

WIRELESS WEEKLY

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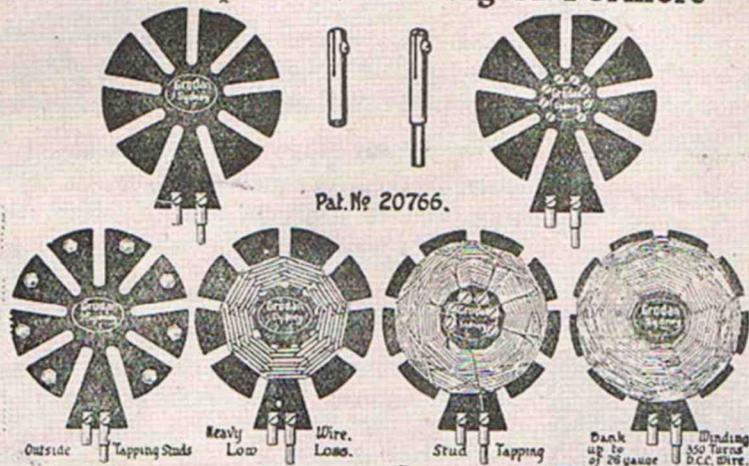
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VOL. 7. No. 4

FRIDAY, NOV. 20, 1925.



Grodan Spider-Web Plug-in Formers



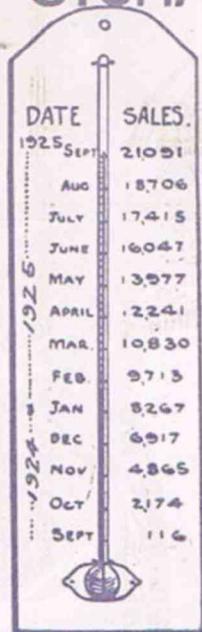
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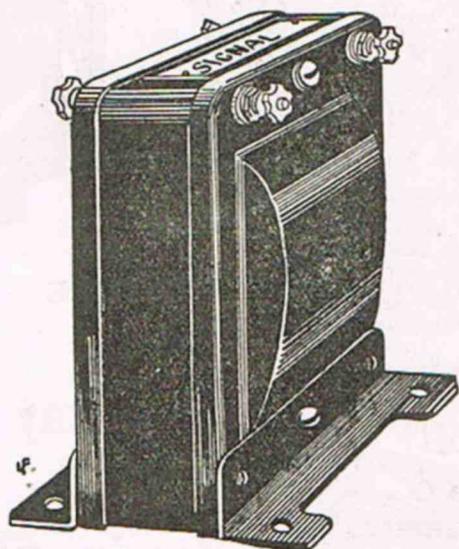
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Amateur Notes.

Queensland's premier station 4CM (Dr. V. McDowall, Preston House, Brisbane) has been very busy lately working on the short waves.

It is rumoured that 4AN (Greenslopes) is going to increase his power to 250 watts—Power, Oh Boy.

Although many of the old Queensland transmitters have frequented the short wave, very little is being done by many who hold a license. Are

there not many records still to be broken in regard to transmission? Why should transmitting lose its enthusiasm in Queensland?

The popular operator of 4RB (Mr. R. B. Browne) has joined up with the Wireless Institute. He has been working traffic from 2WI lately. Besides being operator, he also, with the help of Mr. Sharpe, of 4AZ, teaches the Morse class at the Institute.

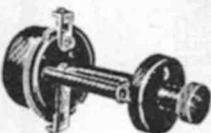
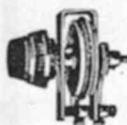
R.S.R. (Q.)



The above illustration demonstrates how very attractive wireless window dressing may be made. It represents a special display recently by Farmer's, of Igranic Radio Devices, and Brown's Loud Speakers. Who can fail to be attracted when beauty of design and workmanship is allied to skilful display in the store window?



