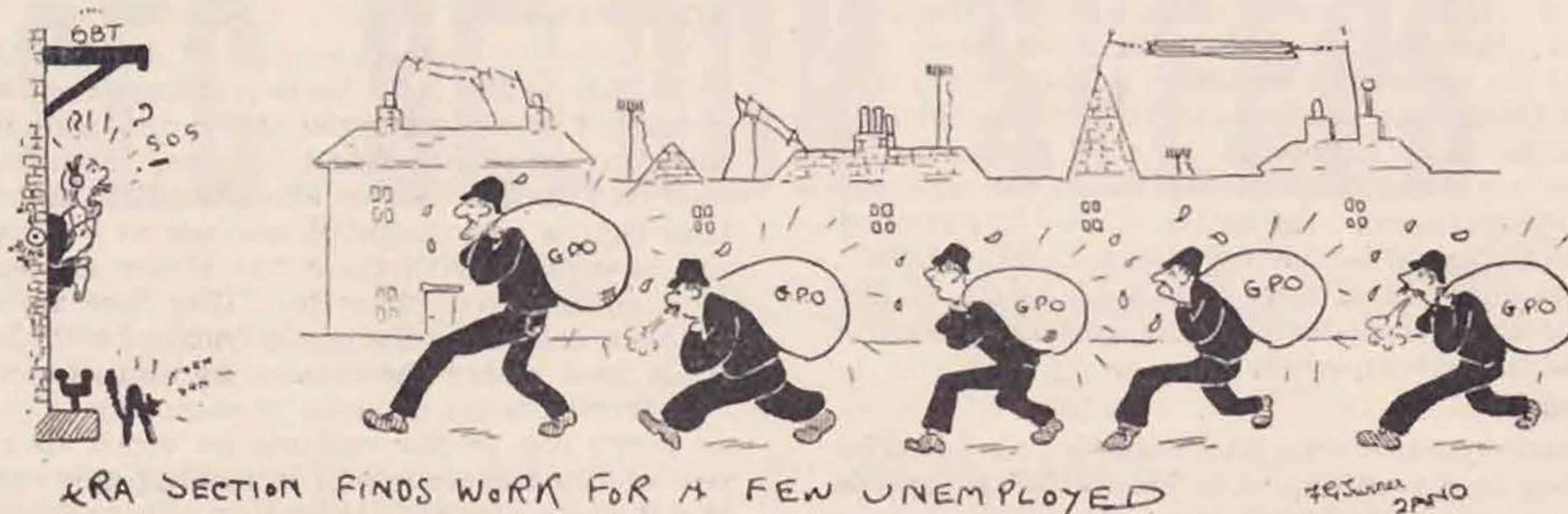
Let us now use this arrangement on the much lower waves of 45 or 90 metres. For a start, owing to the extreme difficulty of H.F. amplification on these waves, reaction must be used for any distant signals, and this tends to make tuning for maximum deflection of the needle of the micro-ammeter rather a ticklish process. The trouble seems to be that unless one has a rock steady signal and verniers all over the receiver, the beat note wanders up and down in pitch, and the needle of the micro-ammeter does likewise.

Matters are made much worse if any low-frequency stages are used to bring the signal up to a measurable value, as the best of inter-valve transformers have decided peaks in their amplification curves. The moment the beat note of a signal drops on to the same frequency as one of these peaks, up goes the needle of the instrument again. Incidentally, resistance capacity coupling is not free from peaky amplification.

The writer, in the course of some signal measurements in connection with 6LU's "Conductivity of Air" experiments (see BULLETIN, April issue, page 16), has done the measuring with such an arrangement as above described, and although the distance between the stations is only about three miles, great difficulty was experienced in keeping constant details, such as aerial coil coupling, reaction control, etc., even on 90 metres. It was found that the best method was to arrange for a long dash to be sent by the transmitter and, by very careful tuning, obtain the maximum deflection on the instrument. A series of three readings were taken one after another, and an average taken.

There are other methods, but none have been applicable, in the writer's opinion, to short waves, and what is being sought after at this station is a reliable arrangement of apparatus capable of application to an ordinary receiver so that distant transmissions may be measured with a good degree of accuracy.

It is hoped to describe such an arrangement shortly, and many modifications of the above are being tried here.



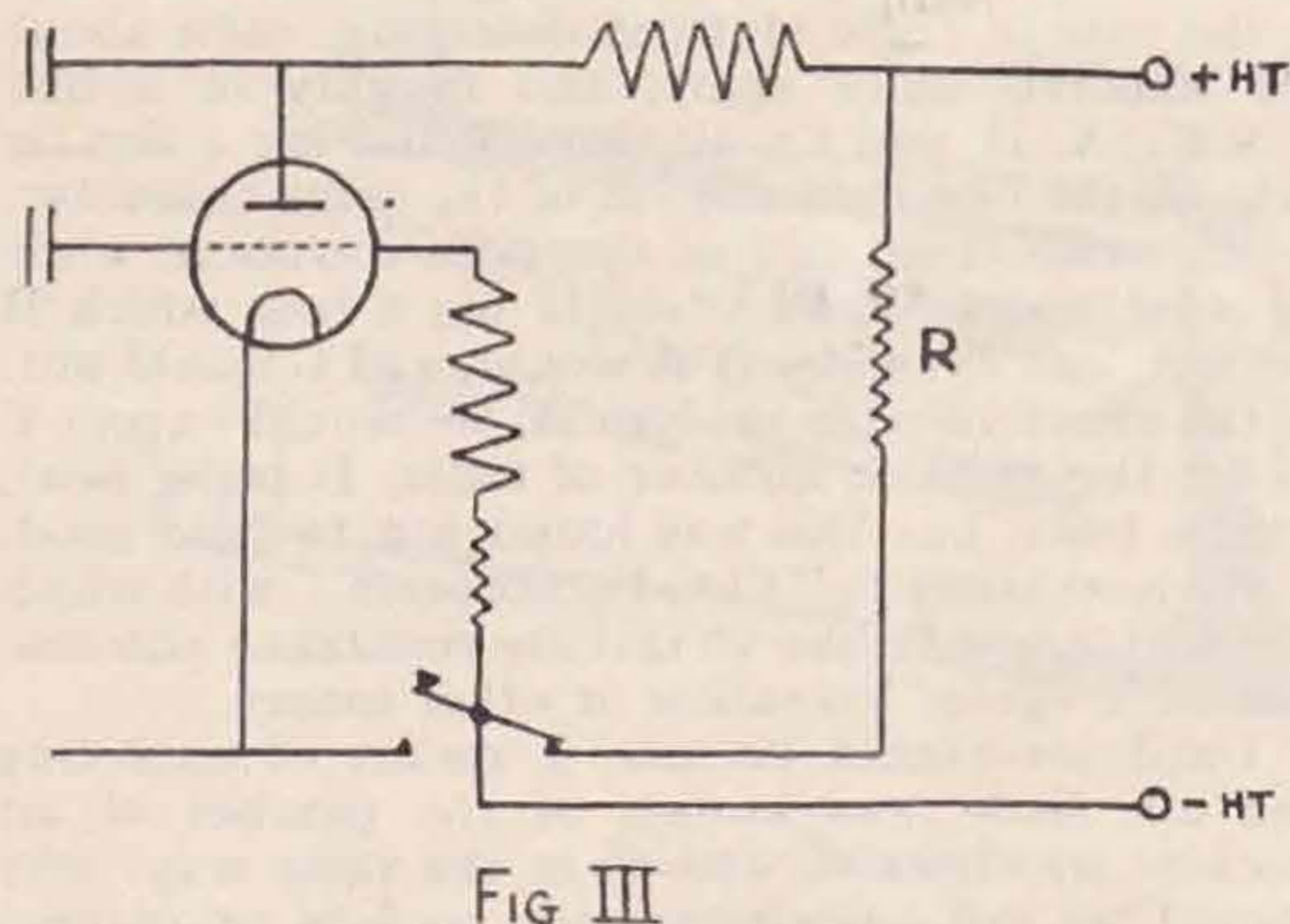
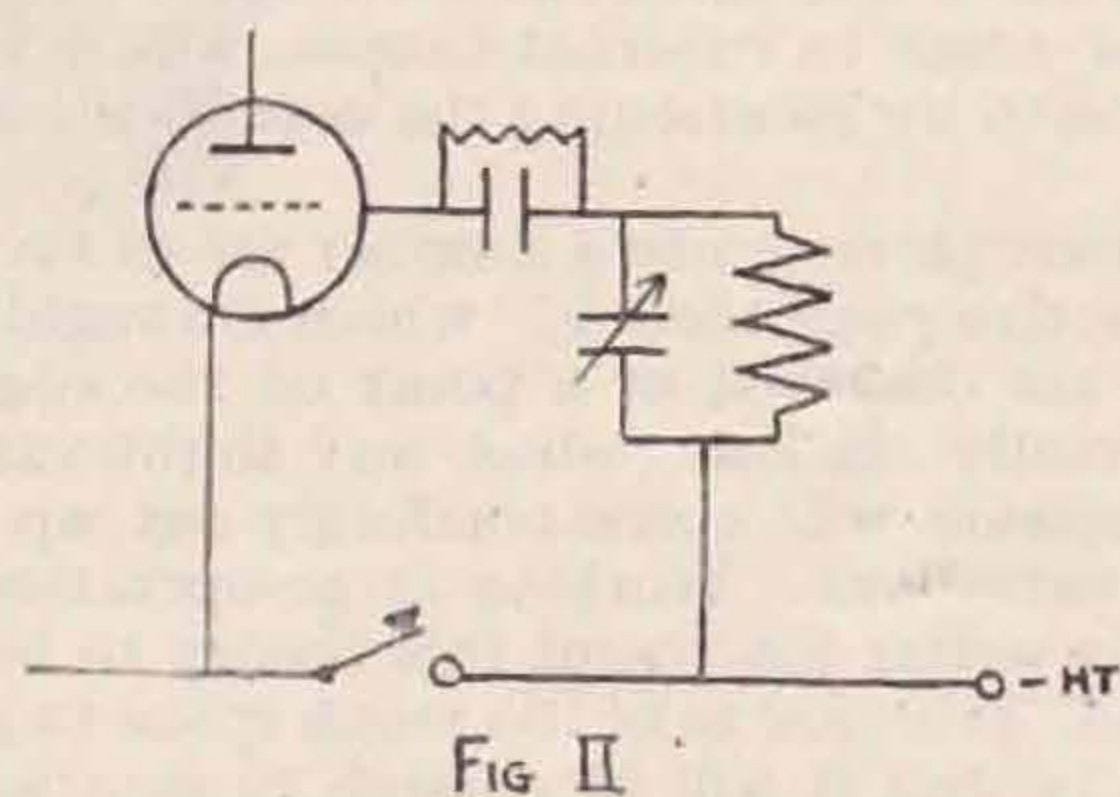
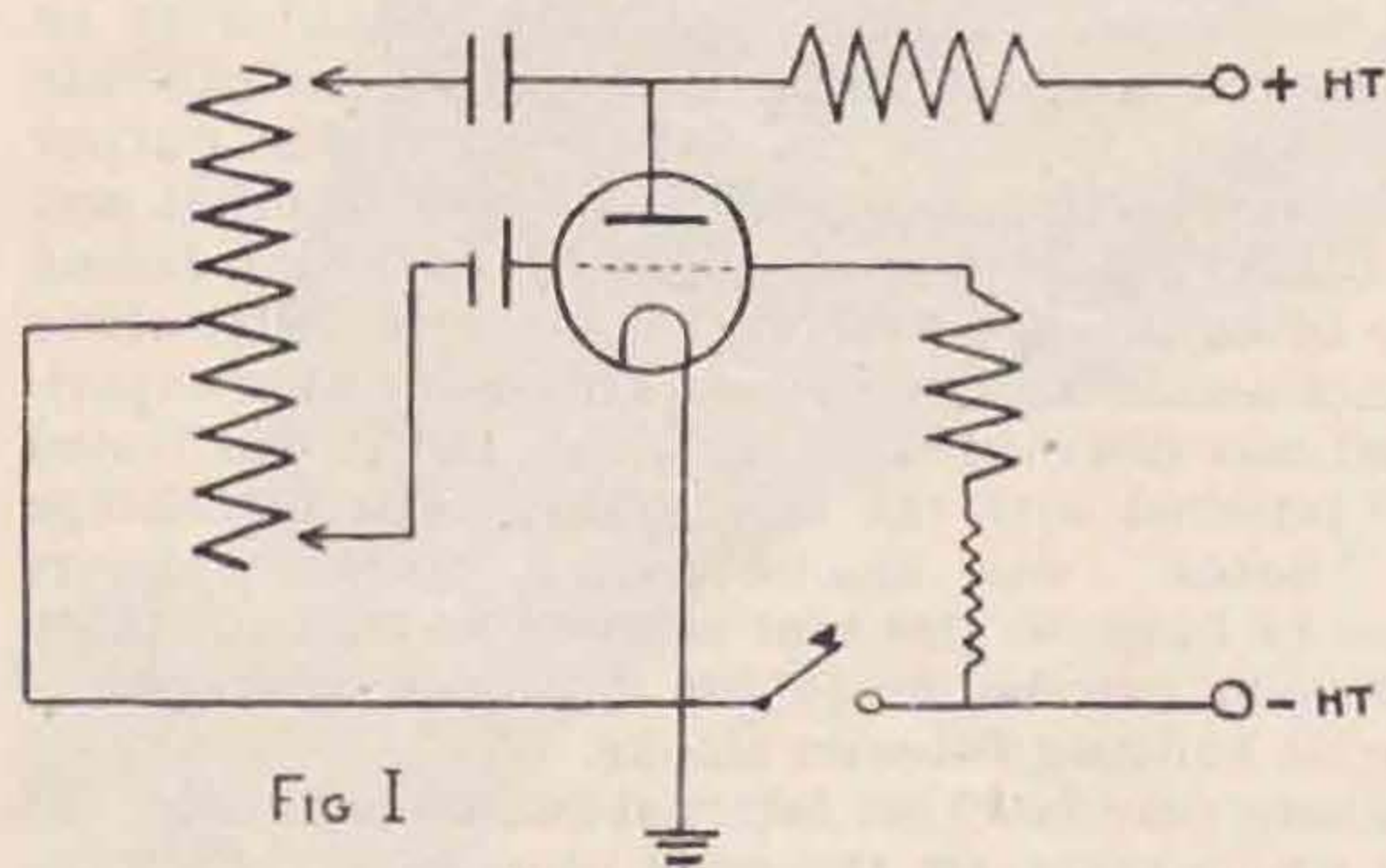
MENTION THE "T. & R." SECTION

Keying the Transmitter

BY MARCUS G. SCROGGIE, B.Sc. (G5 JX.)

