WIRELESS WEEKLY

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Vol. 4
No. 10

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FRIDAY, JUNE 20th 1924

This Week's Feature: London Broadcasting Heard in Sydney

Read about Home Assembly and Sets on page 3

The C-H Variable Grid Leak
Can be mounted on the tube socket—panel controlled. Adjustable for all grid condensers.

The C-H Radio Potentiometer.
The potentiometer with the resistance unit that does not wear and cannot be displaced under constant usage.

The C-H Radio Switch.
A push and pull switch, controlling and protecting batteries.

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Their Radio parts are used in all laboratories where efficiency and precision are demanded.

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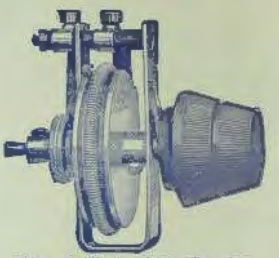

The C-H 4 ohm Vernier Rheostat.
Perfect detector tube control. Also furnished without vernier for amplifier tube control.

The C-H 30 ohm Radio Rheostat.
For control of the 1/4 amp ere, "UV201A-C301A" type receiving tubes and the "UV 199-C299" type.
Some also with Vernier.

The C-H125 ohm Radio Rheostat.
The rheostat that makes it possible to use a 6V storage cell with the UV199 or C299 tubes.

Read about Home Assembly and Sets on page 3

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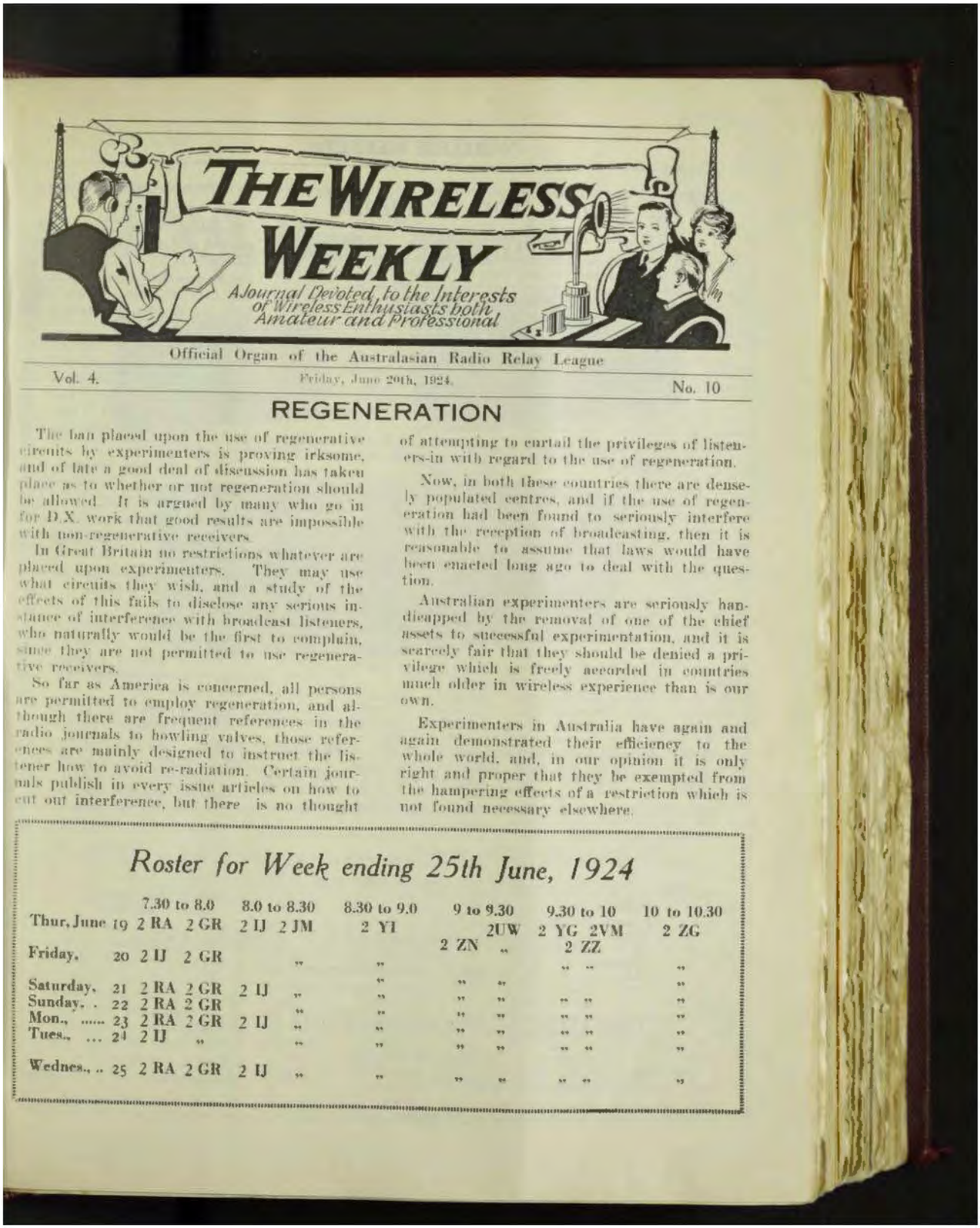


THE WIRELESS WEEKLY

A Journal Devoted to the Interests of Wireless Enthusiasts both Amateur and Professional

Official Organ of the Australasian Radio Relay League

Vol. 4. Friday, June 20th, 1924. No. 10

REGENERATION

The ban placed upon the use of regenerative circuits by experimenters is proving irksome, and of late a good deal of discussion has taken place as to whether or not regeneration should be allowed. It is argued by many who go in for D.X. work that good results are impossible with non-regenerative receivers.

In Great Britain no restrictions whatever are placed upon experimenters. They may use what circuits they wish, and a study of the effects of this fails to disclose any serious instance of interference with broadcast listeners, who naturally would be the first to complain, since they are not permitted to use regenerative receivers.

So far as America is concerned, all persons are permitted to employ regeneration, and although there are frequent references in the radio journals to howling valves, those references are mainly designed to instruct the listener how to avoid re-radiation. Certain journals publish in every issue articles on how to cut out interference, but there is no thought of attempting to curtail the privileges of listeners-in with regard to the use of regeneration.

Now, in both these countries there are densely populated centres, and if the use of regeneration had been found to seriously interfere with the reception of broadcasting, then it is reasonable to assume that laws would have been enacted long ago to deal with the question.

Australian experimenters are seriously handicapped by the removal of one of the chief assets to successful experimentation, and it is scarcely fair that they should be denied a privilege which is freely accorded in countries much older in wireless experience than is our own.

Experimenters in Australia have again and again demonstrated their efficiency to the whole world, and, in our opinion it is only right and proper that they be exempted from the hampering effects of a restriction which is not found necessary elsewhere.

Roster for Week ending 25th June, 1924

		7.30 to 8.0		8.0 to 8.30		8.30 to 9.0	9 to 9.30		9.30 to 10		10 to 10.30
Thur, June	19	2 RA	2 GR	2 IJ	2 JM	2 YI		2UW	2 YG	2VM	2 ZG
Friday,	20	2 IJ	2 GR		"	"	2 ZN	"	2 ZZ		
Saturday,	21	2 RA	2 GR	2 IJ	"	"	"	"	"	"	"
Sunday, .	22	2 RA	2 GR		"	"	"	"	"	"	"
Mon., ...	23	2 RA	2 GR	2 IJ	"	"	"	"	"	"	"
Tues., ...	24	2 IJ	"		"	"	"	"	"	"	"
Wednes., ..	25	2 RA	2 GR	2 IJ	"	"	"	"	"	"	"

The Voice from England

MR. ALLSOP'S ACHIEVEMENT.

For a long time there has been discussion in the press regarding the possibility of receiving wireless telephony from England. Following upon the reception of K.G.O., Mr. Carroll, the Manager of New System Telephones Pty. Ltd., became very interested, and on the 30th March, he called his staff together and plans were laid to endeavour to pick up British broadcasting.

One of the Company's experimental stations at Randwick was selected, and Mr. R. Allsop, the chief radio engineer, was selected to design and construct a suitable set.

After three weeks of continual 'listening in' designing and experimenting, from 4 o'clock in the morning onwards, the engineer's efforts were rewarded by the reception of faint music at 4.50 a.m. on the 6th April. Although it was not quite certain where the music was coming from, on account of the difficulty in recording station's announcements; it was certain, however that the signals were coming either from 2LO or 5IT, as the set was exactly tuned to receive on both 375 and 475 metres, which are the wave lengths of these stations.

On the 9th April at 4.55 a.m., the announcement '5IT, Birmingham' was plainly heard, and it was then plain that the speech being received was from British stations, so the exact date that the first speech was heard from England must be settled as the 9th April.

The set used was made by New System Telephones Pty. Ltd. in their Sydney workshop, and consisted of five Cossor valves, two radio, one detector and two audio, with a tuned anode circuit.

Several tests were made as to what resistances in telephones were best to use, and it was found that the 4000 ohm head-sets supplied by the Company were the best on signal strength.

New System Telephones Pty. Ltd., are to be congratulated on being the first to receive speech and music from England, and the feat marks another mile stone in the progress of wireless.