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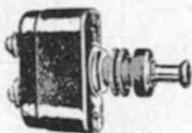
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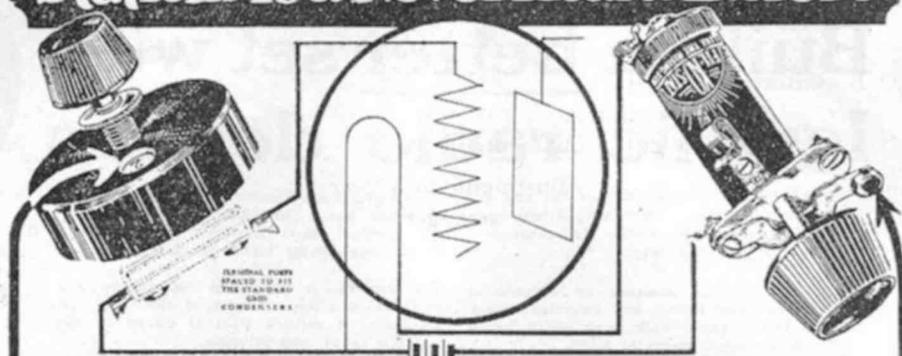
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12/6

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WIRELESS WEEKLY

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Editor: A. W. WATT

The Editor will be glad to consider Technical and Topical Articles of interest to Australian Experimenters. All Manuscripts and Illustrations are sent at the author's risk, and although the greatest care will be taken to return unsuitable matter (if accompanied by stamps), the Editor cannot accept responsibility for its safe return.

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CONTENTS

	Page
Wireless Institute.	8
Club Notes	10
Esperanto News	11
The Tekay Crystal Set.	17
H.F. Amplification and Neutralisation	21
A Wave Trap	26
Melbourne Cup Broadcast	32
What They Write.	32
Broadcasting	33
Amateur Notes	40
More About the Howell Reinartz.	46

BOOST OUR BROADCASTING.

"The broadcasting in Australia is excellent."

That is the well considered opinion of an official of one of the largest British wireless concerns who is on a visit in Australia. This opinion, coming from one who, if only from a business point of view, has intensively studied the quality of British Broadcasting, which is conceded even by our cousins in America, to be the finest in the world, is worth having.

A Sydney trader, after a trip to the United States, said: "I went over there to admire American broadcasting, but I came back with the full conviction that, taken all round, our Australian broadcasting is better." Most of us are unfortunately prone to "hand the palm to the other fellow," to give credit to anyone but ourselves, so that this opinion also carries weight.

More boost has been put into American broadcasting than into any other thing, and it becomes natural for us to associate everything that is good in broadcasting with the country whence that boost emanates. We blink the fact that America with a population of over one hundred millions, from which to draw talent, with the widest experience in broadcasting and a strong policy of non-

interference by the Government, is now up against the serious problem of extricating the broadcasting situation from the chaotic conditions under which it labors. Imagine over 600 stations operating in a territory hardly as vast as Australia!

If we must pattern ourselves after somebody else, then let it be after the British system, which, built up on a solid foundation, stands out as pre-eminent.

Better than this, however, let us boost our own broadcasting. Despite the fact that the system itself possesses drawbacks, and that the country districts are perhaps not catered for as well as they could be under the circumstances, the quality of the broadcasting leaves little to be desired. The wonder is that with the hurdles that have had to be overcome by the broadcasting companies—the difficulties under which they still labor, broadcasting is as far ahead as it is at the present day. We have wonderful musical and artistic talent in this country and the best of it goes on the air.

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A.H. Perrett, Publicity Officer.

Official Opening of 2WI.