SO many amateur stations are now using double wave keying and others sound chirpy that one begins to suspect that there are still a large number unfamiliar with the method of keying, which is so simple and effective that no other method need be considered. Its advantages are:—

- (1) that no special gadgets are required, just a single-way key.
- (2) there is no suspicion of chirp.
- (3) there is no sparking whatever, even with hundreds of watts.
- (4) there is no spacing wave.
- (5) there is no power on the valve except when actually radiating—hence valves can be run at double normal rate.
- (6) the key is at low potential.



Three circuits are shown: (1) and (2) are applications to the two common methods of connecting the grid circuit, and (3) is a slight elaboration which may be advisable when running from small D.C. generators such as the M.L. Anode Converter, in which a resistance R equal to the effective
(Concluded on page 6)

Electrolytic Rectifiers.

BY E. H. ROBINSON (2VW).

IN view of the large number of queries I have received with regard to electrolytic rectifiers the following remarks may interest some readers.

My present opinion, after having experimented considerably with both aluminium and tantalum rectifiers, is that the tantalum rectifier is far the best for low-voltage heavy-current work, while the aluminium rectifier holds its own to a very great extent for H.T. supply for transmission. The tantalum rectifier is more efficient and reliable and requires practically no attention, but the low voltage allowable per cell is a very serious setback owing to the large number of cells necessary for a high voltage and the high cost of tantalum. The aluminium rectifier, on the other hand, is very serviceable, does its job and requires fewer cells. I am still using the aluminium rectifier for transmission. A small amount of occasional attention is requisite in seeing that the cells all stay formed, but I have found that one of the secrets of long life in the rectifier cells is to have the jars of ample size. I use 1lb. jam jars even for low power transmission; this means that a larger bulk of electrolyte is used than in the case of test-tubes, resulting in less heating up and longer duration of the electrolyte.

I have seen certain members of the gang taking $\frac{1}{4}$ k.w. from small test-tubes. No wonder that they complain that chemical rectifiers are messy, boil up, and give an output which falls off after five minutes!

Although strip aluminium and a layer of paraffin oil on the surface of the electrolyte have been recommended in the past, I am coming round to the opinion that it would make a better job to use aluminium rod with a tightly-fitting sleeve of rubber tubing where it enters the electrolyte. The layer of paraffin is certainly a help, but does not by any means entirely eliminate the corrosion of the aluminium at the surface of the solution.

It is also important to use reasonably pure aluminium and pure ammonium phosphate—don't use borax on any account. I do not think it feasible to reduce the resistance of the rectifier appreciably by bringing the electrodes closer together, as most of the resistance is in the film on the aluminium itself. Also it is a mistake to make the aluminium unduly large in the hope of getting a greater output. This only increases the difficulty in forming the cells and gives rise to a large leakage or no-load current. One square inch of immersed aluminium for every 100 milliamps is ample.

As regards the maximum voltage allowable per cell, it should be possible to work at 100 volts (R.M.S.) easily. When making up a rectifier I always form up my aluminium separately as described in "E.W. and W.E.," and never pass one which does not stand 150 to 200 volts A.C. The forming may take some time (ten minutes or so), but if a cell won't form up much above 75 volts in the end there is probably something wrong with the electrolyte.

A limiting resistance is highly desirable when starting up the rectifier after it has been standing by for some hours, but the forming up should take

only a few seconds and during a continued period of working it should be quite unnecessary to repeat the forming process at each change-over.

I am using the voltage-doubling connections myself at present and find it very satisfactory, provided that two condensers of at least 3 mfd. are available, although I admit the disadvantage of poor regulation if large enough condensers are not used. I like the circuit because it economises transformer windings and requires half the number of cells, thus saving space and trouble in installation and upkeep.

The suggestion of immersing the whole rectifier in a water bath is certainly one way of getting over the heating difficulty. 6TM tried this, but I do not know with what results. On the whole I think it will be found best to adopt the plan of using cells which are too large to heat up appreciably on the power used.

Questions are sometimes asked with reference to the construction of H.T. transformers. For designing small transformers the following formula is a trusted old friend:—

$$T = \frac{E \times 10^9}{4.44 \times f \times F}$$

Where T is the number of turns on the primary, E the primary voltage, f the mains frequency and F the total flux through the core, it is usual to allow about 60,000 lines per square inch, so that if your core has a cross-sectional area of 2 square inches F will be 120,000. Thus, if you decide the cross-section of your core and know your mains voltage, you can work out the requisite primary turns; the secondary turns are, of course, arrived at by multiplying the number of turns on the primary by the required step-up ratio.

Some time ago in an article in another periodical I said a few words in favour of the electrolytic condenser for smoothing purposes. This brought a number of queries as to what an electrolytic condenser is and how it can be made. The answer as to what it is is easy enough. It is an electrolytic cell containing an aluminium electrode of large area in some suitable solution and another electrode of any metal which is not affected by the solution, such as lead or nickel. When a D.C. voltage is applied to the cell so that the aluminium is positive, the aluminium forms up after the manner of a rectifier and current ceases to flow. Under these conditions the cell acts like a condenser of very large capacity standing voltages up to 400. For higher voltages cells may be connected in series. So far I have no useful practical information on the home construction of such condensers. When I have got the dope I hope to be able to publish it.

Keying the Transmitter—(Concluded from p. 5).

resistance of the valve is connected to the back contact to keep the load on the generator constant and so prevent speed variation.

It must be remembered that a badly keyed transmitter does not get far, and causes annoyance to the other man, and perhaps unnecessary interference, so do not fail to attend to this before deciding to increase your power.

A Few Notes on Fading.

BY A. M. H. FARGUS (G2ZC).

A CONSTANT observation on the phenomena of fading over a period of nearly four years has not been undertaken without yielding certain definite results, and of having given certain theoretical speculations to work upon. This paper is not intended to be taken in any other form than that of the heading, namely, that it comprises a few notes, which may suggest possibilities to others who are interested in the subject.

We can roughly divide the subject under two main headings, namely, Internal and External Causes.

It may surprise some to know that very marked fading can be artificially made under the "internal" heading, the main cause as a rule being unsteady output for high and low tension batteries, and no serious experimental work should ever be attempted without suitable recording instruments being used, to show the behaviour of the output from any electrical supply. Another internal and probably absolutely unsuspected cause of fading can be caused by tobacco smoke, especially where indoor aereals are concerned. This interesting experiment was discovered by accident, but it was tested and retested with the same result. The percentage of "hams" who smoke during operating hours must be large, so this hint is given, so that adequate provision can be made for a proper atmosphere, free of hanging tobacco smoke.

There may be other internal causes of fading, but the above cases are the most obvious.

We now come to external causes, which we can best deal with by mentioning the several theoretical types.

In the first place, quite a number are in favour of the "Effective edge theory," which is roughly that if signals are observed at a point on the edge of a station's really efficient radius, any slight variation of transmission will correspondingly set up signal strength variations. Working in co-operation with others, the writer has found this theory to be quite unfounded. It would take too much space to go into details fully, but it will be enough to mention that in the case of three stations observing, each about one hundred miles apart, and roughly in a line N.N.E. (A, B, and C), all three would log a similar fade on the observed station of the same character, at the same time, and of the same duration, while at other times A and C would log a fade which B did not, and even B and A would, and C would not. If the effective edge held good, we would expect C to log the greatest number of fades, B being next, and A least, but this was found not to hold good.

We next come to "Cloud absorption," with which the writer would like to include resistance patches, due to irregular ionisation or other causes.

Until aeroplanes became a means of exploring the air, little was known of the patches of air pockets which exist, and so in the same way, why should we not have resistance pockets or patches in the same manner?

If tobacco smoke can cause internal fading, why should cloud matter not perform in exactly similar a manner externally? We have another possible cause, which is probably one that has been little thought of, and which we believe the writer was the

(Concluded on page 8)

Condensers For Transmission



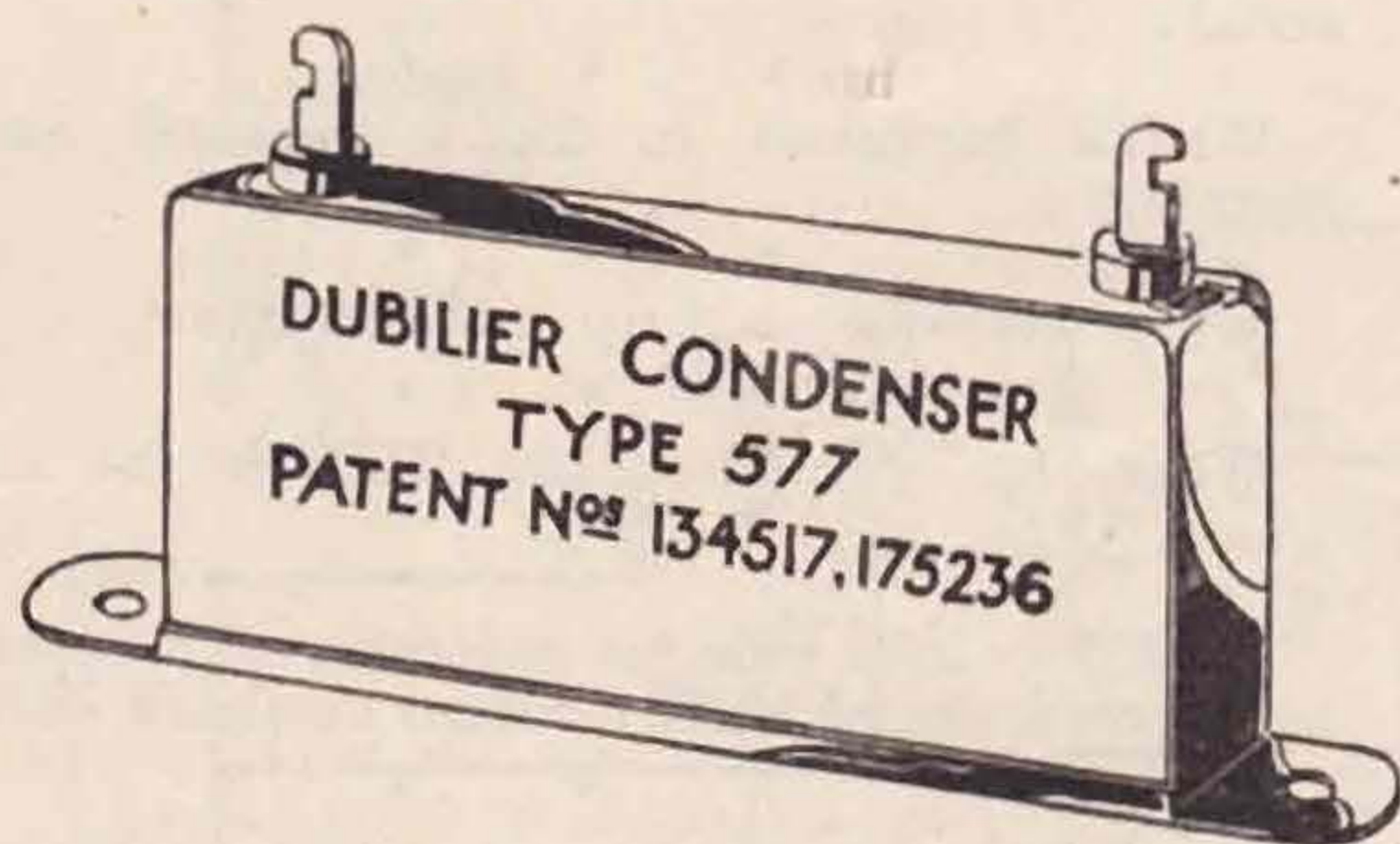
Experimental and amateur transmitters needing suitable transmitting condensers will find the type here illustrated admirable for their purposes.

Enclosed in porcelain containers these condensers will safely operate at high potentials.

They are particularly suitable for use as Anode Feed Condensers, High-Frequency By-pass Condensers, and Grid Condensers (Types A.F.650, A.F.700, A.F.750 and A.F.800.)

They can also be used in low-power transmitters up to 100 metres as Aerial Series Condensers, Oscillating Circuit Condensers, etc. (Types S.W. A.F.650, S.W. A.F.700, S.W. A.F.750, S.W. A.F.800.)

Prices 35/- to 70/-, according to type required.



*Mica Condenser
Type 577
7/6*

The Mica Condenser Type 577 illustrated below is made in capacities from $0.0001\mu F$ to $0.01\mu F$, price 7/6 each.

The dielectric is of the Best Ruby Mica, and the casing is of polished nickel. Supplied with tag terminals for soldering, Type 577 is suitable for use in ordinary receiving circuits and also many transmitting circuits. The test voltage limits are 2,000 volts D.C. and 1,000 volts A.C. (low frequency).