Here is the verbatim report taken from Mr. Allsop's log. Considering the power used at 2LO is only 1½ k. w., it seems evident that Mr. Allsop has created a new world's record.

April 6th, 4 a.m.: Signals heard 5 WS. but x's bad and sigs. fading. W.L. approximately 190 metres.

4.50 a.m.: Carrier wave heard, good 52 a.m., sigs. heard sending over thirty minutes' fading very badly and surging. Could only make out sign of 6XX.

April 9th: 5IT, Birmingham broadcasting station, England, strength very weak, x's very strong on 9 valves, but speech and music distinguishable — battery failing.

April 22nd, 4.30 a.m.: Tuned for 5IT, static normal and receiver functioning well.

4.55 a.m.: Carrier wave heard, good strength. 5.3 a.m., 5IT, Birmingham speaking. Gave time as 7 p.m. and weather forecast 'Higher temperatures in city.'

5.15 a.m.: 5IT announces 'Orchestra will play an intermezzo, 'Mystic Beauty' by Finck.' (Music very clear for 4 minutes and then commenced surging. Daylight increasing.

5.25 a.m.: 5IT announcing unintelligible, but music good at intervals. 5.50, Carrier wave still strong, modulation weakening with increase of daylight.

April 23rd, 4.15 a.m.: Static increased overnight. Closed down.

April 24th, 4 a.m.: Battery run down and static very bad.

April 29th, 4.55 a.m.: Carrier wave heard but no modulation.

May 1st, 5.30 a.m.: 5IT's carrier wave.

6.30: Strong carrier heard, but modulation weak.

6.55 a.m.: Announcement, 2LO, music commenced.

May 2nd, 6.30 a.m.: Music heard for ten minutes followed by an announcement, 2LO (sigs. feeble).

May 7th, 6 a.m. to 7 a.m.: Announcement, 2LO, followed by press report, followed by singing.

May 22nd, 6 a.m.: 5IT, Birmingham, parts only distinguishable—static bad.

May 23rd, 6.30 a.m.: 2LO distinctly heard, best strength so far received, fading at times. 8.30 a.m., speech and music just audible.

Note: Reception proved best while raining, or when overcast and low lying clouds. Approximate wave lengths, 369 and 450 metres.

UNITED DISTRIBUTING CO.

The above company reports a phenomenal sale of its single valve home assembly sets, not only in Sydney but also have received large telegraph orders from Melbourne, Perth, Adelaide and Brisbane, and even as far away as Tasmania.

In order to meet the demand from all over the Commonwealth, they have concluded to put out a two and three valve audio frequency home assembly set, and also a 3 and a 4 valve radio frequency home assembly set.

The 3 valve radio frequency home assembly set costs only eleven guineas. The contents are:

Oak cabinet mission finish out-side dimensions 24in. long, 8in. high and 9in. deep.

An engraved genuine bakelite panel bored ready for mounting.

2 dials.

43 plate vernier condenser, .001.

23 plate vernier condenser, .0005.

2 sets or total of 4 United Coils to be used for both low and high wave lengths.

2 Panel plugs.

3 signal rheostats: 1 for the detector and 1 for the radio frequency, and 1 for the audio frequency valve.

3 signal sockets for standard valves Quickheat leak and mounting.

6 engraved binding posts.

Sub-panel bored for mounting the parts.

2 Jacks—1 single, 1 double.

1 Plug.

Ample square bus wire.

1 United transformer.

A very effective feature of this set is that the sub-panels are bored and a diagram furnished showing that by the addition of one United Transformer and 1 valve socket this set can at any time either when first constructed or later be increased to by another stage of audio frequency, making it a 4 valve set.

The sets are on sale at all dealers.

The Cockaday Four Circuit Tuner

BY THE LITTLE AMERICAN.

This circuit was designed by L. M. Cockaday, and is very efficient on low wave lengths. The aerial circuit is tuned by means of the coil D. This coil is practically the same as the primary coil of any inductivity coupled receiving set. This coil does not, however, provide the coupling with the secondary circuit. For this purpose a single turn of wire is connected in the aerial circuit as at A. Sharp tuning of the aerial circuit may be secured by the use of a variable condenser, though the selectivity of the aerias of the set is such that this additional adjustment is not necessary.

The single turn coil A is coupled to the two other coils B and C, which are also coupled to one another. These coils are wound on the same tube as though they were to serve as secondary windings of the ordinary inductivity coupled tuner. Both coils are shunted by variable condensers.

The coil C with its condenser is not connected conductively to any other part of the circuit. One terminal of the coil B is connected to the grid condenser as shown. The other terminal of B is connected to the plate instead of to the filament of the tube. In this respect the connection is similar to that of the De Forest ultra audion.

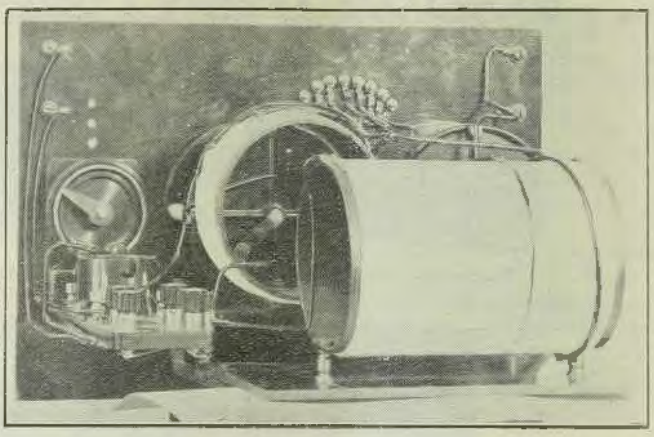


Fig. 1—Back view of Panel.

The parts used in this set are as follows:

E: One 23 plate condenser.
F: One 17 plate condenser.
G: One mica fixed condenser, .00025.
I: One grid lead 1 or 2 megohms.
C1: One mica fixed condenser, .0005.
L: One 20 ohm rheostat.
Q: One switch lever.

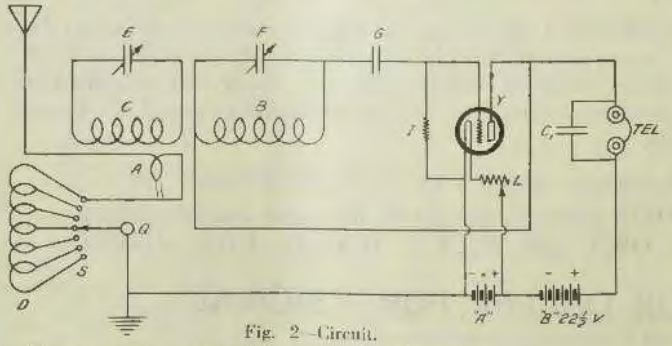


Fig. 2—Circuit.

On this account the grid leak is not connected across the condenser, but directly from the grid to the negative terminal of the filament. The circuit is usually called the second. The third circuit is through the telephone receivers and electron tube plate. The fourth circuit consists of the Coil C with its variable condenser.

Y: One detector tube.
S: One switch point.

Coils A, B and C are wound on a bakelite tube 3¼in. in diameter and 5¼in. long, wind 65 turns No. 18 D.C.C. wire for coil B, next to this wind 37 turns No. 18 D.C.C. wire for coil C. Coil A is a single turn of 'bus wire wound over coil C.

Coil D is wound in 3¼in. bakelite tube, 2½in. long. Wind 43 turns of No. 18 D.C.C. wire double bank wound, tapping off at 7th, 15th, 21st, 27th and 31st turns. This coil is placed at right angles to coils A, B and C. Parts can be arranged and supported as in photograph. Use short leads and solder all joints.

This set has proved exceptionally selective, and the signals from near by stations can be eliminated even when the difference in frequency between these signals and desired ones is very small. This circuit is also very sensitive to weak signals and the regeneration is easily controlled.

The great selectivity is secured through the use of very loose coupling between the antenna and the coils B and G. The selectivity is also increased by the use of the intermediate tuned circuit, which must be adjusted to the proper frequency. Just what makes possible the particularly satisfactory control if regeneration is not clear since the ultra audion, as ordinarily used is rather difficult to control in this respect. Whether this feature is connected with additional tuned circuit employed or with the use of proper valves of grid leak and condenser, or with the particular arrangement of the coils A, B and C, is an interesting field for experimentation.

Next week I will describe a two-step amplifier for this circuit.

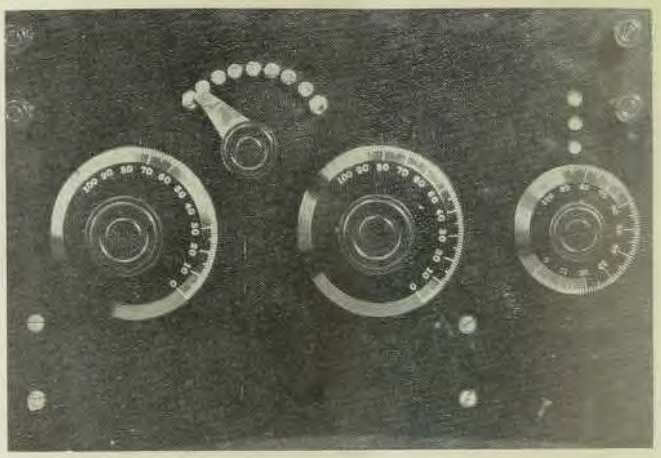
THE BOURKE TESTS.
AMATEURS HEARD.