THE new transmitter of the Wireless Institute of Australia, New South Wales Division, was officially opened on Monday, November 9, 1925. The scene of the ceremony was the residence of Mr. H. A. Stowe, 2CX, and the following were present:— Messrs. James Malone, Chief Manager, Telegraphs and Wireless; W. T. S. Crawford, Radio Inspector; W. E. Coxon, Manager of 6WF; Charles D. Maclurean, President of the Institute; H. A. Stowe, F. B. Cooke, Vice-Presidents; W. L. Carter, Hon. Secretary; L. C. Presdee, Hon. Treasurer; A. H. Perrett, Chairman, Delegates' Council, and Publicity Officer; G. A. Taylor, W. P. Renshaw, H. E. L. Turner, members of the Executive Council; H. K. James, constructor of the set; W. H. Barker, Concord Amateur Radio Club; J. B. Davies, Strathfield Radio Club; W. D. Graham, C. A. Gorman, Illawarra Radio Club; L. Nordstrom, Leichhardt; E. C. Crouch, Mosman; and Ross A. Hull, Hon. Secretary, Federal Executive Council.

The proceedings were opened by Mr. Renshaw, who acted as Master of Ceremonies, who called upon Mr. Stowe, on behalf of the constructors, to officially hand over the set to the President. The speeches were broadcast by special permission on a wavelength of 200 metres. Mr. Stowe, in handing over the transmitter, briefly outlined the history of the movement to obtain a transmitting set.

Mr. Maclurean, in accepting the set, stated that it had been constructed by Mr. H. K. James and supervised by Mr. H. A. Stowe. The uses for which the set would be employed were the Standard Frequency Transmission Signals, Institute Traffic and Vigilance Activities. He explained that the latter was partly necessary in view of the depredations of "agribulgers."

Mr. James Malone, Chief Manager, Telegraphs and Wireless, was the next speaker. He first gave a brief description of the gathering for the benefit of listeners-in. He then went on to say that in his opinion amateur radio had not been making the progress of late that it should have done, and he

stated that it must not be allowed to go backwards. In starting a Traffic Bureau the Wireless Institute had taken a most important step to the amateur and experimental movement. He stated that those associated with him on the administrative side were glad to see people who could look after this matter taking an interest in it. He then went on to speak of the howling valve nuisance and interference. This was a matter in which he appealed to the broadcast listener to try to understand his set in order to make them cause as little nuisance as possible. He stated that the Wireless Institute was always willing to help broadcast listeners to reduce interference. He wanted the broadcast listeners to look up to the amateur as those who knew and could help. The amateur was appealed to, to help the broadcast listener forward, and thus justify the position the amateur has in the field of "radio." He then spoke of the value of co-ordinated work in the transmission of traffic, and stated that the new transmitter, which he considered to be a beautiful piece of work, would be the means of establishing an official clearing house for traffic in New South Wales. He particularly stressed the importance of co-operation in connection with experimental work, whether it be the handling of traffic or the conducting of experimental work. In conclusion, Mr. Malone wished the heartiest possible success to experimenters and members of the Wireless Institute of Australia.

Mr. W. T. S. Crawford (Radio Inspector) stated that the construction and layout of the set reflected great credit on the constructors. He spoke in very appreciative terms of the assistance which had been afforded to him as Inspector in the administration of the regulations by the amateur and experimenter. He also stressed the point that the broadcast listener should look up to the amateur as one who could guide him in the construction and operation of his set, and could show him the means whereby reception could be improved. He wished every success to the Institute.

Mr. George A. Taylor, in proposing a vote of

thanks to Messrs. Stowe and James in connection with the set, indulged in a few reminiscences. He stated that on the previous day 2CM had sent a message of greeting to the daughter of Lawrence Hargreaves, the inventor of human flight, on the anniversary of his achievement.

Mr. Stowe, in responding, outlined the history of the construction of the new transmitter. He gave some details of the work it was proposed to carry out, but left the construction of the set to Mr. James.