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DOUBLE RANGE D.C. VOLTMETER

Permanent Magnet Moving Coil Type.

This model is a new high resistance Voltmeter having ranges of 150 volts and 7.5 volts. The resistance is 62 ohms per volt, thus the 150 volt and 7.5 volt ranges have resistances of approximately 9,300 and 465 ohms respectively. The current required to give a full scale deflection is consequently only 16 M.A.

When measuring the voltage of a 4-volt accumulator, the instrument therefore takes about 8.5 M.A. only from the accumulator. Filament, Anode or Grid voltage can be accurately determined from a single instrument by means of a selector switch or suitable knife switches. The movement of the pointer is perfectly damped, and it will respond instantly to the slightest change in voltage to the circuit under test, therefore, any variation of voltage in the high tension battery, that would cause poor reception, is immediately detected.

Weston Electrical Instrument Co. Ltd.
15, Great Saffron Hill, London, E.C.1.

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Telegrams: "Pivoted, Smith, London."



Model 489.

LIST PRICE - £4

A Few Notes on Fading—(Concluded from page 6)

first to suggest. Granted the Heavyside layer exists, have we any method of determining that its reflecting surface is a plane figure? If such be not the case, we have a very strong case in tracing the fading of signals, as undulations will undoubtedly cause variations in the angle of propagation of a wireless wave at the point of reflected contact. We all know that the earth is in a state of continuous movement, and if the Heavyside layer not only has undulations, but also movement on its own part, we have the case strengthened, though the latter need not be essential to prove it. In some recent experiments, the writer has been able to eliminate fading from his end, while the station worked had decided fading when received here, while one reception of the writer's signals was reported as "QSS bad," which QSS may or may not have had some natural phenomena behind it, but it had certainly a serious attempt at artificial QSS of the home-made variety behind it.

Experiments are to be made at a future date, where two-way working is to be made, starting at a short distance, and increasing this steadily, varying all the while angles of propagation, and other methods likely to vary signals, keeping power as steady as possible.

Short wave work has at least demonstrated the ability of lessening blindspotting, especially where cities having heavy smoke atmospheres are concerned, owing, we suppose, to the wave penetrating the smoke at a steeper angle, and, therefore, having a shorter path through it.

We hope to send in some definite notes on the above experiments when completed, but meanwhile the above notes will indicate the type of work which is being undertaken.

Things We Should Like to Know.

Has WIZ been QSO ABC yet?

* * *

How 5YK has suddenly made his QSB almost D.C.?

* * *

When 5QV works on 45 and does anybody ever hear him?

* * *

Does 6QO ever sacrifice bed to log "Yanks"?

* * *

Has 6BT permanently gone over to a Hertz aerial?

* * *

What's happened to 2LZ's fone on Sunday mornings?

* * *

When will 5RT start up on 45 metres?

* * *

What has happened to 2TO—is he still a "ham"?

* * *

Why does 2SM hide his generator in a cupboard, and does he know what a rotten insulator dust is?

* * *

Has 5DY still got his pet spider in his anode coil?

* * *

How many unlicensed "G's" use a French prefix?

* * *

Where have all the "B" stations sprung from?

* * *

Who does not look forward to his BULLETIN?

G2XV.

A Short-wave Superheterodyne.

By H. J. B. HAMPSON (G6JV).

No. II.—The Tuner Unit.

OUR first requirement is a reliable O-V-1 receiver capable of tuning from 15 metres to 150 metres, and such that the movement of a changeover switch will, in one movement, throw the output from the detector across to the input of the I.F. amplifier, at the same time throwing the output from I.F. amplifier across primary of L.F. transformer. In this way the same aerial, phones, etc., are used for O-V-1 and super, and the change from one to the other is a matter of seconds only. The circuit of Fig. 1 shows the connections. With S1 to right the set is a simple O-V-1 parallel Hartley with capacitive regeneration, of which details are:—

L1.—Detuning coil (for shifting aerial tune and removing "dead spots"). Scramble wound 50 turns and tapped every 10 turns on 3" diam. former. Removed from former, tied with thread and tapings connected to 7 point selector switch.

L2.—3/5 turns 12 S.W.G. formed on 3" diam. and allowed to spring open. Mounted on swing arm to permit variable coupling with L3.

L3, L4.—A table of values for all ranges appears later.

L5.—35 turns 28 d.c.c. basket weave wound on 7 pins set in 1" circle.

L6.—3/4" of 38 d.c.c. wound on 1" diam. cardboard tube (no "dope" on windings).

C1.—2ft. flex with free ends "open." The whole coiled on 3" diam. and tied to L1.

C2.—Air spaced for preference and not exceeding .0001 mf. Built of stator plates "front to back" and spaced with ordinary spacer washers.

C3 (main tuning condenser).—.0003 with very low minimum and the best obtainable. (The writer uses A.J.S., but has no shares in the company.)

C4.—.0005 mf. in series with C3, and used to spread band required over scale of C3, or when set at 140° is used as fine vernier adjustment, being fitted with long handle.

C5.—.0003 mf. regeneration control.

R1.—Try several of best makes from 2Ω to 10Ω. Generally a fairly high value gives strongest signals on DX stations, but beware of overlap and select in conjunction with variations of potentiometer adjustment.

P.—400 is rotary potentiometer (Lissen or Peerless, etc.).

C6.—Quite essential. Anything from .01 to 2 mf.

R2, R3.—Any suitable rheostat, e.g., Lissen wire wound. If 35 ohms any valve may be used as desired.

S1.—4 pole double throw. Any good switch will serve. For cheapness and accessibility a pair of small D.P.D.T. knife switches were adapted and are admirable.

C7, C8.—.001 or .002 (desirable to eliminate capacity effects of body when wearing fones).

S2.—S.P.D.T. knife switch with both contacts on same side and arranged as shown to complete filament circuit before applying H.T. to anodes.

Layout.

(See photos Figs. 2 and 3 appearing in next issue.)

The baseboard measures 20" by 6" by 1/2". To this is screwed a front panel of ebonite (not black mud) 20" by 6" by 1/4", and a rear panel 20" by 4" by 1/4". Between the two panels at either end are screwed wooden end pieces. A further ebonite strip 20" by 1 1/2" by 1/4" is screwed above the end-pieces and with its front edge flush with the front panel. This carries sockets into which fit the interchangeable coil units.

Upon the back panel are mounted condensers C3, C4, C5, the two rheostats R2, R3 and the grid condenser C2 with its leak R1.

The variable condensers are all mounted on the back of the panel—C3 and C5 having their operating shafts pointing away from, and C4 pointing towards, the front panel. The spindle of C4 is connected to a piece of ebonite tube 2 1/2" long. Into the end of this screws a length of 2 B.A. rod passing through front panel, and terminating in a knob and pointer which works over a good clear ivory scale. A long ebonite handle or arm is attached to the spindle friction tight, thus permitting vernier movement together with independent setting of

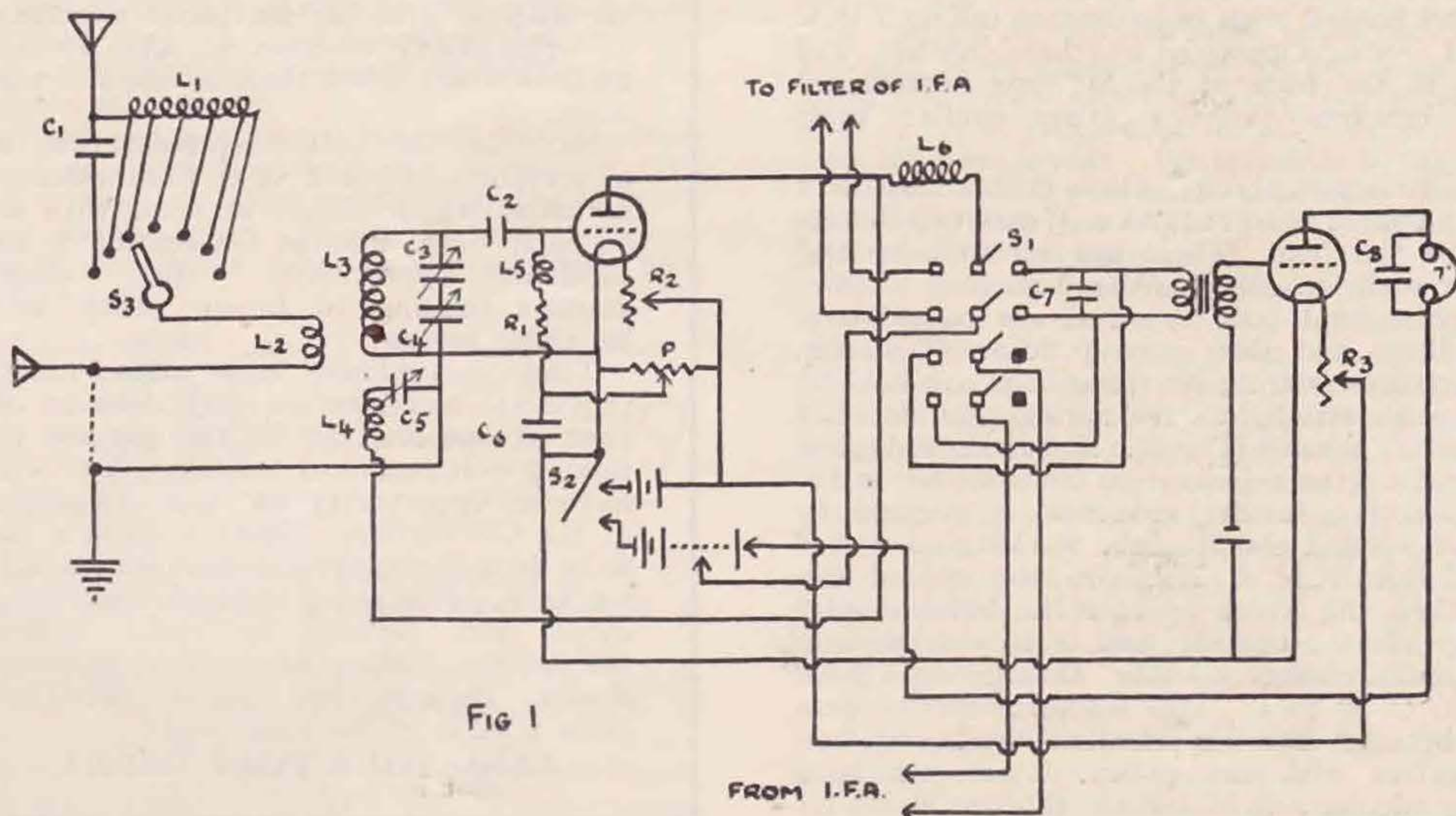


FIG 1

the condenser in order to spread out the required band over scale of C3. Upon the shafts of C3 and C5 (which point to the rear) are screwed 4" ebonite wheels with grooves in their periphery in which run the waxed thread belts communicating with the $\frac{1}{2}$ " grooved pulleys on shaft of operating mechanism, thus giving really remote control, together with a geared reduction which is absolutely free from backlash. This arrangement is free from any capacity effects on the lowest waves, while the static fields of all condensers are as nearly "in the air" as possible. The opposite ends of spindles of C3 and C5 are drilled and tapped 6 B.A., and a screw is inserted whose opposite end is screwed into an ebonite bush. Into the other end of this bush or tube is screwed a bicycle spoke, which passing through a hole in front panel is filed square at its end and carries a clock hand (ground to a tapering point) which works over a clear ivory scale. The superiority of such a hand and scale over the more usual process of "squinting" for hours at the figures on a revolving dial needs to be experienced to be believed, and it becomes possible to retire for the night (or morning) free from headache.

The front panel also carries the detuning switch S3, the change-over switch S1, the L.T. and H.T. switch S2, phone terminals, T. potentiometer P, also aerial, earth and counterpoise terminals and terminals for input to and output from I.F. amplifier, the latter being on left and former on right of panel.

The baseboard carries antiphonic valve holders (the detector must be also of anti-capacity type). The H.F. choke holder (which permits of interchangeable chokes) and the intervalve L.F. transformer.

A box is made 10" long by 8" high by 6" deep and having a bottom 20" long. Wooden side wings 5" by 8" are fixed to the 8" sides of this, and a hinged lid is fitted to the box (see Fig. 2).

The box forms the battery compartment and has adequate ventilating holes at the back. The baseboard of the set is screwed to top of box. Holes are drilled at convenient positions in the side wings and bushed with brass bushes taking 2 B.A. threaded rods. Opposite to these bushes and screwed to the back of the 20" box bottom are ebonite brackets carrying other similar brass bushes.

2 B.A. rods pass through these bushes and carry a dial and knob in front, and a $\frac{1}{2}$ " grooved ebonite pulley to the rear. These are screwed on and held fast with lock nuts. Waxed threads (obtainable at the local boot repairer) are passed over these pulleys and their corresponding 4" wheels. Jockey pulleys bearing on these belts are held up to their work with light spiral springs and maintain the necessary tension (Fig. 3). No further reduction is required on the regeneration control, but on the main control a further reduction is effected by means of a small ebonite tube working on a stud fixed $\frac{1}{16}$ " from edge of dial. On one end of this is a rubber ring which engages the bevelled edge of dial, while the opposite end of tube terminates in a 2" diam. ebonite "knob," thus giving a total reduction of 50 to 1. This second reduction gear is only brought into use when required, and does not interfere with the pulley device, which is generally adequate on all but the shortest waves.

Construction of Interchangeable Coil Units.

(See Fig. 2.)