Here is a record of amateur stations logged by 2MU (temporary station of New System Telephones Pty. Ltd.) during the Eductaion Department tests at Bourke.

Friday June 6th: 2JM, 2DS, 2YI (CW, ICW and fone), 2IJ (CW only).

Saturday, June 7th, after 11 p.m.: 3SW and 3JH (CW received on indoor aerial without earth). 3BH, CW very QSA (R10) carrier strong as 2FC, 2YI CW, ICW and fone on loud speaker. 3BL, CW R6 loud speaker also fone loud and distant in head phones. 4EG, CW good strength on loud speaker. 2 YI good strength buzzer and phone on loud speaker. 3DB, CW loud speaker. 3BU, CW, R8 on loud speaker, speech on loud speaker.

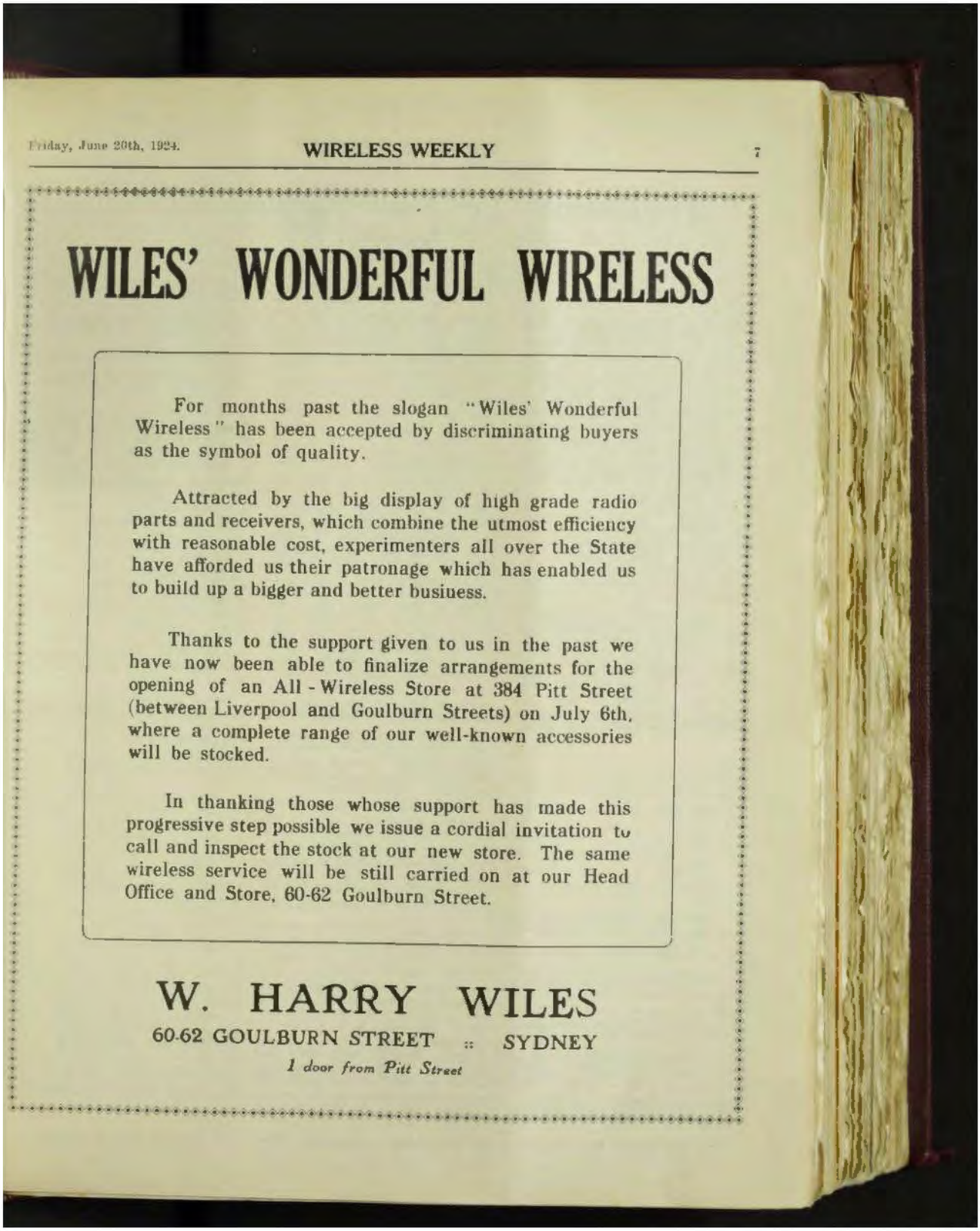
Phone heard on 120 metres—American voice phone, carrier very strong. Faded before call was received. VIM and VIA time signals heard 200 yards from loud speaker. VPW was also strong on speaker.



Cockaday Four Circuit Tuner

Fiont view of Panel

Sunday, June 8th: 7BN, ICW and fone good strength in head phones. 3AA (N.Z.) CW only. 5BQ phone very strong on loud speaker. 3BD, CW very strong. KGO was heard with good strength.



WILES' WONDERFUL WIRELESS

For months past the slogan "Wiles' Wonderful Wireless" has been accepted by discriminating buyers as the symbol of quality.

Attracted by the big display of high grade radio parts and receivers, which combine the utmost efficiency with reasonable cost, experimenters all over the State have afforded us their patronage which has enabled us to build up a bigger and better business.

Thanks to the support given to us in the past we have now been able to finalize arrangements for the opening of an All-Wireless Store at 384 Pitt Street (between Liverpool and Goulburn Streets) on July 6th, where a complete range of our well-known accessories will be stocked.

In thanking those whose support has made this progressive step possible we issue a cordial invitation to call and inspect the stock at our new store. The same wireless service will be still carried on at our Head Office and Store, 60-62 Goulburn Street.

W. HARRY WILES

60-62 GOULBURN STREET :: SYDNEY

1 door from Pitt Street

A Transformer for Low Resistance Telephones

By Insulator.

In writing this article I do not for one moment wish you to understand that I am advocating the use of low resistance 'phones in preference to those of a higher resistance. Telephones of the order of 2,000 to 4,000 ohms resistance are eminently suitable for all classes of receivers. There are a few people who do not feel satisfied unless their 'phones are wound to a resistance of 8,000 ohms. This is a great mistake, as whereas these 8,000 ohm 'phones may be slightly more sensitive they are also more delicate, and therefore are more likely to break down, particularly when a high tension valve of 100 volts or more is flowing through them.

Personally, I am perfectly satisfied with 3,000 ohms, and mine have had considerable knocking about during the last two years, as much as 200 volts, "B" battery, being used in the course of my many and varied experiments.

So now, remember this when buying 'phones. Don't go over 4,000 ohms, or less than 1,000 ohms, and also purchase those receivers which are rugged in construction, because at some time or other they will be dropped, and apart from disturbing the more delicate parts of the receiver it may happen that the case itself may be broken,

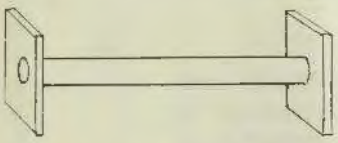


FIG 1

and leave you quite annoyed and—well not speechless, but 'phoneless.

I am, I believe, right in saying that most of us have amongst our "gear" one or two 'phones of a low resistance, such as 120 ohms. Connected direct to the receiving set they will be found to be practically useless, particularly if the set you have is a crystal set.

Now, these low resistance 'phones can be made good use of, provided a telephone transformer is used. This latter article is quite easy to make, although I myself have gazed upon more failures than successes in the attempts of many of my friends. I pride myself that I have put them on the right track by giving them particulars of this one I am about to describe. The failure in most cases I found to be due to a desire to have too many turns in the secondary winding, which is obviously incorrect.

To make this transformer we require:—

120 yards of 36 gauge D.C.C. wire.
2 ozs. of 44 gauge S.S.C. or enamelled wire.
1 bundle (quarter lb.) of 20 or 22 gauge soft iron wire.
4 terminals, 4¾in. of ¾in. fibre tubing.

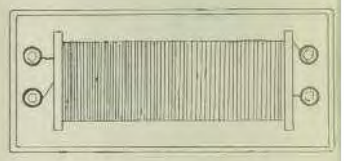
If fibre tube is not procurable a good substitute is made from the cardboard tube on which string is wound. Which ever is used it is necessary to shellac it well. While it is drying cut two pieces of wood or ebonite 2¼ in. square by ¼in. thick. These are to form the ends. Drill a hole in the centre of each to take the fibre tube, and see that it fits tightly and snugly. Fig. 1 shows this arrangement. On one end and close to the core, pierce a small hole big enough to allow 26 gauge wire to pass through and pierce another of the same size on the same side about ¼in. from the core.

This having been done it is necessary to wind on the No. 44 gauge wire for the primary. Improvise some sort of winder for the purpose, as this winding is just a wee bit tedious.

I myself filled up the fibre tube with a plugging of soft wood. Using a ¼in. drill, I drilled right through the length of this plug and left the drill in. The whole I gripped in the jaws of my vice, leaving the turning handle up, and by winding this handle the former revolved nicely. However, you may know of a better way, so go to it.