Mr. James described the studio which he was speaking from, which consisted of a nice green lawn, laid in a pleasant back garden in Chatswood, on which there was erected an awning, and around the microphone into which he was speaking were grouped the members of the Executive Council and their visitors who had come to perform the opening ceremony. He described the set, stating that the power was obtained from two T 250 Marconi Osram transmitting valves. The power was supplied from the lighting mains by means of transformers, and was rectified by "S" tubes. He stated that this was a new idea in Australia, and this station was using the greatest power put through "S" tubes in this country. Owing to the difficulty in handling these tubes until matters were properly settled down an input of only 90 watts was used instead of 400. The circuit employed was the Coupled Hartley, with Heissing modulation, having one sub-modulator. They were also using one stage of speech frequency amplification on this occasion. The set was of the panel type, suitable for hard, heavy, reliable work. There were only two tuning controls having special plug-in inductances. The wavelength range at present was from 20 to 300 metres.

The next item was a musical one, and after this Mr. Coxon spoke briefly. He expressed great pleasure at being present, and stated that he considered that this was a great stepping-stone in the experimental and amateur movement in Australia. Speaking into the microphone he was now transmitting from east to west, but he hoped that he will be able to transmit from west to east from Western Australia on their own transmitter. He stated that station 6WF was always willing to help the amateur movement in every possible way.

The transmissions were closed at 9.20 and were resumed at 9.45. During this period supper was partaken of and the after supper toasts were broadcasted.

The first one was that of "His Majesty the King," given with musical honours. The toast of "Mr. Malone" was proposed by Mr. Stowe, who stated that he considered that Mr. Malone was one of the greatest friends that the amateur had ever

had. In this everyone present heartily concurred, and the toast was drunk with musical honours. Mr. Malone, in responding, again stressed the value of co-operation.

The toast of "Our Institute" was proposed by Mr. Cooke. In the course of his remarks Mr. Cooke stated that wireless was one of the greatest factors in the breaking down of barriers.

Mr. Perrett, who responded on behalf of the Institute, heartily agreed with this sentiment, and he stated that although unable to take an active part in the transmitting section, he was doing what he could to further the interests of the Institute, as he believed that it was for the good of all.

Mr. Crawford proposed the toast of the "Affiliated Clubs." He spoke of the efficiency of the movement, and expressed the hope that the efficiency would be increased. He particularly stressed the point in connection with the operations of the Traffic Bureau that operators should use correct procedure. Not only was this desirable now, but it was particularly desirable in view of any emergency that may arise. He thought it was a wise thing to inaugurate the Traffic Bureau.

Mr. Nordstrom, in responding, also stressed the value of co-operation, and he stated emphatically that the clubs should and would be behind the Institute in the traffic scheme, and would give it a fair chance.

Mr. Malone proposed the toast of the "Wireless Widows," and he stated that we little realise what science owes to the wives of those who carry out experimental work. This was supported by Mr. George Taylor, who referred to the progenitors of aerial transmission when the first message was transmitted by Eve when she winked at Adam.

"Our Host and Hostess" was proposed by Mr. Renshaw, who wished them every happiness and a

CX

very pleasant trip on their holiday. Little — was

2

not forgotten in this toast. Mr. Stowe, in responding, said that it had given him much pleasure to have the official opening ceremony at his residence, stating that it was the realisation of a dream he had had for a long time.

The proceedings were brought to a conclusion by Mr. Hull, who made a few remarks with regard to the Federal body of the Institute. He said that the formation of the Federal Executive was the biggest thing in experimental radio at present. It was a practical result of the Perth Conference, and as soon as the Federal organisation was complete it was their intention to link up with other countries.

The proceedings terminated about 10.30 p.m.

Through the careful forethought of Mr. Stowe

visitors had no difficulty in finding the location, as a green light was displayed at the masthead.

These proceedings marked a very definite forward move in the history of the Institute, and one which will have far-reaching effects. During Mr. Stowe's absence the set will be moved to the residence of Mr. Cooke, and from this station traffic will be worked and the calibration signals will be sent out. On Mr. Stowe's return, 2WI will return to its present location, and the research work, calibration signals, and Traffic Bureau will be carried on with the aid of the new transmitter.