The $1\frac{1}{2}$ " strip above front panel carries 8 valve sockets. Left to right these are: Pair for aerial coil, next pair (widely spaced and the ebonite drilled with $\frac{1}{2}$ " holes almost touching) are for grid coil or secondary, next pair for reaction coil, while pair on right serve merely to hold oscillator feed coil, no electrical connection being made to them. The coil units themselves are made from strips of $\frac{1}{4}$ " ebonite $\frac{3}{4}$ " wide and fitted with valve pins to correspond with their appropriate sockets.

Table of Coils.

λ	Grid Coil.	Reaction.
15/46 m.	3. B.W.	4. B.W.
28/70 "	7. B.W.	6. Scrambled.
35/85 "	12. B.W.	6. Scrambled.
65/155 "	25. B.W.	10. Scrambled.

B.W. = Basket weave wound on 7 $\frac{1}{4}$ " pins set in 3" circle wire is "bell wire," with thickest possible insulation for spacing.

Scrambled = Scramble wound 28 d.c.c. on $1\frac{1}{2}$ " diam. and tied. Two lengths of 14 S.W.G. base tinned copper are bent to form arcs $\frac{1}{4}$ " circumference of coil, and after covering with systoflex where these will touch the coil, are tightly bound opposite to each other and to the coil itself. The wires are then bent so that their extremities will pass into the holes in pillar terminals stagger-mounted at sides of ebonite strips comprising coil mounts. The ends of the coils themselves are soldered to these wires and the pillar terminals are connected to their appropriate valve pins. Ready means of adjusting the coupling of reaction coils is provided by sliding the wires carrying the reaction coil in the pillar terminals and clamping in that position which just gives regeneration at the maximum capacity of the condensers. The small

Between You and I.

The Convention which we propose to hold in September has a two-fold purpose. The first and most important one is that we wish to give all provincial members an opportunity to meet us and discuss matters which affect them as users of the ether.

Secondly, the better representation of all members on the T. & R. Committee is a matter which should be dealt with at an early date, and the Convention is an excellent opportunity. Also, other matters relating to future policy will be under review.

Then, again, we know that many provincial members are very desirous of meeting one another for the purpose of talking over technical matters. You will have an opportunity for such discussion at the Convention. There is quite a lot to be done during the too-short time which we have. It is going to be an interesting event, and, perhaps, an epoch-making one in the history of British Amateur Radio. Be sure that you are there for some portion of the time, and

SEND YOUR POST CARD!

reaction coils and loose coupling attainable with this method will give a tuning which is as independent of regeneration control as is possible to achieve, and it is scarcely necessary to dwell upon the advantages of instantly interchangeable units the coupling of whose coils once set remains always correct. Furthermore, there is as nearly nothing but air in the fields of all coils as seems reasonably possible, while the interchangeable units are accessibly placed.

Mounting of Aerial Coil.

A strip of ebonite 1" wide and having valve pins to correspond with the left hand pair of sockets is fitted at its left hand end with a 2 B.A. stud upon which swings a similar ebonite strip. The latter has two pillar terminals mounted edgewise at its free extremity, and these make contact by flexible leads with their two-valve pins.

The aerial coil (already described) is clamped by the terminals and the coupling with grid coil is thus easily adjustable. Further, the whole unit is pulled out in one second and auto-coupling almost as speedily substituted. A length of flex, with a valve pin at one end and a clip at the other, serves to connect a turn on the secondary (whose insulation has been bared for $\frac{1}{4}$ " with the "aerial" socket.

This arrangement generally gives increased signal strength, though X's are more pronounced.

Each system has its advantages, depending upon atmospheric and local conditions, and in this way either can be employed as desired.

The tapping point should be about one-third way up coil from its filament end, and the best turn can be located with a darning needle soldered to a piece of flex, which is pushed through the insulation until contact is made with the wire within. When auto coupling is employed blind spots will be more in evidence, and the detuning coil will be found invaluable in removing the aerial load as different harmonics, etc., are encountered.

The Oscillator Feed Coil.

The mounting of this coupler is similar to that of the aerial coil, only that provision must be made to compensate for secondaries of different length. The solution is to cut a slot in the top ebonite strip, thus allowing it to slide as well as swing upon the 2 B.A. stud. A spring washer and ordinary milled knob provides a means of tightening the movement as desired.

The feed coil is clamped between two edgewise fixed pillar terminals which are electrically connected to similarly fixed terminals at the opposite end of ebonite strip. These last are connected to the flexible leads going to the oscillator pick up coil (Fig. 4).

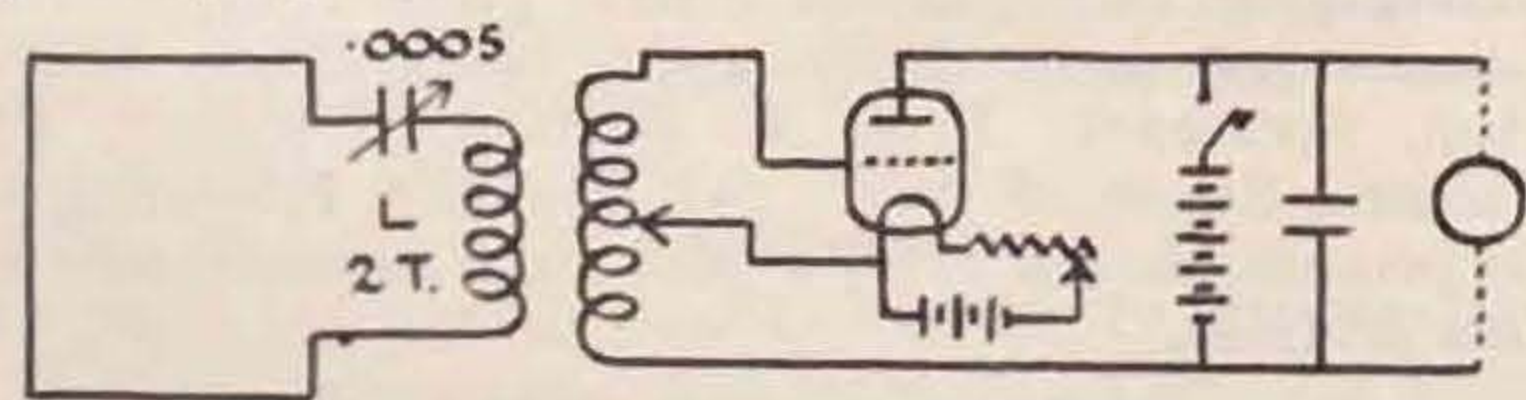


FIG. 4.

When the set is used for searching as O-V-I this feed coil coupling is swung clear of field of secondary.

This completes the description of the tuner, except for mentioning the fact that a couple of inches of blotting paper $\frac{1}{4}$ " wide, soaked in Indian ink and fixed between a pair of paper clips soldered to the wires going to I.S. and O.S. of transformer,

will reduce the strength of X's and of "mush" more than that of C.W. and is a valuable adjunct upon occasions. I.C.W.'s with notes resembling X's are also filtered out to some extent. The gadget is speedily removed and its resistance is easily varied—and it is cheap.

Those who have no interest in the "super het" part of the arrangement being described may yet feel that the O-V-I here described possesses advantages over the usual arrangements. In this case the changeover switch will, of course, be omitted.

The advantages claimed for this design are:—

- (1) All coil fields are "free."
- (2) Static fields of condensers are "free."
- (3) Rapid change of λ ranges.
- (4) Rapid change from loose to auto-coupling.
- (5) Entire absence of body capacity effects.
- (6) Geared control free from backlash.
- (7) Spreading out of desired band over tuning scale.
- (8) Absolute elimination of overlap on all ranges.
- (9) Elimination of "dead spots."
- (10) Self-contained batteries.
- (11) Change to superhet effected in ten seconds and signals brought into same telephones.
- (12) A master switch imposing no strain on valve filaments.
- (13) Clear scales and pointers replacing dials.
- (14) Comfortable position of controls.

The next article will contain constructional details of the I.F. amplifier and local oscillator.

Keying and Breaking-In.

By R. POLLOCK (5KA).

YOU know that feeling you get when, after calling that DX station for two or three minutes, you change over and find him half way through chewing the rag with somebody else? Now, if you could listen on his QRH all the time you were calling, you would know the moment he started calling again, whether you had hooked him or not. All there is to do is to arrange another aerial system for the receiver so that it is normally sensitive when the transmitter is perking, or at least when the key is "up."

If you rig up another high aerial for reception you will probably find it causes loss of power and queer directional effects in your transmission, and what is worse still, brings in all your key thumps and "side harmonics" full strength, to say nothing of wipe-out. Try one of these low, horizontal aerals and everyone of the above troubles will be minimised, if not eliminated.

The one in use here starts from a nail in the wall at the end of the garden, is 10ft. high and 20ft. long, with another 20-ft. wire after the receiver and lying in the same straight line. Although this means half the aerial is indoors, European sigs are quite normal while DX is greatly improved.

All the same, if the transmitter is switched on with about 10 watts input, the receiver stops oscillating, but it only wants a very slight increase of reaction to start reception of C.W. again. It is quite sensitive up to $1\frac{1}{2}$ metres on either side of the transmitter wave, and is quite ready to work break-in, provided you use some spacing wave method of keying.

Here several disadvantages crop up: QRM from your own harmonics because you are radiating all the time. The awkward job of re-tuning the

station you are going to answer, to suit the conditions when you start transmitting, and the chance of this readjustment being upset if the input varies or you make any adjustment to the perker. The trouble of having to readjust the receiver to overcome wipe-out is removed if you key by some "on-and-off" method, for then reception is quite normal when the key is up, and there is no chance of QRM from your own harmonics. Of course, you won't be able to hear anything when the key is down—due to this slight wipe-out—but then there is quite enough time in between the "downs" to see if the chap is sending any signal at all, and you won't have to touch the receiver at all once the other station is tuned in. The only disadvantage with this system is that key thump is bad if you try to work break-in on the 45 metres band, but for DX you won't want to work like this and you will find when transmitting on 45 metres and listening on the 40-30 metres band that key thump is no trouble at all, and what there is will help to keep you fist good. I believe it will be found that key thump is not produced by the power going on and off the transmitter, but is due to the small spark at the key contacts which is hard to eliminate when keying in the H.T. supply. And might I suggest at this point that the trouble caused to B.C.L's is partly due to this sparking and to the fact that the H.F. chokes in the power lead tune this spark to something like 200 to 500 metres and, of course, sends out a momentary 10-watt spark transmission right on their wave-lengths. To reduce this sparking a 1 mfd. condenser in series with an 80,000 or 100,000 ohm resistance should be put across the key, and a 1,000 turn R.F. choke put in each key lead. For those who use the Hertz aerial a much better keying system is to put a relay in the feed wire working off a dry cell *via* the key. Put chokes in relay leads or all your juice will run away.

The transmitter is adjusted for minimum input with the key up (meaning no aerial load) and you will then find that there is no wipe-out in the receiver. When the key is pressed and the Hertz starts radiating there is a wipe out, but keying like this gives only a slight key-thump, and working break-in is quite as easy as with keying in the H.T. supply. The grid coil of the receiver here is only 2ft. from the transmitter's plate coil, but with the key up, *i.e.*, the Hertz disconnected, there is an input of one watt to the transmitter and no wipe-out at all on the 43-30 band or from 47 metres upwards. When the key is down the input goes up to 8 or 9 watts and produces a very slight wipe out, so that it is quite easy to listen to another station in between the keying.

The only trouble experienced here is that nobody seems to know what break-in means when you are calling them. If I call a European in the usual way and send "BNK" or "BK," or even "BKKKK..," they won't start up, but if you send "ARK" and change over in the usual way they always come back then. In fact I spent one afternoon explaining to a "B" station what break-in was!

I've never tried break-in with more than 9 watts, so can't say what the wipe-out effects would be like with a QRO station, but I think it would work O.K. if the power with key "up" is not too great and a minimum pick-up of the receiving aerial on the transmission. Really the QRO ham doesn't need break-in as he is not out for fierce traffic work,

Concluded at foot of next column.

First British Amateur Convention.

REPORTS from all quarters show that, whilst there is a general desire on the part of members to be present at the Convention to be held on September 17 to 18, at the Institution of Electrical Engineers, a combination of circumstances has prevented a number from being present. In consequence, the requisite sum of money necessary for the successful organisation of a Convention on the scale at first contemplated has not been forthcoming, so that we have arranged a somewhat modified programme.

The new arrangements have necessitated the abandonment of the proposed banquet to be held in the evening of September 18, and Conventionists must make their own personal arrangements as regards amusements, entertainments, etc. The facilities offered herewith are entirely free of charge to members and friends. The expenses of the Convention are being borne in part by T. & R. BULLETIN funds and in part by T. & R. R.S.G.B. funds. We have decided to make one stipulation however, and that is that we must have 100 members from outside the London area in order to justify this expenditure.

On Friday, September 17, a meeting will be held at 6 p.m. at the Institution of Electrical Engineers, preceded by a buffet tea in the lounge.

On Saturday, September 18, meetings will be held at the Institution at 11 a.m. in the morning until 12.30 p.m. and from 2.30 p.m. in the afternoon until 5 p.m. The meetings will take the form of discussions of problems of vital interest to the transmitting amateur, and a scheme for the adequate representation of provincial members on the T. & R. Committee will receive consideration. Votes on motions will be taken.

Members are invited to submit the titles of subjects which they would like to have discussed and should be prepared to open such discussions themselves.

When submitting ideas for discussion please state at least (a) name, (b) call sign, and (c) address, and give a rough outline of the ground you propose to cover.

Despite the fact that it is left to Conventionists to provide their own amusements, we are sure that the Convention will be a tremendous success.