Solder about 6 inches of No. 26 gauge D.C.C. wire to the beginning of the No. 44 gauge wire and insulate the joint well by dipping in paraffin wax. Thread the No. 26 gauge through the small hole near the core, and tuck this six inches away out of the road for the time being, as it is used for connections.

Proceed now to wind slowly and evenly the No. 44 wire to the other end of the core, and then wind back again to the starting end. Repeat this operation until all the 44 gauge wire



COMPLETED ARTICLE

is wound on, endeavouring all the time to wind closely and evenly. Be careful in handling this fine gauge wire, as it is very liable to break. This is, of course, to be avoided, but should a break occur don't get quite mad and start throwing things about and blaming everyone but yourself.

Just calmly say to yourself, "Well, I can mend it." You can, by joining up again and soldering the joint. Insulate this joint with wax as before, and continue to wind as if nothing untoward had happened. When all the wire is wound on, solder six inches of the 26 gauge wire to the end, as you did at the beginning, and thread this through the other hole for the purpose.

Before proceeding any further it would be advisable to test for continuity. Get your telephone and a battery, and connect one side of the 'phone to one terminal of the battery, and the other side of the 'phone to the beginning of the winding. When the end of the winding is touched to the remaining terminal of the battery, a click should be heard in the 'phones, which proves that the winding is O.K.

Now that this is right, wrap two or three layers of waxed paper neatly around the entire winding, and smooth it out with the back of a hot spoon. When this is done you will breathe much more freely.

"The next item on the text" is to wind on top of this the secondary winding. Pierce two small holes on the other end of the former, thread six inches of the No. 36 D.C.C. wire through one and wind on the whole 120 yards of wire as evenly as is possible, bringing the last six inches through the remaining hole. This is much simpler than winding the primary, so no trouble should be experi-

Continued on page 9 col 1.

cured. If desired, the whole coil may be covered by wrapping varnished cambric tape around it. This is perhaps advisable, as it acts as a protection.

All that now remains to be done is to remove the soft wooden plug from the fibre tube and fill this tube with as many 4in. lengths of the soft iron wire as it will hold.

The whole transformer can now be mounted on a 6in. x 3in. wood block, and the connection taken to four terminals screwed into this block. You have now a splendid transformer, which will render yeoman service at all times.

In use the primary (No. 44 gauge) is connected to the telephone terminals on your set, while the secondary (No. 36 gauge wire) is connected to the low resistance 'phones which will now be of some service to you.

On April 2 Tamaki Miura, Japanese opera singer, actuated the microphone of station KYW, Chicago. Her voice was heard as far west as Hawaii. She promised every listener who acknowledged reception of the programme that she would send an autographed photograph, and up to the present ten thousand letters have been received.

The article by A. W. T. entitled: A Super Crystal Set, will be concluded next week. Don't miss this.

THE LEICHARDT AND DISTRICT RADIO SOCIETY.

The Leichhardt and District Radio Society carried out a very pleasant little function on Tuesday, June 10th, when a large number of members and friends gathered together at the club-room, 176 Johnston St., Annandale, for the purpose of farewelling Mr. and Mrs. G. Chilton prior to their departure for Townsville. Some time ago several parties of members were privileged to visit V.I.S. and on each occasion all were received so courteously by Mr G. Chilton, officer in charge, and Mrs. Chilton, that it was decided to show practical appreciation of their hospitality by giving them a send off prior to their transfer to Townsville. During the evening Mr. and Mrs. Chilton were presented with a silver-plated coffee service on behalf of the members, and Mr. Chilton expressed deep appreciation of the gift.

On Tuesday night next, another "Sale and Exchange" evening will be conducted, and members who have gear to dispose of are invited to bring same along to the meeting.

The construction of the Society's set into a three valve receiver is now well in hand, and the set should be in good working order at an early date.

The date for the delivery of the lecture on Esperanto has yet to be definitely fixed, but it will probably be on the 8th or 15th of next month. More definite information will be published in these columns later.

Persons interested in the work being done by the Society are invited to communicate with the Hon. Secretary —Mr. W. J. Zech, 145 Booth St., Annandale, who will be pleased to supply any information required.

CROYDON RADIO CLUB.

The usual weekly meeting of the Croydon Radio Club was held at the Club Rooms, "Rockleigh," Lang St., Croydon, on Saturday, 7th June, at 7.30 p.m.

The chief business of the evening was a demonstration of the capabilities of a four-valve reflex set, by the secretary, Mr. Cutts, followed by a very helpful and interesting lecture, on his wide experience, concerning the construction of reflex sets.

The meeting closed at 10 p.m. All intending members are respectfully invited to communicate with the Hon. Sec., Mr. G. M. Cutts, "Carwell," Highbury St., Croydon.

Continued page 20.

Wireless Tests at Bourke

By O. F. Mingay, Wireless Manager, Burgin Electric Co.

No doubt every wireless experimenter and enthusiast is aware that reception tests were carried out at Bourke a fortnight ago. The idea was to prove to the Sub-Committee appointed by Mr. Bruntnell, the Minister for Education, that it was possible to receive broadcast transmissions from Sydney and amplify them to such an extent that they would be audible all over a school room from a loud speaker in the day time at Bourke, which is 400 miles air line from Sydney. The Committee contended that if satisfactory results were obtained at Bourke they would feel confident in recommending the installation of wireless receivers in any school in New South Wales under the auspices of the Parents and Citizens' Association of that particular centre.

Needless to say many wireless experimenters were very sceptical and also with a loud voice aired their opinions as to the impracticability of a successful test, in the day time, especially —in fact some stated that it was useless making the trip. In spite of the pessimism existing amongst some schools of thought, the Committee finalised the organising of the tests and invitations were extended to all those interested.

Having had some experience previously in regard to similar tests, one notably at Moss Vale, the writer took particular care that nothing was left to chance, and consequently left Sydney on the Monday night in order to prepare a few days ahead for any eventuality that might occur. Among those who journeyed at that time were Mr. Hatfield, Science Master Fort St. High School, and who acted as Secretary of the Educational Sub-Committee, Mr. Marsden, of Messrs. David Jones; Mr. Slade of Messrs. Harry Wiles, and Mr. Bob Hill, of Messrs, Western Electric Co.

Although ideas were entertained of working loop aerials on the train after leaving Sydney, it was found that such was impossible due to the crowd travelling, so that nothing much occurred until the party arrived at Wellington where we all enjoyed a good breakfast. At Nyngan we all assembled in the one carriage, and as is natural, discussed wireless until we arrived at Bourke. It was interesting to note that at several points en route wireless aerials were to be seen, notably that of Dr. Maclean, of Trangie, who has obtained very good results.

On arrival at Bourke we got all our gear down to Fitzgerald's Hotel and duly had a look around particularly noticing the aerial erected at the public school in passing. Every member of the party was simply itching to get their receivers connected up and some reception logged. Miscellaneous aerials were quickly erected at the hotel, one member of the party being very agile and climbed all over the roof. A few unfortunate things happened to some of the gear in the rough handling, and some breakages were recorded, but nothing of any consequence. After tea we all made a hurried adjournment to the school house to see what we could do.

On Wednesday, after waiting for nv-

er an hour for one of the members of the party to come out of the bathroom (where, by the way, it is forbidden to shave) we enjoyed a very nice breakfast and adjourned to the school. Reasonable results were obtained during the day and during the evening about 5 o'clock, we were listening in for 2WV, the Burgin Electric Co's. experimental station which was transmitting from 5 to 6 p.m., This station was picked up by Mr. Hill between 5 and 5.30 p.m., after which the writer connected a standard Model 9, 5 valve "Burginphone" receiver, and very soon picked up some music on a fairly low wave length, and thought that he was also receiving 2WV. Judge the surprise when the music finished and the announcer came on with: "K. G.O., Oaklands, California, transmitting from the Garden Room of the St. Francis Hotel"! Th ewriter was greatly excited and having heard the announcement K.G.O. in a slow and deliberate style, he hurriedly passed the receivers to other members of the party who all confirmed the reception. Mr. Slade, Mr. Marsden, Mr. Hill and Mr. Hatfield all heard either music or announcements. Everybody was very pleased, especially as we had heard so many rumours about the bad receptive features of Bourke.

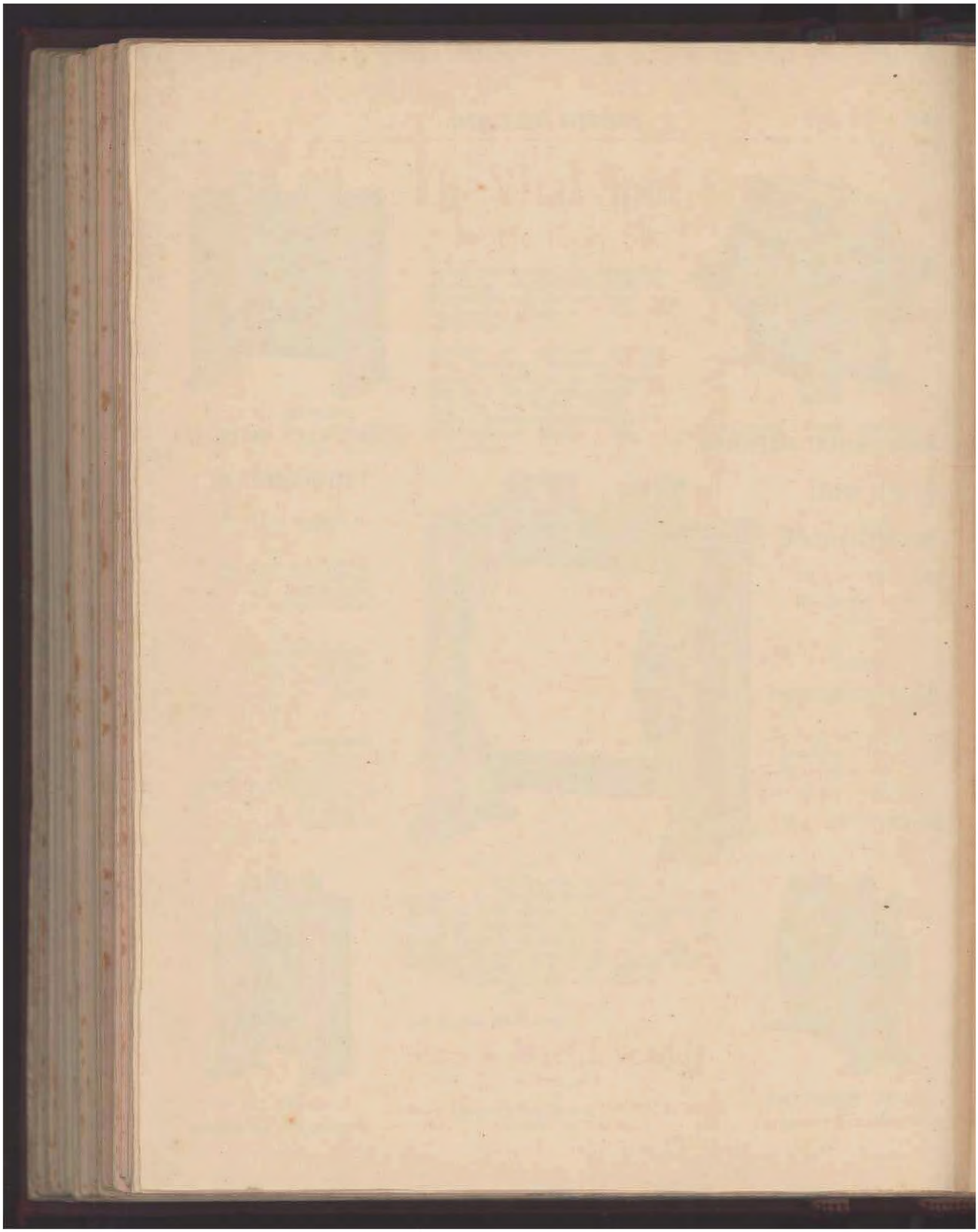
This gave us the assurance that the Sydney broadcasting would not be difficult as some had already picked up Farmers and Broadcasters very well, even to loud speaker strength. K.G. O. was picked up using a 2 radio stage, detector and one stage audio. No definite tests were made on this particular station to determine whether it was possible to pick it up on less stages or not on the Burginphone receiver, as naturally we were so keen on hearing what the announcer had to say and the verification thereof, that further experimentation at that moment was out of the question. Mr. Hill also put his receiver on the same aerial after the writer had disconnected the Burginphone receiver, and he also stated that he could hear K.G.O.

We then adjourned for an early tea, anticipating that we might be able to hear the American station before he closed down at 7 o'clock, but due to interference after, we were unable to pick him up. Of course, we do not know whether he was actually going or not. After this, we tried the Sydney broadcasting stations and everybody was successful in getting them in with good results. From then on success was assured and everybody was very pleased with the results generally.

At night also as on the preceding night, after 10 o'clock, many Melbourne and Sydney amateurs were received, some even at loud speaker strength with their telephony. As this particular experimentation was carried out by other members of the party and as a careful note of them was kept by Mr. Hatfield, of Fort Street, I will not ideal with this particular phase of the questions, but will leave it to those who kept the logs. In this particular connection Mr. Allsop was particularly successful in regard to the reception of the amateurs. Readers can quite imagine the interest shown when it kept the majority of the party in the school room until 2.30 in the morning.

On Thursday afternoon at 5 o'clock, it rained in torrents, and prevented our going to the station to meet Mr. Naugle and the other members of the party, but they all came along with the exception of Mr. Burridge and Mr. Allsop, of New Systems Telephones, who waited at the station to collect their gear. We adjourned thereto and endeavoured to possess long faces as

Continued on page 16



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THE FAMOUS

"Reflex" Loose Coupler

RADIO RECEIVER

THIS is easily the finest Receiver of its kind in Australia. It is the greatest possible Radio value. Compare it with any loose coupler receiver at any price.

SPECIFICATIONS. Polished Maple Woodwork. Highly Nickelled Fittings on Formica Panel. J. B. Detector Parts. Finest Rotary Switch and sheds on Vulcanite disc on secondary coil. Best Quality Slider. Easy running secondary. In fact everything finished accurately, and electrically perfect.

Price : £3/15/0

Supplied with Headphones, Aerial Wire and Insulators, complete, ready to erect and listen in. Price, £5/12

For those who would like to make this Beautiful Loose Coupler Receiver themselves we put up a complete set of the parts necessary to turn out the finished receiver. With this set of parts we send you a specially printed instruction sheet with diagram of connections and fully detailed instructions how to proceed. The complete set of parts with instructions, 36/6; postage, 2/.

Our New Illustrated **Radio Catalogue** is just out

We will be pleased to post you this UP-TO-THE-MINUTE BOOKLET on receipt of 2d. stamp.

RADIO HOUSE

THE QUALITY RADIO STORE

PHONE CITY 1487 :: 619 George Street, Sydney :: PHONE CITY 1487

Now Boys, bear this in mind! Broadcasters Sydney Ltd (2BL) was the first Radio Broadcast station to operate, and you have them to thank that Radio has advanced so far in Australia. They have given you a good service without charge. The company is maintained by several radio dealers in N.S.W., and in all fairness you should buy all your Radio Goods from these dealers. The following Radio stores contribute to the upkeep of this fine station. Make a careful note of their names:

Cahills Moore Co., Ross St.; W. Harry Wiles, Crown St.; Wireless Supplies Ltd., Royal Arcade South, Pitt St.; L. P. R. Bens, Castlereagh St.; Continental Radio Co., George St.; Ramsay Stores, Bondi St.; Radio Company, Ltd., Lilian St.; R. H. Cullen, Bathurst St.; Home Electrics, King St.; United Distributing Co., Union St.; S. P. Olsen, Newcastle; and Radio House, 619 George Street.

BUY FROM THE BROADCASTERS

Hotel Innovation.

First Broadcasting Reception Service.

The first broadcasting reception service in an Australian hotel was inaugurated recently at the Hotel Sydney, a programme of musical items being distributed from seven different points in the huge building.

The set installed for the reception of broadcasting is a five-valve Radiola, from which connections are made to Amplion loud speakers installed in the lounge, dining-hall, grill-room, reading-room, ball-room and roof-garden.

The set was manufactured at the radio-electric works of Amalgamated Wireless (A/sia), Ltd., and incorporates many unique features.

Visitors were welcomed by the chairman of directors (Sir Arthur Rickard) and after listening to a programme broadcast from Farmer's studio, were entertained at a buffet supper.

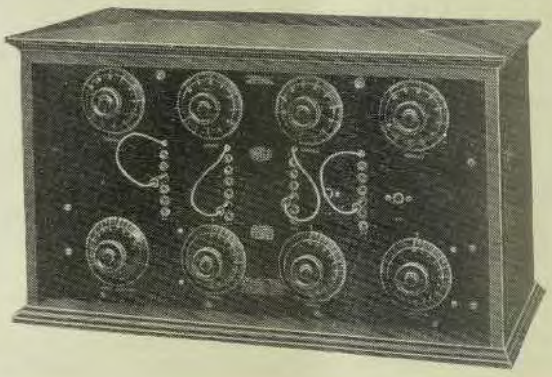
Those present included Sir David Storey, Sir R. M. Anderson, Sir William Vicars, Sir Arthur Cocks (State Treasurer), Mr. F. Whysall (Deputy-Postmaster-General), Mr. F. A. Chaffey (Minister for Agriculture), and Messrs. Fitzgerald, Davies and Keegan, M's.L.A.

Owing to the success of the service, others will no doubt be installed on similar lines in other large hotels in the capital cities.

"RADIOLA" DEMONSTRATION TYPE. AS INSTALLED AT HOTEL SYDNEY.

This is a five valve instrument employing a specially designed circuit, and for the last stages of amplification, resistance capacity coupled valves. The valves in use being: First two, Marconi R.; third, L.S.3; fourth, and fifth, are L.S.1.

At the top of the panel are four rheostats, the first controls the first and second stage of audio amplification; the second the detector valve, whilst the third and fourth control the fourth and fifth valves.



Four rows of jacks (six in each), with four plugs attached, are used as a convenient means of making adjustments of the biasing battery.

Two telephone jacks are provided—these are for operating the instrument on four or five valves, when using four valves the fourth row of biasing jacks are cut out of the circuit.

The four lower dials are attached to condensers, the first being for aerial tuning; the second for secondary vernier; the third, a vernier on primary of radio frequency transformer, and the fourth a vernier on the secondary of radio frequency transformer.