Members who propose to remain in London over a night or the nights of September 17 and 18, and desire to avail themselves of the limited free billeting accommodation kindly offered by certain London members, should apply immediately to the Hon. Secretary, T. & R. Section, R.S.G.B., 53, Victoria Street, S.W.1. All members intending to be present should send a post card immediately to this address.

and a short call should get him anywhere he wants, while the low power ham must give long calls to make up for the number of times he gets tuned over unnoticed; while he is doing this, break-in will tell him if a QRO station is on the same game as himself, while if he does get over O.K. all his 3-min. calls are not wanted.

Editorial Note.—This article is reproduced exactly as written by the author.

Traffic Notes.

Northern Notes.

Collected by 2DR.

I NOTICED that we "Note Collectors" got hauled over the coals again last month, for exceeding our allotted span, but there is absolutely no chance of that this month. I have only had eight reports this month altogether, so it would seem as though this heat wave has driven the hams off their keys for the time being.

This is a pity, because the U's have been exceptionally good lately, and can be found faintly about midnight, and reach their maximum strength about 0400. They are reduced to the higher-powered few by 0600. Personally, I have heard but a few BZ's this month, and no one in my district has reported either hearing them or working them.

I have one grouse however, and that is, when are we going to induce certain B's and F's to come off the raw A.C. stuff? Really, it is becoming more than a joke, and DX is impossible if there happens to be three or four of these merchants "on the air."

Early one morning, recently, there were three of these stations on, and to all intents and purposes they covered practically the whole of the 44/46 band. They are also to be found down on the 35/40 band, but not usually such vile stuff as was pumped into my receiver on the morning in question. Has anyone any suggestions to offer?

Now for the reports.

Cheshire (by 6TW).

6TW is also without reports, but has been doing things on 20 metres, but finds very little doing as far as DX is concerned. He notes that there is less QRN thereabouts, and little or no QSS. Fired with the QLP article in the BULLETIN for June, he tried on 45 metres with a DFAO valve, using an input not exceeding $4\frac{1}{2}$ watts; he was QSO all Europe, and got more QSL's than when using much greater power. He wants to know why, and I suggest that a pure DC note has a deal to do with such results. Phone on this power was equally successful, using grid control.

Lancashire.

5RH has got his new Mortley fully domesticated, and celebrated the event by working two 1st district U's. He hopes to do better this month. 5MS is using 30 watts RAC, and has worked five U's and four N. African stations, besides Europeans. He has found DX conditions generally bad, except for U.S.A.

5XY is scouring England on his motor-cycle, so no report from him this month.

5SZ has closed down at his Morecambe QRA, and he tells me it is likely to be two months before

he is on the air again. His new QRA will be Menston, about eight miles from Bradford, so I shall welcome him in the Yorkshire section from now onwards.

Yorkshire.

6IG is busy rebuilding, but lacks a supply of town's "juice," so is in the battery cart. He will use $3\frac{1}{2}$ watts now, and if his work comes up to standard, I expect some interesting reports from him on work done on this very small power.

5KZ commenced operations again on June 13, so he defies superstition. Power 10 watts, and working on the 3rd harmonic, he has been doing a good deal of work with Denmark and Sweden. He has been QSO with 236 hams within the last five months. Hi!! 2XY, that DX eater, has been silent this last month, and for the first time says he has nothing to report.

2DR has worked very little this month, as a large-sized field day for the Bradford Radio Society has been on hand. Some good work was done on this occasion between this station and one operated by 5US and 6BR. The wave used was 160 metres. A good deal of time has been spent in the early mornings from 0400 onwards in studying DX conditions generally, the results of which are embodied in the first paragraphs of these Notes.

May I request more reports for next month O.M.'s? I hear a heap of Manchester hams on the 45 band, but if they do anything, I do not get any reports from them. Hwcum?

Southern DX Reports.

Prepared by G-2LZ.

THE past month has brought DX work with the Antipodes back to normal again. The best time is in the early morning, and those who are enthusiastic enough to get out of bed about 5 to 6 a.m. will find plenty of scope with the Z and A stations. The Z's can also be worked at times during the evening, but QRN is getting very bad just now, and there seems to be an ever-increasing QRM from new stations which keep coming on the air, which presumably hope to develop into commercial stations. Their chief occupation at the moment seems to be to make calls and send V's for hours on end. Fortunately all these stations fade out in the morning and the short wave band is then left clear for experimental work. The Americans come through well in short periods of about a week at a time and then disappear for about the same length of time. Several Mexicans are coming through well, although contact with them is difficult, due to bad QRN with them. For the past five weeks I have had daily contact with Z-4AM and for a week we had a three-cornered chat daily, the other station being U-IAAO. Miss Bell, of Z-4AA,

is keeping the flag flying while her brother is over here on holiday, and a real good operator she is. Her sigs. can be heard every morning, and she evidently receives very well, as contact can be held until 8 a.m. local time, any day now. Don't forget when working Z-4AA to drop the OM and substitute YL!! It comes a bit awkward at first, but one soon gets used to it. From the diminutive number of DX reports received I should judge that most of the British gang is on holiday. I hope they will return with renewed vigour and let me have a good lot of reports for next month.

DX Reports.

2OD, has been carrying out schedules with A-2LM, using an indoor aerial only. The outdoor aerial has been removed so that it has no influence on the radiation of signals. Consistent R4 to 5 reports have been received and several contacts with Z stations have been made. Further particulars of the arrangement used will be published in the BULLETIN.

5WV reports having an exciting time on June 6, when Z-2AC answered his test call at 4.15 a.m. g.m.t. Contact was held for half-an-hour. The power input was 10 watts obtained from a Newton alternator driven by a sewing machine treadle. U-ICIB was worked with the same arrangement for three-quarters of an hour. During this time the power was reduced to two watts and sigs. were reported R4.

2NM has not been doing much DX work, as he has been away on holiday in Devonshire, but his call has still been on the air as he had a portable transmitter and receiver with him, which kept him in touch with the latest DX dope. The transmitter was a 50-watt set worked off the car batteries, and a temporary aerial was rigged up a few feet high where possible.

2SZ is doing excellently with crystal control, and has regular schedules with Z stations. He seems very keen on working Z-4AA since the YL has been in charge.

2LZ is maintaining a regular schedule with Z-4AM at 5 a.m. g.m.t. daily, and has also worked the same station on 23 metres during the evening.

5QV has now acquired the regular DX habit and is in regular contact with the Antipodes at week-ends. He is now all fitted up at his new QRA, and reports greatly increased efficiency. He often carries out telephony experiments on 175 metres, with the aid of a local orchestra, and gets very good reports up to a range of 150 miles.

2MI has recently been visiting Essex stations, and when at 5QV arrangements were made to have an operator on his station, 2TO went one better than this and picked up his own station as far away as Venice on a single valve set, while on holiday. Other Eastern stations often heard at week-ends are 5XW, 6QO and 6WQ. 6QO will shortly be working on 45 metres.

5HS reports having his new sync rectifier working, after several firework displays. With 80 watts he has worked ANDIR, Java and A-2LK (ex G-6XG), also A-7CW. Good reports are received from Brazil. With 5 watts LA-IA and Morocco have been worked.

Mid-Britain Notes.

PREPARED BY 6JV.

AS this is the first opportunity of "Broadcasting" to Mid-Britons since the decision to hold the Convention, I want to say just a word about it. This is going to be a landmark in British Amateur Radio, and some very important matters are certain to come forward. Here is *your* chance to help with constructive and friendly criticism those who have been trying to help you. But OM's, you *will* remember that it's up to all to express those criticisms—whatever they may be—in a real friendly and helpful way? Some folk do more harm than good and only spoil their case by getting so peevish! Look at that last Radio Ripple in July BULLETIN. The writer quite forfeits our sympathy in the possible justice of his case by his unmannerly way of saying things!

Then about those important things. For example, I hope to move for discussion and amendment, etc., some proposals for T. & R. elections on entirely democratic lines. No doubt the old arrangements were the best that could be made for the time being; but the time seems to have come for some reorganisation in view of the greatly increased membership—thanks to the BULLETIN. So come along to the Convention OM's all—even if it does cost you a sacrifice—for the good of British Ham Radio and the T. & R. Here are the month's reports:—

Shropshire.

5SI says that Shropshire is "going to the dogs," and that neither he nor 6TD have anything worthy of reporting. But there seems a moral in this, for 5SI takes the trouble to report "Nothing doing," and this is more satisfactory than allowing the date to pass with "never a word." Tnx 5SI vy.

Cambridgeshire (by 2XV).

June seems to have been a very poor month generally, no newcomer having favoured me with a report. However, here goes:—

2DB has practically nothing to report, as he has been very QRW, but after having got his 20-watt "Mullard" kindly replaced by the manufacturers, he managed to push an R7 signal across to SDK (a Swedish ship off Stockholm) with an input of 4 watts. He is now getting "fed up" with chemical rectifiers, and is going to try valves to see if he can get a bigger input. Good luck, OM.

5YK sends in a list of good work all on 9 watts, having worked UICIB, UIAAO, U2GX and CIED—all *within* his "licensed power," and UICIB reported his sigs. still audible when input was reduced to 1 watt!!! 5YK has done little apart from above, but he must have been putting some time in on his QSB department, as it is much better now.

2XV has only just got going again after nearly two months' silence. The whole outfit is now removed from the house to an outdoor shack, wherein is housed all the apparatus and a petrol engine to drive the generator, which will now deliver up to 800 volts. Provision is also made by another dynamo to charge the filament accumulators, so we can now say that 2XV is an entirely self-supplied outfit relying neither upon mains or accumulator-charging depots. Petrol consumption is not heavy, and the outfit is much cheaper to run.

The following stations have NOT reported this month: 2HK, 5JO, 5RT. Why?

C.U. SEPT. 17th-18th.

By the way, please report by the 5th of the month now instead of the 10th.—G2XV.

Warwickshire (by BRS22).

6YU has done a real good turn by bringing in five new members. They are: 2BMW (Leamington), 2BVL, 2BLM, 2BPI and 5SK (all Coventry). They are all members of the Coventry Transmitters' Association. Warwick is now the leading county in the Mid-Britain area so far as numbers are concerned. Many thanks 6YU. 6YU has started DX again. QSO: Portugal 1AE, TJ-CRJ (Rockall, Amman, Transjordan, Arabia), Russia 2QW, BZ1AW, and has at last been heard in Australia. 6YD (Small Heath) has worked Z-4AM, 4AA, 1AX, 2AC, A-2LK, Tasmania 7HL, R-CBS, Y-1CG and C3JW, and has been heard in South Africa and the American 9th district. All above on 20 watts, but he has now a 50-watt licence and a trans-oceanic permit. 5PX is in Germany. BRS3 (Saltley) has been QRW out-of-doors, but sends in a good list of calls heard. He would like QRA of TJ-6XJ. BRS22 (E. J. Erith) has a new 2LZ short-wave set, and is also bagging A's and Z's and a pile of South Americans. He will be at the Convention. The Coventry Transmitters' Association will probably be well represented. (That's what we like to hear OM.—6JV.)

Stafford (by 2KK).

Tnx OM's, things are looking better, with more reports to hand.

6UZ is QSO India and Florida on 150 watts C.W. He has been conducting some fine tests with useful results, and is contemplating tests using 3rd harmonic and crystal control.

6OH reports being QSO U.S.A. with an input of 2.5 volts, the Yank being UIRA. This is fb OM. He is also doing some good receiving work.

2WN forwards his first report with some details of his first 45 m. experiences. 6UZ has been giving him that ounce of help that outweighs the ton o' pity. He is QSO Europe R6.

5UW (Secretary of the Wolverhampton and District Radio Transmitters' Society) has forwarded his first report, and has kindly undertaken to report regularly the activities of his gang. He is QSO Europe and U.S.A., also 2nd Canadian district.

2KK is reconstructing, but forwards a good receiving log this month.

2VG is doing so much good work on 45 m. that he has evidently been too much occupied to report details!

5CW is changing his QRA. We hope to hear more from him when settled in the new den.

6BH is still on 440 m. Let's have a report OM, pse.

Norfolk.

6ZJ has broken his DO/40 "by a tap with a DER" (mind those DER's OM. They will bite!) He has now obtained a VO/50, and contemplates experimenting with 50-cycle A.C. mains for H.T. and L.T. 2BJP has now joined the T. & R., and reports that someone has been making free with his call sign, which resulted in "explanations" to P.M.G. [We don't wish these pirates any harm, but may they get themselves mixed up in their own H.T.] Mr. Arthur Blake, of Costessey, has obtained an artificial permit, and is joining the T. & R. 6JV has nothing but T. & R. activity to report this time. Apply to Soudan for particulars of his paper barrage.

Real Music

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Parr's Ad.

Services Section.

THE R.A.F., ever to the fore in the matter of radio, has now embarked on SW work. An enormous impetus was given to this by the excellent co-operation of T. & R. men, with Capt. Durrant, of the late GHH and GHH1, and IDH of Mosul. Alas, now defunct.

Iraq and Egypt may be heard working with Great Britain around 30 and 35 metres every night. GFL at Calshot, near Southampton, is going strong, and GFR at the R.A.F. Radio School, Winchester, have worked many of the gang at home and abroad, and, whenever Service work permits, are always ready to carry out all kinds of tests with us.

Reports are required from anyone hearing the call A1.

Those who are wandering over the 30-metre band have probably often been startled by the Naval Station at Horsea, BYC with a tonic train note, testing with H.M. ships outward bound for the East. He can also be found on 15 and 25 metres. Going farther below, a lot of tests are going on on 10 and 12 metres.

GFR is anxious to carry out tests with any one on 20 metres and below.

Capt. Durrant is now carrying on the good work at GFR, and those familiar with his fist can work him any time after 2300 G.M.T. Any reports from the U.S. and Aussies es N.Z.'s will be very welcome.

Scottish Area Notes.