On the left-hand side of the instrument, the aerial low tension battery and earth connections are made by inserting the corresponding plugs. No mistake can be made with these plugs as they are not interchangeable.

On the right hand side of the instrument the biasing and H.T. battery connections are made. The biasing battery plug has six sockets and fits in the top recess, while the H.T. plug has four sockets and connects in the lower recess.

The low tension battery is an eight volt unit, the reason for the extra two volts being that the L.S.1 valves (which work on eight volts), can be made to operate on their correct characteristic. This battery is charged from the Hotel Sydney supply.

The biasing batteries are supplied as separate units, the necessary tapping leads being run to cabinet and connected as mentioned above.

The high tension supply is obtained from batteries arranged in blocks, each of which represents 60 volts. Various voltages are required for the different valves.

AMATEURS PLEASE NOTE.

The following letter from an American amateur speaks for itself. We would be glad if any local amateur would get into touch with Mr. Mears.

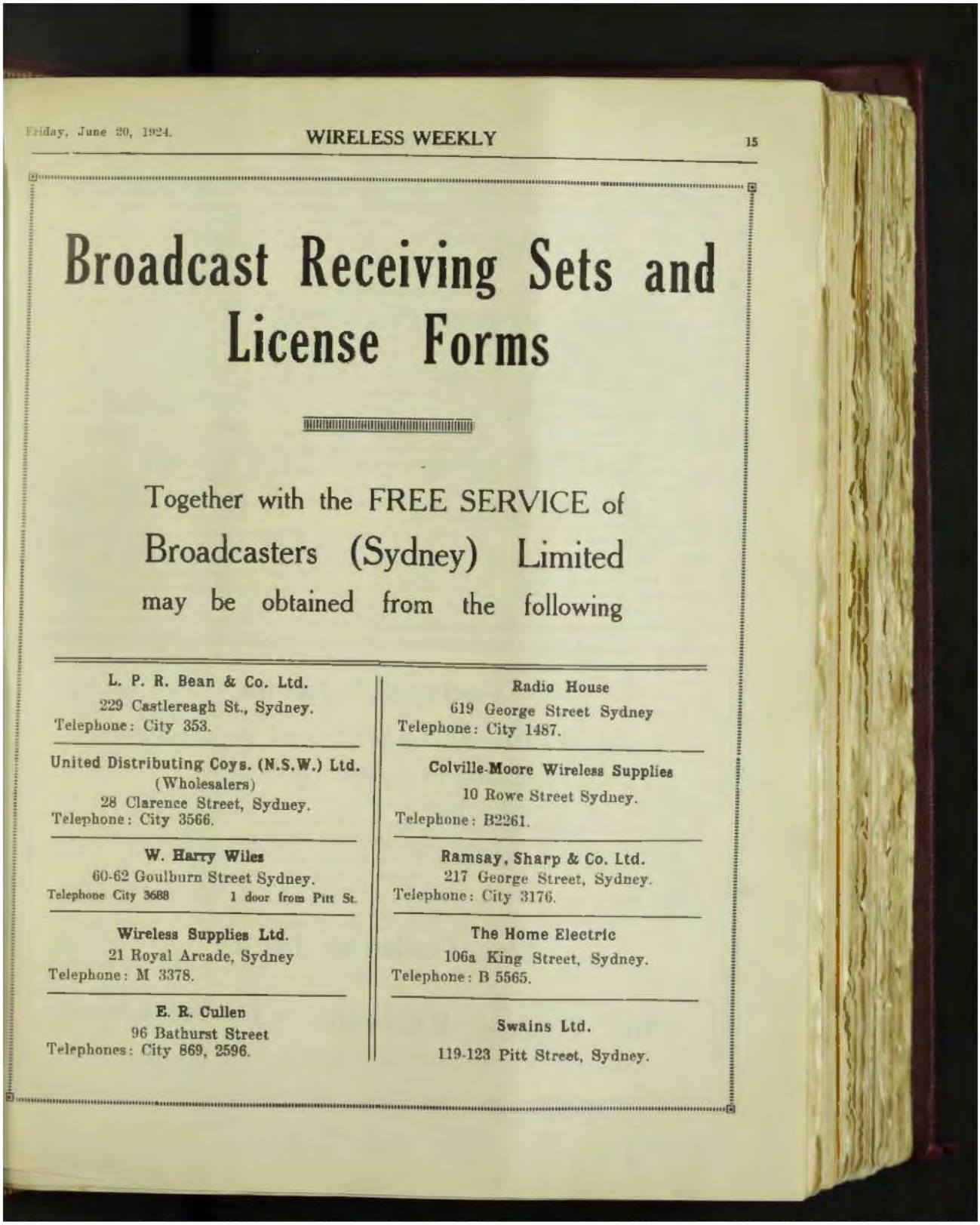
4511 Colfax Av. So.,
Minneapolis, Minn.,
May 4th, 1924.

Editor,
Wireless Weekly,

Dear Sir,—I would like to carry on correspondence with some amateur or radio experimenter in Australia. I would greatly appreciate it if you would make a note of this in your magazine. My station cal lis U9BFI, and my address is: Leon Mears, 4511 Colfax Av. So., Minneapolis, Minnesota, U.S.A.

Thanking you in advance for this favor, and also for your magazine's fine articles.

Yours truly,
LEON MEARS.



Broadcast Receiving Sets and License Forms

Together with the FREE SERVICE of Broadcasters (Sydney) Limited may be obtained from the following

L. P. R. Bean & Co. Ltd.
229 Castlereagh St., Sydney.
Telephone: City 353.

United Distributing Coys. (N.S.W.) Ltd.
(Wholesalers)
28 Clarence Street, Sydney.
Telephone: City 3566.

W. Harry Wiles
60-62 Goulburn Street Sydney.
Telephone City 3688 1 door from Pitt St.

Wireless Supplies Ltd.
21 Royal Arcade, Sydney
Telephone: M 3378.

E. R. Cullen
96 Bathurst Street
Telephones: City 869, 2596.

Radio House
619 George Street Sydney
Telephone: City 1487.

Colville-Moore Wireless Supplies
10 Rowe Street Sydney.
Telephone: B2261.

Ramsay, Sharp & Co. Ltd.
217 George Street, Sydney.
Telephone: City 3176.

The Home Electric
106a King Street, Sydney.
Telephone: B 5565.

Swains Ltd.
119-123 Pitt Street, Sydney.

Continued from page 11

to the possible results, but they would not believe us so we told them how easy it had been. They also got to work very quickly after tea after overhauling their gear, which is very necessary after a train journey. Everything went O.K.

The actual tests were opened on Friday, by Mr. James Nangle, O.B.E., F.R.A.S., Superentendent of Technical Education for N.S.W., and the chairman of the Sub-Committee for the investigation of wireless on behalf of the Minister for Education. Mr. Cameron, a member of the Sub-Committee, who was the mover of the motion at the recent Teachers' Federation and actually instigated the first steps of wireless in schools, was also present as a member of the committee together with Mr. Latter, of Randwick Public School, Past President of the Teachers' Federation. Between 11 and 12, Messrs. Farmer and Co. Ltd., transmitted a special programme to assist us in the tests, and during this time, Mr. Smith, the Director of Education for New South Wales, delivered an address from Messrs. Farmers' Studio to the Test Committee at Bourke. We might mention at this juncture that a roster was drawn up for the various firms to operate on, and I was fortunate in having the time during which Mr. Smith delivered his address. This was received on a loud speaker with great volume and clearness, also other items transmitted during this period were received by other members of the party to their satisfaction.

In the afternoon and evening further tests were continued and everybody was very pleased with the results. During Friday evening the writer, who had taken a portable receiver which consisted of a S.T. 100 circuit, plus one stage of radio and one of audio, connected to a rotatable loop which was tapped at various points for the various wave lengths, using 199 tubes and with the loop and no other external connections, was able to hear Farmers' programme very clearly on the head phones. This was also heard by Mr. Nangle and other members of the party.

An inside aerial was hastily thrown up of flexible wire around the room about 3 parts up the wall, and reception was carried out on this at loud speaker strength. At night time statics were very bad, they were even bad on the loop and the indoor aerial, and at one time the demonstrations had to be suspended on account of this interference.

During the day the Mayor of Bourke witnessed the tests, and also heard the Education Director's speech, and was very pleased with the result. Saturday again saw a large crowd in attendance, with equally good results.

On Saturday morning the Minister for Education, Mr. Bruntnell, gave a speech which was also received on a Burginphone receiver to the entire satisfaction of those present. I forgot to mention that on Friday afternoon, between 5 and 6, the Stanmore Domestic School Choir rendered several items which were very much appreciated and were received very well indeed.

2BL was received very well at good strength on Friday afternoon late by Mr. Marsden, and the strength seemed to be phenomenal as generally in the day time with this station reception was impossible although at night they came in equally as well as 2FC. It was also noticed that 2BL's programme was very much appreciated at Bourke and was remarkably clear.

Continued on page 19

Personalities in the Australian Radio World.

Born at Hastings, N.Z., in March 1887, Mr. Apperley commenced his telegraph career in 1906 in the New Zealand Post and Telegraph Department. Later appointed telegraphist, and studied technical telegraphy and telephony and successfully passed all departmental engineering examinations.

In 1910-11, Mr. Apperley secured first-class honors in telegraphy and telephony in the examination of the City of Guilds of London Institute and became demonstrator at the evening science classes at the Palmerston North High School, and subsequently lectured in departmental telegraphy and telephony for two years at Wellington, N.Z.

In 1911, Mr. Apperley was specially attached to the Post and Telegraph Department laboratory to study problems in connection with the experimental wireless station at Wellington, N.Z. This was followed by his taking charge of one of the first Wireless Telegraph Stations in the Pacific, viz., Fiji, in which position he collaborated in the successful demonstration of relaying wireless telegraph signals over land line circuits.

In 1913 Amalgamated Wireless (A/sia) Ltd., opened the Marconi School of Wireless at Sydney, and Mr. Apperley was appointed to compile and take charge of the technical and operating courses. During the two years he was in charge, some 200 students graduated through the School, including 60 men who were specially trained during the war as operators for troopships.

Mr. George Apperley, Superintendent in charge of Technical and Research Department of Amalgamated Wireless (A/sia.) Limited.

In 1915 he was appointed by the Company to organise and superintend its manufacturing activities, which position he vacated to take charge of the Company's technical and research work.

1921 saw him engaged as radio engineer in the Commonwealth Radio Service, in which position he acted as Engineer for the western division. At this time he was also in charge of the Tasmanian side of the first wireless telephone experiments across Bass Straits when telephonic communication was established over the radio and land-line circuits between Melbourne and Hobart.

In 1922 Mr. Apperley was transferred to Amalgamated Wireless (A/sia) Ltd., and appointed to the position which he now holds.

During his association with Amalgamated Wireless (A/sia) Ltd., Mr. Apperley has collaborated in many of the noteworthy experiments carried out by the company—the reception by Mr. Fisk of the first direct wireless message from England to Australia in 1918; the first public wireless telephone demonstration in Australia by Mr. Fisk at the Royal Society in 1919; also the wireless telephone demonstration at Federal Parliament House, Melbourne, in 1920, besides which he has been engaged on much research work in connection with broadcasting.

Continued from page 16

The whole tests were very successful and in fact it was really an eye-opener to even those who were actually engaged on the tests as we had heard so much about the Western districts being hard to receive in. The people were greatly impressed and many persons attended more than once. On Saturday the reception of the result of the races and the football matches created quite an interest.

One very humorous feature about the tests was that the aerial mast was guyed from across the street to the telephone post and Mr. Cook, the headmaster at Bourke said that he was told by one of the Bourkeites that we were receiving and broadcasting from Sydney along the telephone wires, despite the fact that the guys were insulated on the aerial and also from the telephone wires. We were also accused of having a gramophone out of sight. We met the B.B.S. and what do you think it was? It was the Bourke Broadcasting Station portrayed by one of Bourke's old identities who has been there for 40 odd years more or less, with a ziff, a long overcoat and a huge bell in his hand. This broadcaster was announcing a big sale of the contents of one of the hotels which had recently been closed by the Licensed Reduction Board (there were 13 hotels in Bourke but some have been closed recently). This old chap was quite interesting, and he was most earnest when posing for the photograph that Bob Hill took of him. The film may be intact and we hope so as this identity was quite well worth the trouble taken to secure his photo.

On Sunday morning all firms present were subjected to a cross examination and an investigation of their instruments by the Sub-Committee. After lunch we were treated to an afternoon's tour by Mr. Main, the Public Works' District Engineer, and Mr. Hales, of Messrs. Hales Ltd., These two gentlemen had their cars packed, as there were 13 altogether. We visited the Bourke Weir and other noted spots and also the Piera Bore Orange Grove, which was originally a Government Experimental Farm, but is now under private ownership. If any readers wish to taste a good orange they will have to go to Bourke for it. They were certainly delightful.

There are many other points and interesting incidents of the trip that I have probably omitted, but as this is written from memory and not from notes, such omissions or errors must please be excused. We understand that Mr. Latter (who was the official war correspondent for the party and who possesses a diary which always came into evidence when anything of note happened) is writing up a detailed description of the trip. The writer may say definitely that this has been one of the most interesting and enjoyable trips he has ever had. The company was all that could be desired and the assistance rendered by all the participants in the test to each other was noteworthy of the spirit of true sportsmanship.

There are reliability trials in the motor world and no doubt this Bourke trip is the forerunner of a series of reliability trials in the wireless world.

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AUSTRALIAN RADIO RELAY LEAGUE.
AN INTERESTING MOVEMENT

Delegates' Council to Control.

A meeting of the committee of the Australian Radio Relay League was held at the Wireless Institute Rooms, on Friday last, June 13th, the Vice-President, Mr. Phil Renshaw, in the chair.

The principal event of the evening was consideration of a letter from the Wireless Institute in which it was stated that the Delegates' Council was prepared to take over the League and run it.

Some time ago the question of affiliation with the Wireless Institute was discussed and was considered by the League to be desirable. The offer of the Council threw a new light on matters, however, and was fully discussed at the meeting.

Among those present was Mr. Marks, President of the 10 Watters' Club, who is also a member of the Relay League.

Several speakers favoured the handing over of the League to the Delegates' Council and the question of the League's relations with the 10 Watters' Club was brought up. It was considered advisable by all to have all interests centralised, and with this end in view it was suggested that it would be a good plan for the 10 Watter's Club to affilliate with the Wireless Institute. By doing this they would automatically become associated with the Delegates' Council to the Institute and thus would be officially connected with the Relay League.

If the League were taken over by the Council it would mean that all transmitting interest would be centred in one body and a good deal could be done towards advancing experimental transmission not only in this State but also throughout the Commonwealth.

On the motion of Mr. J. W. Robinson, seconded by Mr. E. B. Cocker, the League decided to allow the Delegates' Council to take it over.

This means that the offices of the League will be at the Wireless Institute's office, that members may call there during business hours, and that the officials of the League will be drawn from the Delegates' Council, a body which may be truly said to represent experimenters in New South Wales.

COASTAL RADIO SERVICE.
STAFF CHANGES.

Mr. G. F. Cook, radiotelegraphist, has been transferred from Perth Radio to Esperance.

Mr. L. A. Fontaine, radiotelegraphist, Esperance Radio, has been transferred to Perth Radio.

Mr. R. Simons, radiotelegraphist (relieving), has returned to his headquarters, Melbourne Radio, after relief duties at Flinder's Island.

Mr. C. R. Waite (on loan from Marine Department) has been transferred from Adelaide Radio to S.S. "Saros."

Mr. G. Foot, King Island Radio, has resigned his position.

Mr. S. J. Connor, radiotelegraphist, Perth Radio, has resigned his position.

Mr. A. G. Kempling has been appointed to Adelaide Radio, as radiotelegraphist.

Mr. S. A. Cooper, radiotelegraphist, has been appointed to Perth Radio.

Mr. A. R. Finch, rigger, is proceeding to Perth Radio for the overhaul of masts and aerials at that station.

ALL EXPERIMENTERS' NIGHT
WIRELESS INSTITUTE OF AUSTRALIA.

New South Wales Division.

The time is now drawing near when Mr. Alec Hector will deliver his lecture, "Radio-activity: its educational value," to a mass meeting of experimenters and radio enthusiasts, at the Assembly Hall of the Education Building. Since it is hoped that every experimenter will do his best to be present on that occasion, every one should particularly note the date. Friday, 4th July, and the time, 8 p.m. sharp.

nla.obj-632066932
National Library of Australia

Western Electric Results at Bourke

That excellent results can be obtained from the simplest non-experimental types of standard broadcast receiving sets was strikingly demonstrated by the Western Electric Company at Bourke in connection with the recent tests conducted at the Public School there, under the observation of the special committee appointed by the New South Wales School Teachers' Federation, to investigate the practicability of receiving broadcasting at public schools in the remoter parts of the State.

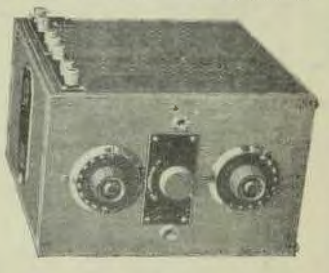
The receiving set employed was the Western Electric Company's standard two valve high frequency receiver, which employs a tuned anode circuit consisting of one stage of radio amplification and a detector.

The results obtained were as follows:

Using the 2 valve set plus one stage audio frequency amplification, K. G.O., Oaklands, California, was logged at 5 p.m. on Wednesday, 4th inst., the announcer's voice and orchestral music being clearly heard on Western Electric headphones. In addition to this achievement, the following Victorian amateurs were also logged:

3AP, 3BD, 3BC, 3BL, 3BQ, and 3 BY, and also one Tasmanian amateur 7AA.

In connection with the official demonstration which was given to the Committee on the 6th and 7th June, both 2FC (Farmers' Broadcasting Station) was received, during daylight



Standard W.E. Receiver.

transmission, with excellent loud speaker strength, using a single wire indoor aerial, suspended across the class room. The volume was such that although the door of the class room was closed yet both broadcasting stations were heard by people outside the public school, up to a distance of 100 yards away.

Using the outdoor aerial the volume obtained was of course correspondingly greater, and both the Sydney stations—Farmers and Broadcasters—were received with plenty of volume. The outdoor aerial used by the Western Electric Company was a single wire inverted L type, 50 feet high, and tapering to 40 feet high at the "end-in" end.