FROM the number and volume of reports received this month, it would appear that this is more or less the "off" season in Scotland. This is due no doubt to holidays and the long, fine evenings, which are not conducive to intensive work in the "shack." Better things are looked for in the autumn, when these external attractions are on the wane, and I hope to have a report from every station then.

A new station is reported from No. 3 District, "2SR," whose QRA is HILL of TARVIT, by CUPAR, and I hope to have the pleasure of receiving some notes from him next month. Stations are reminded that their reports should be in the hands of their District Sub-Editor not later than the 5th of each month.

5DA has been appointed District Sub-Editor of No. 4 District, which includes all the south-eastern counties of Scotland from Edinburgh to Berwickshire, so roll your reports along to him, OMS.

No. 1 District (by 5YG).

2MG is believed to be Scotland's first amateur station. He has been silent over a year now owing to business QRM. Further, he got so sickened at continuous complaints from local BCL's—many of them relating to periods when he was not transmitting—that he began to feel the "game not worth the candle." He is licensed for one k.w., and I think may be induced to "start in" again in the autumn. Luck to you, OM, and "earthed" aerials to your BCL's.

2FV has had a try-out on 23 metres, but failed to raise anyone. Although he got .02 amps. aerial current reading, he is not pleased, and is rebuilding.

6NX has been transmitting on 45 metres, using about 5 watts and a temporary "hook-up." The results have been very satisfactory, Mr. McDade receiving R7 from the more distant parts of Britain, and excellent reports from the Continent.

5YG.—Owing to family illness nothing much in the way of DX was accomplished in June. Severe struggles are going on with a "sync" rectifier, and by next month, what our Yank friends call "the Sweet Tweet-tweet" should be an accomplished fact, and "the Rough Da-dah" a horrid memory. The usual "Europe" stations have been "worked," and the best report (es QSO) for June was an R7 from southern Italy, when 5YG was using 7 watts.

2TT, 5ST, 5YQ, 6OW, 6YT did not report.

No. 2 District (by 5JD).

6IZ has worked all Europe. Also Madeira with 10 watts. In a few cases fone also was used. He is pleased with his reports, which run as follows:—SM, R6; F, R9; K, R5; B, G, and GW, R2-20!!! Experimental work has been done with various aerials, and a Hertz finally decided on. A lot of work has been done on 2-3 watts, and many stations worked. The 205th QSO was completed at the end of June. 6IZ had recently the mortifying experience of waiting over an hour for a station (Italian), which was QRW, only to find, when he started up, that his accumulator had "conked." Much grinding of dentures!

6VO now works on 45 metres. He uses a master-oscillator circuit with two DE5 valves and plate supply from H.T. accumulators. The power used

is seldom over 4 watts, and only recently he worked 2DA on 90 metres with 0.8 watts. On 45 metres 6VO has worked F, SM, N, D, B, LA, and G's, and is trying very hard for U, NZ, and A. His record DX is IIKB on 4 watts and FASRIT (Algiers) on 5 watts. He sends his best wishes for the Scottish area. (Thanks, OM.—5YG).

6JJ, who is a medical practitioner, is at present specialising in London, and will not be "on the air" for some time.

2JZ, 2VX, 5JK, 6GQ, did not report.

No. 3 District (by Mr. Cross).

2BB, after a long silence, will resume on July 17. Till then he will have nothing to report, as at present he is only testing, and with apparently good results.

5WT has no DX to report. He has been experimenting on 23 metres, and regrets the comparatively small number of "G" hams on this W/L. He expects to have a "foreign" permit shortly, and hopes that he will be able to furnish some "dope" then. (Why not fix up a schedule with 2FV, OM?—5YG).

6KO has very little to report this month. He is trying very hard for a "U," but so far has not succeeded in "raising" one. His sigs seem to travel best south and west, and an R6 report in these directions from a good distance is not uncommon. He reports working the R.N. College at Dartmouth. The transmitter is shortly to be rebuilt, and 6KO hopes for improved results.

BRS6 reports exam. QRM, and does not expect to do any further listening until Christmas, 1926.

5JD is not transmitting at present, and is using up all his spare time in casting H.T. accumulator plates.

5NW, 5SQ, and 6GY did not report.

No. 4 District (by 5DA).

2TF has been experimenting with a tantallum rectifier, and sounds a warning. It appears that sometimes even the best of manufacturers supply unwittingly a type of tantallum which is very brittle and quite useless for the purpose for which it is intended. 2TF has apparently received his share of this variety.

5IP is not "on the air" at present, but hopes to get going in the winter.

5BA, who is at present busy transferring his gear to a different part of the house, operates meantime on 90 metres, and is putting out some excellent fone on this wave.

5DA has just concluded a holiday in the Midlands, during which he visited many ham stations. He continues his schedule with BZIAW; so far has not "fallen down" on a single pre-arranged QSO (FB, OM.—5YG). He has at last "contacted" with a Yank after three months of futile effort, and has also had a R5 report from A7NW (Tasmania). Anybody got any spare "juice" to lend him? He has got a 500-watt bottle, and finds it has got a fierce appetite.

6ZD has left Berwick for Northumberland, and so enters 2DR's area. (Please report to him, OM.—5YG.)

5HC did not report.

We have to thank Mr. G. F. Turner (2DB) for the technical sketches which now appear in the BULLETIN.—ED.

QRA and QSL Section.

THE work of this Section has more than doubled since its inauguration, and in order that all correspondence may be expeditiously dealt with, and since there are a large number of new members, I again ask that the following points be observed.

(1) Please put your call sign on all envelopes sent for cards, and on all correspondence.

(2) Do not write to this Section on matters other than appertaining to QRA and QSL.

(3) Send a fresh supply of envelopes to the Section immediately you receive the last one marked "More envelopes, please," or better still, number your envelopes in the bottom left-hand corner, so that you know when the last has been used.

(4) When a reply to any query is required, please enclose a stamped addressed envelope or P.C.

This month I have to announce the inauguration of a SERVICES SECTION.

This Section will deal with all QSL cards intended for stations operated by the three SERVICES. The work is very kindly being undertaken by Flt.-Lieuts. Thompson and Durrant, of the R.A.F., and reports for Service stations should be forwarded to them addressed:—

R.A.F. Electrical and Wireless School,
Flowerdown Camp,
Winchester.

Dr. Roland Walter, Brivibas iela 107, Riga, Latvia, President of the Amateur Radio Society of Latvia, informs us that their members are to be officially recognised, and are now being licensed. They are receiving call signs commencing with "KC," and any reports of the reception of these stations will be welcomed by him at the above address.

Spain has now started an amateur radio journal called "E.A.R." The editor is our old friend, Miguel Moya, EAR1, and he asks that all information regarding reception of Spanish amateurs, and lists of their calls heard, may be sent to him by our members for publication in their journal. The address is:

"E.A.R.,"
Mejia Lequerica 4,
Madrid,
Spain.

A similar request comes from Portugal, where lists of calls heard, QSL cards, etc., may be sent to:

T.S.F. em Portugal,
Rua Jardim Regedor 29—1º,
Lisbon.

Austria.—The Mossig (OE.AB), Am Hof 13, Vienna I, will be pleased to forward cards for all Austrian amateurs.

South Africa.—A. E. Stevens (A6N), 7, Ruth Street, N. Perth, W. Australia, forwards all No. 6 district cards.

QSL's Waiting.

Referring to the list published in last month's issue, a good number of these cards have now been claimed, but there are still many left. Will members make a further effort to inform all transmitters that cards from abroad generally come here, and stamped addressed envelopes should be sent for them.

QRA's Found.

- A-5KN.—S.W. Station, Point Cook Airforce School, Victoria, Australia.
OE-AA.—E. Ranscher, Neulerchenfelderstrasse 9, Vienna XVI, Austria (Inf. OE-AB (T. & R.)).
PI-CD8.—Bertram F. Borders, Borders es Margraves Camp Nichols, Rizal, P.I. (Inf. F. Smith (T. & R.)).
TJ-CRJ.—LAC Rockall, R.A.F., W.T., Ammam, Trans-Jordania, Arabia. (Inf. 5JW and GFR).
Y-ICD.—R. A. Walder, Minas 1721, Montevideo, Uruguay (Inf. 2BZC).
R-1UA.—G. Arikon, Nijni Nowgorod, Sverdlova 51, 5, Russia (Inf. 2BZC).
R-BA1.—M & SG EOG, Carlos Calvo 1357, Buenos Aires, Argentine. (Inf. 5WV and F. Smith).
G-AKD.—E. J. H. Moppett, Rhine Army Signals, B.A.O.R., Wiesbaden, Germany. (Inf. 5WV).
FI-8QQ now uses call IC-1B. (Inf. HAG Quaintance (T. & R.)).

QRA's.

- 2BOC (AA).—A. C. Porter, 1A, Manor Road, Brockley, S.E.
2BWB (AA).—Arthur Blake, Ivy Cottage, Costessey, Norfolk.
2BYN (AA).—H. D. Price, 12, Hillcrest Road, Sydenham, S.E.26.
2BZC (AA).—M. W. Piepel, 39, Tottenham Court Road, W.1.
2BTT (AA).—J. Jameson, 60, Clifton Road, Bangor, Co. Down, Ireland.
2OG.—W. L. Williamson, Rawdon House, Grimsby Road, Cleethorpes.
5UH.—C. Robinson, 357A, Bury New Road, Hr. Broughton, Manchester.
5XD.—B. C. Christian, 7, Hutchinson Sq., Douglas, I. of M.
60T.—H. A. Clark, 71, Station Road, Bedford.

Change of Address.

- 2YQ—c/o Standard Telephones, Ltd., H.M. Radio Station, Hillmorton, Rugby.
6BQ—65, Belsize Avenue, London, N.13.
6OU—9, Winchester Street, Basingstoke.
6ZD—The Longstone Pharmacy, Seahouses, Northumberland.

Change of Call Sign.

- 2ANO now 2DB.
2BBG now 2MJ.
2BXG now 6TY.

QRA's Wanted.

- 2LW, 2NC, 2RL, 2SR, 2WX, 5CZ, 5GL, 5RS, 5SG, 5LX, 5WB, 6AM, 6CZ, 6FM, 6GH, 6NY, 6ZM, MMC, R-FC6, 2BQ, 2NU.

All new QRA's to 6BT on a P.C., please!

G6BT,

QRA & QSL Section
(T. & R.), R.S.G.B.

SEPTEMBER ISSUE.

Special articles by Simmonds, Morrow and Clayton, of QST, and others, and special caricatures by Borrett.
SPECIAL CONVENTION NUMBER.

Irish Notes.

Prepared by 5NJ.

THE news from the Emerald Isle this month is very encouraging indeed, and shows that nearly all Irish hams are even keener than ever on work of all kinds. There is also a very friendly spirit existing between us all over here, and it may be said that amateur radio is in a very healthy state and likely to remain so. Further licences are coming through slowly but surely, and excellent DX work continues to be done, even through the so-called bad conditions. But the most satisfactory thing of all is the way we are "pulling together," and DX work has certainly not overruled our friendly short-distance QSO's.

In the Free State, reports are not numerous, but it must be remembered that all GW's are using less than 10 watts and therefore they can't be expected to be QSO Australia every night! But their 10 watts odd gets out all right as we all know. 11B is working the Continent regularly in the evenings, and has been QSO P3FZ on 0.6 watt. 15B is not as yet very active, being QRW with a crystal-controlled set. 19B has worked all Europe on 5 watts, including TPAI and YS7XX, and has had about 52 QSO's since his licence arrived last month, F.B. 18B is still pounding away on low power and has been QSO England on 0.01 watt. He has also been QSO 6MU when the latter was at sea, and has now got a hand generator in view. So we expect great things shortly. A new licence is GW11C—QRA D. B. Bradshaw, Ashfield Road, Ranelagh, Dublin. Welcome to the air, OM, and very best of luck to you.

And now for Northern Ireland. 2IT has had a splendid month's work, and is making the name of Ireland known in every quarter of old Mother Earth. His work includes 12 BZ's worked, 15 U's (1, 2, 3, 4 and 8th districts), two Canadians, one Australian, three New Zealanders, ANDIR (Java), this being second two-way from British Isles, India, Tasmania, also fone to Canada. This leaves him with six continents and 41 countries worked, and is certainly a record to be proud of. Some of the big G stations will have to look to their laurels if this continues! Hi! 6MU has left on board the s.s. "Lord Antrim" bound for Montreal, and is working on 45 metres each evening from 22.00 G.M.T. He is using the call GX6MU, and is particularly keen to connect with as many G's as possible. So please call him if you hear his signals. The tests are continuing until he arrives in Ireland on the return journey, some time in August. He has his own transmitter aboard, and to time of writing is QSO fone with 5NJ every night. He is 700 miles west of Valencia at present (July 10). I think all hams will be pleased to know that the famous 6YW, who has been QRW exams. lately, is now a lordly master of science. Heartiest congrats., OM. We are all proud of you. His research, however, has not quite kept him off the air, as CIEP, LA1A, and UICIB have been worked on 6 watts quite easily, as well as numerous Europeans. 5GH is on again and hopes to have DX news soon. 5NJ has finished with aerial experiments for the time being, and results during the month have been very good and reliable.

(Concluded at foot of next column.)

Section Notes.

Members must immediately advise Headquarters of any change in their QRA. It has recently been found that quite a number of members have changed their addresses without informing us, and as a consequence, letters and copies of the BULLETIN are being returned to us.

* * *

Members are also informed that many of the post cards recently sent out for the purpose of ascertaining correct call signs and other information for the official T. & R. List of Stations, have not yet been returned. If not forwarded immediately to headquarters, it will be necessary to proceed with the printing of the list, omitting the call signs of those not sent in.

* * *

Members of the Section proposing new applications must properly sign (not type or rubber stamp) the applications. This will prevent delay in dealing with applications. As much information as possible should be furnished with the application, detailing same upon the back of the form.

* * *

Applicants should also give an undertaking in a separate letter to abide by the rules and bye-laws governing the Section, both in its constitution and transmitting regulations.

* * *

London members are invited to volunteer for the provision of teas at the meetings during the forthcoming winter; the cost per meeting is approximately 30s. Offers should be sent to the Hon. Secretary.

* * *

Lecturers are wanted upon any subject of interest to transmitters during the forthcoming winter. If you are unable to give a lecture, will you open a discussion?

* * *

Descriptions and photographs of ham stations are wanted. Photos must be clear in detail, and should be silver prints, i.e., not bromide or gaslight.

* * *

SOS.—All members of the T. & R. are wanted to attend the Conference, September 17 & 18. Go and get leave for that date right away. Your attendance is urgently required so that we may have your valuable advice upon matters of outstanding importance in the policy of amateur transmission.

* * *

Firms who make the right stuff are asked to advertise it in the BULLETIN. When a ham finds something which is the goods, he should immediately suggest to the makers that they advertise it so that others can get to hear about it.

H. B. S.

OA6N has been worked regularly to schedule, as early as 19.15 G.M.T., and other countries worked are Brazil, Argentina, Australia, New Zealand, and sundry ships at sea. Fone has at last been got over to Australia and Brazil, and a schedule is being run with GX6MU every night. Reports have also arrived from the 6th U.S.A. district, and Tasmania. I want all Irish hams to report by the 10th inst., please.

My First U.S.A. QSO.

By 5WV.

IT was the morning of May 1 at 0300 G.M.T. that the alarm clock awoke me from my slumber.

After the necessary clothing was accomplished I crept with stealth to the den, fearing to awake other members of the slumbering household. Donning the cans and switching on the juice, a hasty search revealed to me that it was not an exceptionally good DX morning as I had hoped for. I camped on a ham (the nationality of whom was unmistakable) a rhythmic fist pumping CQ CQ Europe came through at a steady r4-5, then GU 2GP, an irresistible desire crept over me to pump out an answer, although it would be the 101st Yank I had called without success. The belt was immediately slipped on the 18-inch 15 lb. flywheel of the treadle sewing machine and Newton alternator, and then I waited for PSEKK; it came at last, with a rattle and a roar the generator revved. up to 2,500 accompanied by vicious clanks of the treadle, the noise continued, and above the din angry shouts could be heard from other members of the house awakened from their slumbers, but while venting their feelings in audible tones I continued to pound the brass U-2GP UG 5WV; at the end of four minutes the noise subdued, and with feverish hands the switches were changed over, a few seconds pause, then ??? de U2GP ??? QTA QRN PSE RPT KK. My hopes soared sky high; again there followed the tremendous roaring, clanking and angry ejaculations for another four minutes, and then by this time, sweating freely, I pulled over the aerial and pot switches, a short pause, then G5WV GU 2GP ROK GMOM UR SIGS R3 F.B. I.C.W. I had achieved what I thought was the impossible! It was half-an-hour before the ones who were disturbed again got peace, and I, perspiring freely from abnormal manual labour, but serenely happy, proceeded to the lower regions of the house, where liquids for quenching thirst are kept.

Radio Ripples.

By the way, nearly forgot it, heartiest congratulations on reaching volume 2. I suppose that just "Thanks, OM" is a very small return for all you have done for us, but it's very sincere. Let's see how many issues was the "BULL." to survive, according to some belonging to the Ancient Order of the "Bull-Frog"? Was it two or three?—H. J. B. HAMPSON, G6JV.

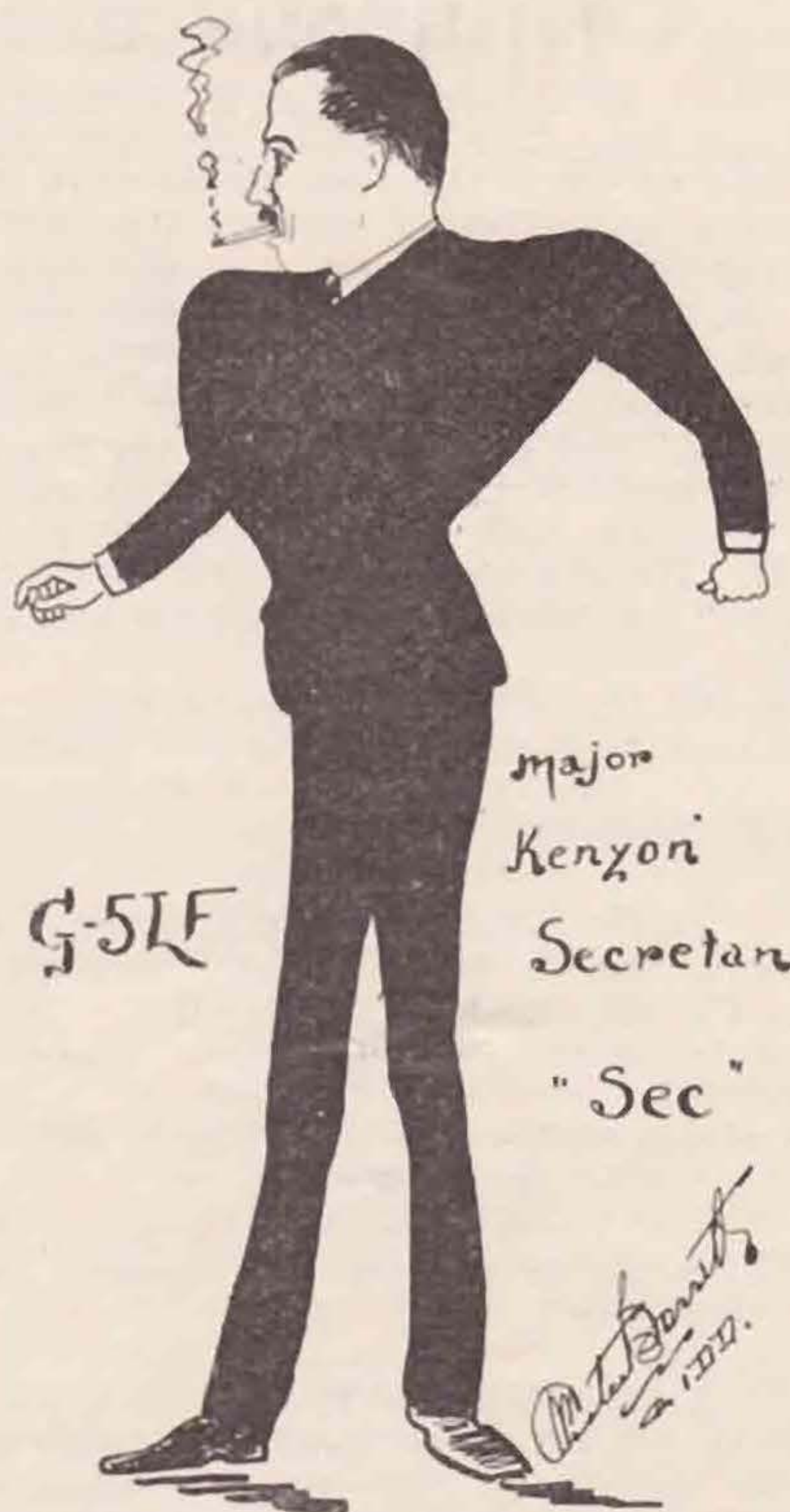
Have just found an English correspondent in China who is going to keep us informed of Chinese amateurs' activities, call signs, etc.—C. A. JAMBLIN, G6BT.

I will do my utmost to be present at the Convention, OM. It is going to be difficult, but I shall be there, somehow.—MANY CORRESPONDENTS.

I want to get your jolly little BULLETIN somehow, even though I am so many thousand miles away. Can you arrange some thing for me?—A CORRESPONDENT WHO PREFERS TO REMAIN ANONYMOUS.

I heard a station using the call A2LK, and, getting into touch, found that the operator was Mr. D. B. Knock, ex G6XG.—M. F. J. SAMUEL, G5HS.

"He who seldom sleeps"



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YOU WOULD HAVE A BIGGER "BULLETIN."

Correspondence.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—The following incident may be of interest to you. On June 23, at 2115 G.M.T., I heard a station using the call sign A2LK, and, getting into touch, found that the operator was Mr. D. B. Knock—ex G6XG—who used to live about a mile from my station. The last time I worked him I used my receiver heterodyne or "canary," and keyed by moving my finger on and off the aerial terminal! His signals were r5, but his QSB was bad, AC hard to read through the QRN. He sent his 73's to G6TM and G5DN, and wants "the gang" to look out for him and work him.

Sa, OM, that's one in the eye for those "laughing Jackasses" of his!!!

73's O.M. M. F. J. SAMUEL, G5HS.
Burleigh House, 16, Blenheim Road, N.W.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I have recently received a card from PICD8, on which is this QRA: Bertram F. Bordero, Borders es Margraves Camp Nichols, Rizal, P.I.

You will notice that this QRA is different from that given in July BULLETIN.

Yours truly, J. S. DREWETT, BRS14.

Will u pse excuse the bad typing, OM—only had the thing 1 week. Hi!

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I quite agree with letter from Mr. H. S. Nicholls in July issue. I counted twelve European stations, mostly squibs qsb's, on 33-35 metres, at the one sitting, and had one BZ test, one Z, and one XA spoiled by this European qrm. There is not much use in our boycotting these pirates, as they are not looking to work us, and would suggest that you prepare a Black List, which could be forwarded to the countries to whom the band belongs, asking them to do the boycotting. When it is explained to the A's, BZ's, Z's, etc., that it is their signals which are being destroyed, and that many a "cq" for Europe sent by them is unheard, owing to this illegitimate qrm, then we shall soon have these poachers back to where they belong. Anyone on genuine licensed experimental work on this band could notify and be kept off the Black List. I feel sure QST would co-operate to stem this selfish nuisance, which grows worse each week.

Faithfully yours, BERTIE WALSH.
Clovelly, Armagh, North Ireland.

"USELESS" QSL'S AND T. & R. MEMBERSHIP.

To the Editor of T. & R. BULLETIN.

SIR,—Although there seems to be little connection between the two parts of my heading, I hope to point to a useful relationship between them.

We all know the bother attending the receipt of QSL's from a "few streets away" and containing no useful information. Some have expressed their views in the correspondence columns of periodicals, while most have probably decided to let these things go along with wine lists, moneylenders' broadcasts and other paper annoyances.

In some cases there would seem to be no other course, but I should like to suggest that the most

intelligent of these reports may be picked out with a view to increasing T. & R. membership. I have done this myself upon several occasions with success.

The procedure is merely to acknowledge receipt of QSL with thanks, and to add something like this:—

"Sa OM, are you member of T. & R.; and have you seen the BULLETIN? If not, you are missing something altogether FB. A stamped envelope will bring particulars if you are really interested in amateur work."

In my experience this often leads to the kindling of an interest which, if followed up by the loan of a copy of the BULLETIN, with membership application form judiciously tucked away inside, not infrequently results in a new member.

Try it, OM's, and don't be discouraged if it does not work at the very first time of asking. Not every new "Ether-Shaker" functions according to plan at the first attempt either!

Yours faithfully,

HUGH J. B. HAMPSON, G6JV.

To the Editor of T. & R. BULLETIN.

SIR,—Following dope may be of interest to other "hams": WNP (Macmillan Arctic Expedition) left U.S.A. on June 19, bound for North Greenland once more. His sigs. are R7 here on about 38 metres.

E. MEGAN, GI6MU.

3, Fortwilliam Drive, Belfast.

To the Editor of T. & R. BULLETIN.

DEAR OM,—On account of the number of stations in the British Isles now using fairly high power, the really low power stations find DX work very difficult indeed at times. It is not so much that the low power men don't "get there," but it is more a matter of either being wiped out by the high power men, or else the latter being heard first.

Now it is quite natural, of course, that the high power men will work DX easier than the low power stations, but in order to see just what *could* be done by low power stations working under favourable conditions, I am bringing before your notice an idea which has been suggested by Gi6YW, and which, if carried out, will give low power men a really favourable opportunity of seeing just what can be done on a power of only 10 watts maximum.

Briefly, the scheme proposed is this: Set aside one week, say in October or November, during which no station in Europe will use a power in excess of 10 watts. If this fact was made known to the DX gang, they would use much more care in searching for our stations, and I think we would see many records put up. The T. & R. Section could arrange the scheme with the ARRL, Journal des 8, etc., and possibly a list of QRP men taking part in the tests could be published in QST, so that DX stations would know just who were the low power stations and who were not. Further, from what I know of stations using more than 10 watts, they would have no objection, I think, to QRT for one week only and so give the others the opportunity they desire for DX work.

The scheme is a big one, but I think it could be worked, and if so, I am sure the results would be of much interest. What do others think about it? —73's.

Yours sincerely,

F. R. NEILL, Gi5NJ.

To the Editor of T. & R. BULLETIN.

SIR,—As an old Committee member of the R.S.G.B., who has the interests of our Society at heart, may I be permitted to give voice in your columns to a friendly criticism of the T. & R. BULLETIN?

I have observed, with regret, for some time, that such expressions as "The gang," "Southern Hams," "A Ham Convention," "Oh Gosh," "Rag-chewing," "Bottles (valves)," etc., etc., have frequently appeared.

These terms may be quite permissible once in a way when used in fun, but I feel sure that I am representing the feeling of the majority of our members when I suggest that, if used continuously in our journal, they will tend to seriously reduce the status of our Society and weaken its influence in fighting our battles.

We are all Englishmen, and surely there is no need to borrow Americanisms, or for that matter the slang terms from that or any other country. In the past England has been proud to take the lead. We all wish in our hearts to keep our language as pure and refined as possible.