LEFAX.

What is Lefax? It is a never-failing source of information upon all radio subjects. Radio books are published, and with the rapid advance of the science, they quickly become out of date.

Lefax never grows old. Every new development in receiving and transmitting apparatus is illustrated and fully described by officials of the United States Bureau of Standards. Then it is compiled in loose-leaf form and mailed free for the first twelve months to every holder of the Lefax Handbook. Every month these particulars are forwarded, so that they may be incorporated in the Lefax Handbook, which is pocket size, beautifully bound and illustrated. After the first year, the annual subscription is only 9/-. You are always up-to-date on radio when you have a Lefax.

The ordinary price of the Lefax Handbook is 30/-. The annual subscription to "Wireless Weekly" is 13/- post free (52 issues). Here is our offer, for a limited period only: For the sum of 30/- we will forward one copy of the Lefax Handbook, and place you on the subscribers' list of "Wireless Weekly" for twelve months.

Don't miss this opportunity! Mail your order to "Wireless Weekly," 33 Regent Street, Sydney.

D.X.

The following is a list of stations worked and heard at station 2BK (F. N. Leverrier, Vaucluse) during the last eight weeks or so:—

The following stations worked:—

N.S.W.: 2GQ, 2HM.
Vic.: 3AP, 3BD, 3BH, 3BL, 3BQ, 3DB, 3DD, 3JU, 3JP, 3JH, 3SW.
Q'land.: 4CK, 4II.
S.A.: 5AC, 5AI, 5BQ, 5DA.
Tas.: 7AB, 7BK, 7BN.
N.Z.: 1AX, 2AC.

'Phone has been used with:—

N.S.W.: 2HM, 2GQ.
Vic.: 3BD, 3BL, 3DB, 3DD, 3JP, 3JH, 3SW.
Q'land 4CK.
S.A.: 5AI, 5BQ.
Tas.: 7AB.
N.Z.: 1AX.

Reports have also been received from:

3RY, Ballarat, Vic., received from 4AN, Brisbane, Q'land.
4EG, Toowoomba, Q'ld.
3AD., New Zealand.

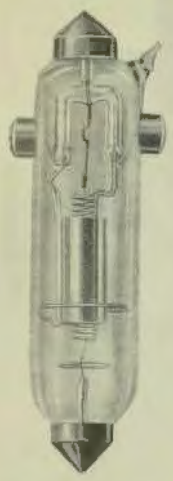
The best report so far received comes from Mr. Smethurst, Kalgoorlie, West Australia, using detector and 1 L.F. receiver, 2 B.K., at strength 5. The distance is approximately 2,000 miles.

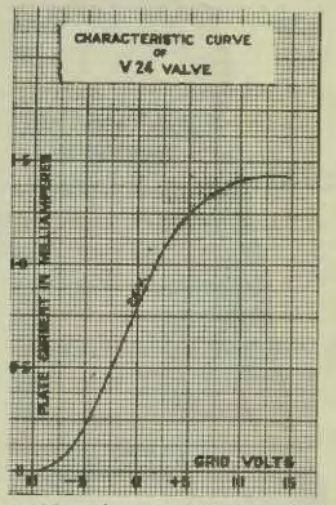
The following is a list of distant stations heard at 2BK:—

N.S.W.: 2CR.
Vic.: 3BM, 3BU, 3BY, 3EF, 3HH, 3QW, 3RY, 3XF.
S.A.: 5AH.
Q'land.: 4EG, 4GE.
Tas.: 7AA, 7AL.
N.Z.: 1AA, 2AC, 2AP, 2AQ, 2XA, 3AD, 3AF, 4AA, 4AK, 4AD.
U.S.A.: 1ARO, 6CGW, 8ADK, 9DUN.

Plans have been made for the erection of at least fourteen new class B broadcasting stations, and seven are already under construction, according to the Department of Commerce, U.S.A. At the present time there are forty-nine of these high-class and high-powered stations. Installation of new station is anticipated in New York, Chicago, New Orleans, Denver, Hartford, Houston, Hot Springs, Cincinnati, Fort Bragg, N.C. and Berrien Springs, Mich.

"V24" Valve





The V24 is a three electrode receiving valve, used chiefly as an amplifier both for high and low frequency oscillations, also as a low power high frequency generator in local oscillators.

The V24 is very stable in operation, consequently it may be used to advantage in cascade circuits. It also has the advantage of functioning on small plate current. The valve has limiting properties which are useful for reducing interference.

Reference to the characteristic curve of this valve will show that good amplification may be availed of over a wide band. Hence it is eminently suitable for audio frequency amplification as it will amplify with minimum distortion.

The filament is suspended by a small spiral spring to absorb mechanical shock and take up slackness. The plate and grid leads are brought directly out through the sides of the glass tube, thus ensuring that the capacity effects in the valve are a minimum. On this account the V24 may be advantageously employed on short wave work.

CHARACTERISTICS OF V24.

Filament battery volts, 6; filament terminal volts, 5; filament amps., 0.75; anode volts, 24-30; holder clips type, V24; approximate length, 73 millimetres; approximate diameter of bulb, 18 millimetres.

A CRYSTAL RECORD.

2FC at Dubbo.

What seems to us to be a record for crystal reception is claimed by Mr. C. England, of Dubbo, N.S.W., particulars of which are contained in the following letter. We would be interested to hear if any other amateur has had better results.

Carrington Av.,
Dubbo.
9.6.24

Editor, Wireless Weekly,
33 Regent St.,
Sydney.

Dear Sir,

I have had the pleasure of picking up 2FC's broadcasting for the last month on my loose coupler crystal set using QSA crystal.

I must claim that I was the first one to pick up concerts in Dubbo on the crystal set although several other stations have picked it up after what I consider to be my own wonderful achievement.

The distance is over 175 miles air line and the volume at which items are heard is quite comfortable and they are very distinct.

Last Friday evening I had several friends down to listen-in. Although it was raining slightly and there was static now and again the reception was simply marvellous.

I tuned in about 8.15 to hear some gentlemen giving a very interesting lecture.

I held "2FC" for the whole evening and heard music of good clear volume. 2FC was again heard on Saturday evening with more witnesses to hear the charms of broadcasting.

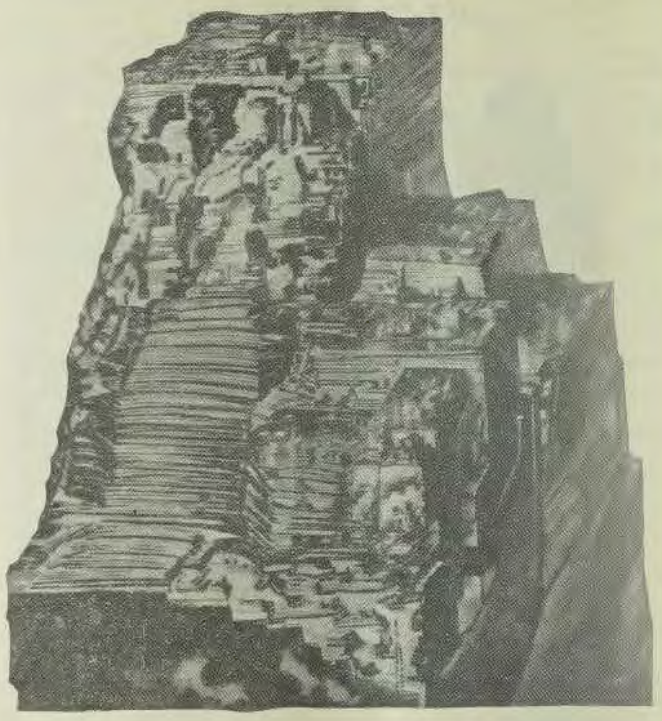
This sort of thing has been going on out Woop Woop way for the last month.

Should there be expressed any doubt about this reception I would only be too glad to furnish the names and addresses of the witnesses, also of the party who was with me on the night it first came through.

My set is of the home-made loose-coupler type, using Murdoch's 2,000 ohm phones. The aerial is the L type 30 feet high and 80 feet long. The aerial used is a sunken pipe.

Yours truly,
C. ENGLAND.

We have received a contribution of 5/- to the Moore Fund from C. G. Keets, Timor.



CAN YOU GIVE THIS ITS CORRECT NAME

It might be a quarry or a Japanese earthquake scene. It is taken from an actual photo—a Bird's Eye View.

Eleven prizes will be awarded the successful entrants. Answers to be opened Monday noon. All correct answers pooled and drawn for First 10s. note. Ten prizes valued at 2s. each. Replies to "Picture Puzzle" C/o. Editor, Wireless Weekly, Regent Street, Sydney

Bishop Thomas Nicholson, of the Methodist Episcopal Church, with headquarters in Chicago, has issued a statement urging the establishment of church radio stations.

Bishop Nicholson says that radio has unbounded possibilities for good. He maintains that radio will not keep people away from church, as is sometimes said, but "will enable thousands to hear religious messages who could never otherwise hear them."

"Radio would even be a money-saver, although I am not advocating its establishment for that purpose; it would be cheaper for persons living in inaccessible sections to own receiving instruments than to pay home missionaries to hunt them out.

"I favour the radio not for denominational propaganda, but for broadcasting messages helpful to all who may listen in."

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