The type of word of which I complain is not used in the journals representing other branches of science.

I sincerely hope that my remarks will be received in a friendly spirit. I have hesitated some time in giving vent to my feelings in the matter, not wishing to give any offence to our good friends who have made use of these expressions, as I think, somewhat thoughtlessly, and may be in a jocular way.

Yours faithfully,

G. G. BLAKE, M.I.E.E., A.Inst.P.

To the Editor of T. & R. BULLETIN.

DEAR OM,—Just received a letter from Siberian 2WD. He asked me to let following Gs know they have been heard by him:—

2WS, 2DX, 5MF, 5SZ, 6KK, 6OG, 2IT.

Address of 2WD is:—

W. Denisoff,

Istochaja St. 25,

Tomsk, Siberia.

He will answer QSL cards.

Best 73's OM.

BERTIE WALSH.

PCK4 craves the indulgence of English correspondents, and states that owing to the fact that the police have seized his log, he is unable to QSL. As soon as this has been returned, he will again take up correspondence.

Mr. K. Secretan wishes us to announce that he is operating "Sec Seldom Sleeps" from his own QRA at 105, Castelnau, Barnes, S.W.13, to which all communications for "Sec" should now be addressed.

NOTE.

It may interest some of our readers to know that the two operators at GFR were pre-war hams who used to pound the brass under their then official call signs of TOX and DXW on wave-lengths of the 300-metre order, their best QSO's with an input of 8-10 watts and crystal receivers being 8-10 miles—some KW per mile!!

One of them, Flight-Lieut. Durrant, better known to our members as Capt. Durrant, was the operator at GHH1 Mosul, which station was widely reported at the time of its activities in amateur wireless press.

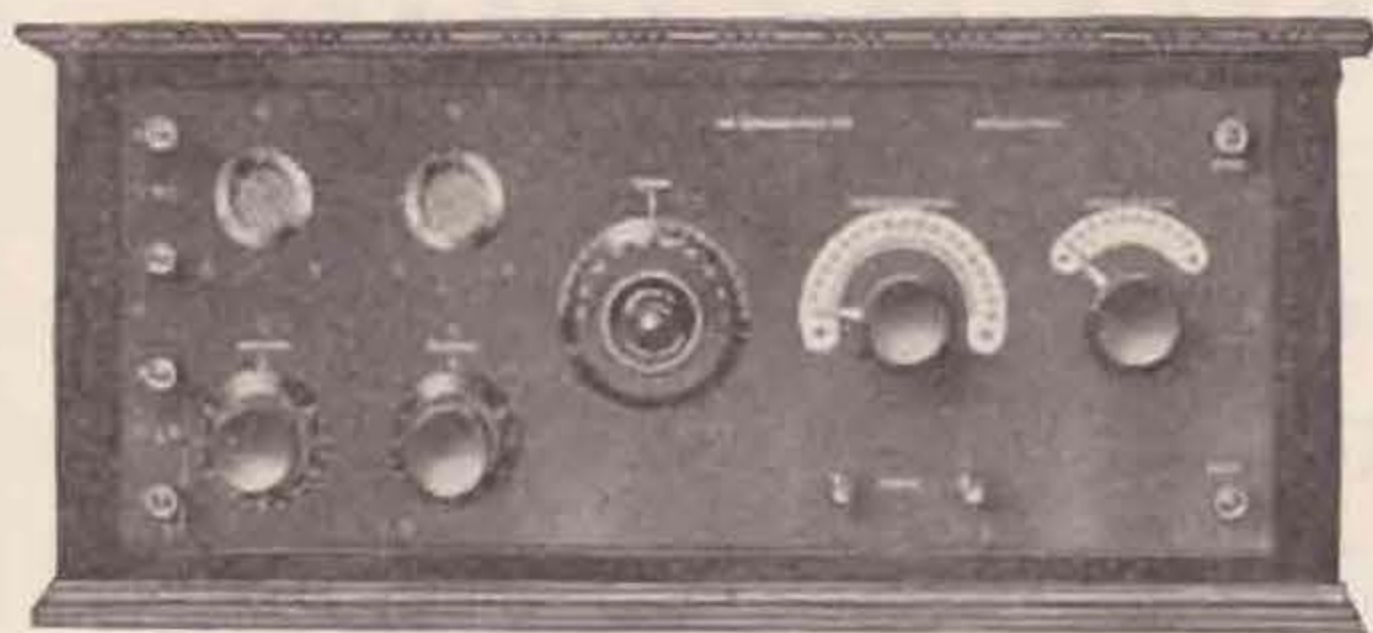


Photo by]

[Fradelle & Young.

Group of T. & R. Members taken on the steps of the Institute of Electrical Engineers. Committee Members identifiable in front row left to right are Mr. A. Hambling, Mr. Maurice Child, Mr. Bevan Swift, Mr. Gerald Marcuse, Mr. J. A. J. Cooper, Mr. J. E. Nickless. Between Mr. Child and Mr. Swift is Mr. Simmonds (2OD), and to his right Mr. Hogg (2SH). Mr. G. F. Gregory is behind Mr. Hambling (right). Copies of the photograph, price 5 -, from the Photographers, at 6, Hanover Square, W.1.

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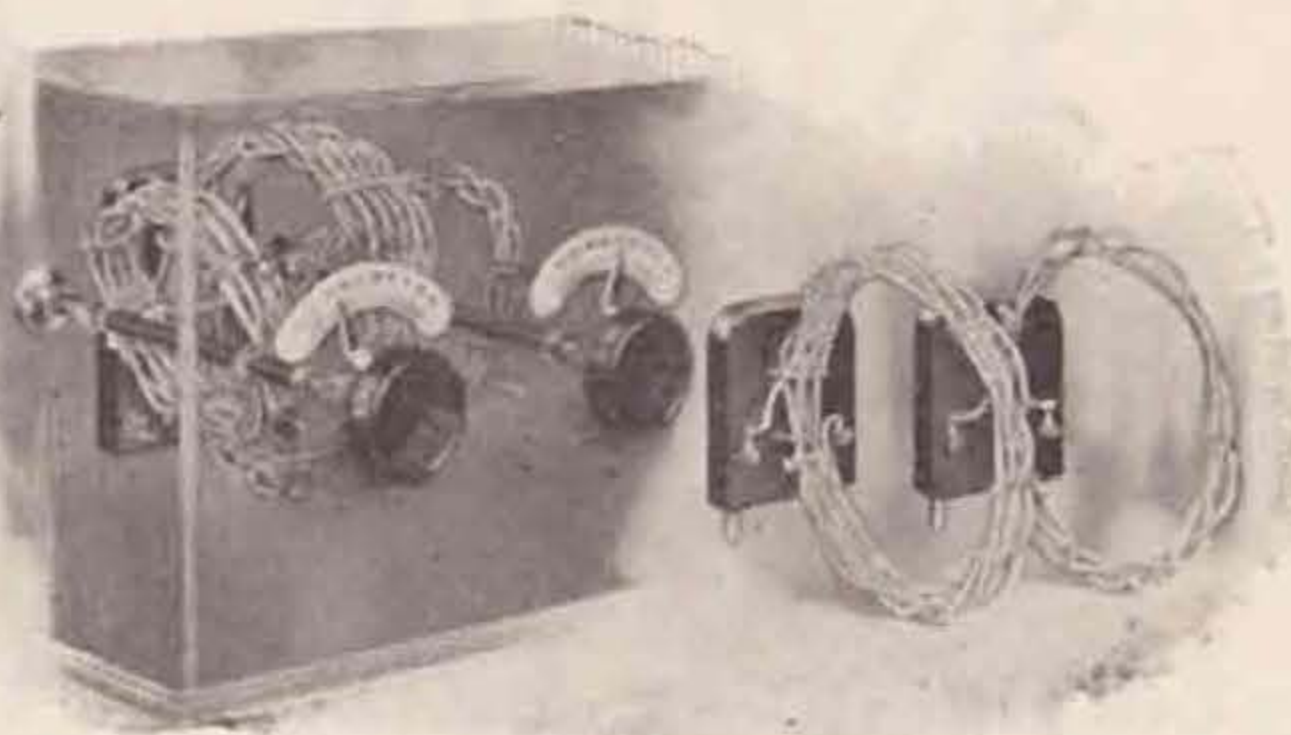
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Radio Convention

WILL BE HELD AT THE

Institute of Electrical Engineers,

SAVOY PLACE, VICTORIA EMBANKMENT, LONDON, S.W.1,

Commencing FRIDAY EVENING, SEPTEMBER 17th, 1926

Modified Arrangements.

The following is a synopsis of the Programme as at present contemplated :

On Friday, September 17, the Opening Meeting will take place at the Institute of Electrical Engineers, Savoy Place. Tea will be served to all Conventionalists, followed by a lecture on some subject of vital interest to all experimenters.

On Saturday, September 18, at 11 a.m., an informal meeting, discussion, and-or conference will take place at the Institute.

It is hoped to make special arrangements for hotel accommodation at reduced prices for those Provincial Members who apply early, whilst a number of London Members have signified that they will

accommodate a certain number of such members with bed, breakfast, and entertainment free of all charge. As this free accommodation is limited, early application should be made by only those members residing at a distance of more than 100 miles from Charing Cross. Such applications should be made to Hon. Secretary, T. & R. Section.

It is to be hoped that all members will avail themselves of this, the first opportunity afforded to them to meet collectively and discuss matters vital to their interests as Hams and Experimenters.

All correspondence should be accompanied by a stamped addressed envelope if a reply is needed.

The expenses of this Convention are being borne by T. & R. Bulletin and R.S.G.B. Funds. We therefore must ask that 100 members outside the London area shall attend in order to justify such expenditure. ALL MEMBERS INTENDING TO BE PRESENT ARE THEREFORE ASKED TO SEND A POST CARD WITHOUT DELAY TO THE HON. SECRETARY, 53, Victoria Street, S.W.1. The closing date for receipt of these post cards is 24th August.

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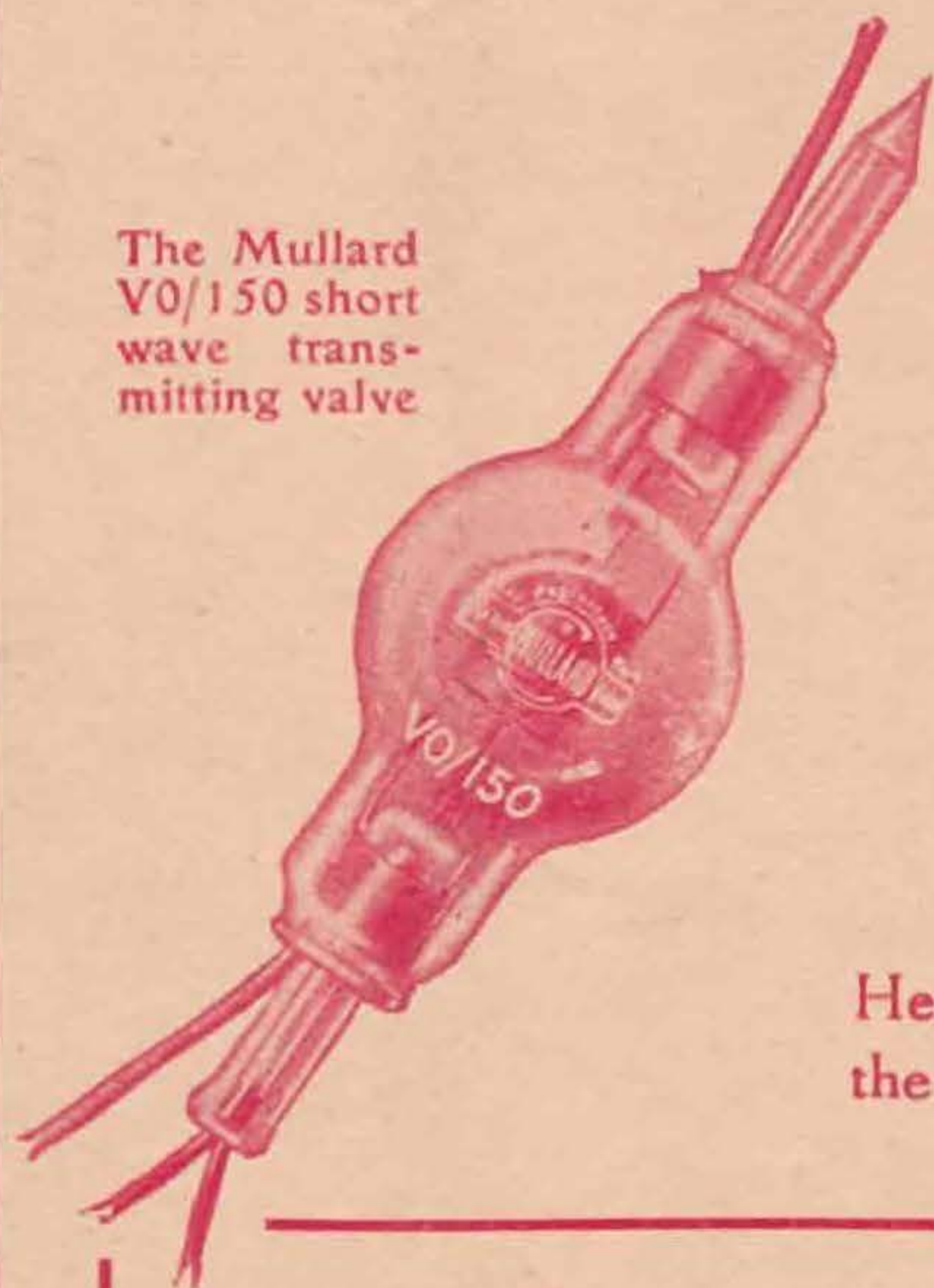
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