Standard Frequency Calibration Signals.

These signals, which have hitherto been transmitted from station 2CX, will in future be sent out by the Institute's new transmitter under the call signal 2WI. This marks an important step in the history of these transmissions. Owing to the fact that a slight amount of interference has been occasioned by these transmissions being set out at 8 o'clock, it has been decided in future to revert to the 10 o'clock schedule. Commencing on Tuesday, November 17, at 10 p.m., 2WI will transmit these signals in exactly the same manner as has hitherto been adopted at station 2CX. The same code signals will be employed, and the rating will be given in kilocycles of frequency, and also the wavelength in metres.

Static Observations.

Reports are coming to hand, and will be acknowledged in these columns next week.

Round the Clubs

The asterisk denotes clubs affiliated with the Wireless Institute of Australia (N.S.W. Division).

CONCORD RADIO CLUB (A-2GD).

On Thursday last, the 12th November, the above Club met for the purpose of holding its usual weekly meeting, only two members being absent.

The meeting opened at 8 p.m., when Mr. Craig, 2ZI, was welcomed as a visitor.

The main item of the evening was a lecture on "Rectifiers" by Mr. C. E. Morton, 2MH. The lecturer handled his subject remarkably well, and a very interesting half hour was enjoyed by the members.

Our visitor, 2XI, then offered to give us a little talk on Fitters, which was explained by the use of the blackboard.

Both lecturers received a hearty vote of thanks.

Before the close of the meeting, the President, Mr. J. V. Stephenson, announced that he had a pleasing duty to perform. This took the form of

(Continued on Page 12)



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Esperanto News

Broadcast v. Perifonia.

In the July number of "El Exportador Americana," the Spanish issue of "The American Exporter," appears an interesting article discussing the Spanish translation of the English word Broadcasting and its derivatives. It is pointed out that the distinguished Spanish philologist, Don Julio Casares, published a treatise on the question in the Spanish newspaper "A.B.C." on June 6th, 1924.

It is said that the Spanish word "radiodifusion" has made little headway toward replacing the English "broadcasting." The English term is so much mutilated in print and speech in the Spanish-speaking countries that the "purists" are crying for an authorized Spanish form. The Spanish Academy, slow and conservative has not acted. Dr. Casares proposes "perifonia" and its derivatives. Perifonia is composed of the Greek elements "prei," around, in every direction, and "fone," sound. It would make a better international word than the English term, it is claimed. The English forms would be To broadcast, "Perifone"; by broadcast, "by perifone"; broadcaster, "Perifonist," etc.

Since Esperanto is winning recognition as the world radio language, perhaps a more generally acceptable international word for "broadcast" would be the Esperanto: "disaudigi"—"dis," to scatter in all directions; and "audi," to hear; "ig," the suffix which means "to cause to be done"; thus: "disaudigi," to cause to be heard in all directions, pronounced, Dis-ow-dee-gee, the g hard as in hug. Derivations: "disaudigi," to broadcast; "disaudigado" broadcasting; "disaudiganto" broadcaster; "disaudiga anoncisto," announcer, etc.

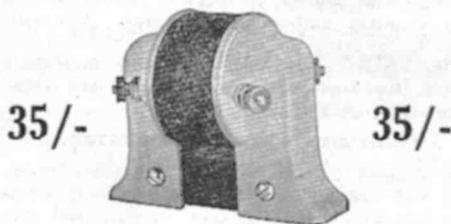
(From "Radio News," New York.)

Questions Answered.

L.B. (Graceville, Q.) Esperanto is by far the easiest language to learn owing to its logic and simplicity of construction. It can be acquired in a fraction of the time necessary for other languages. A person of ordinary intelligence should be able to obtain a good working knowledge in less than six months. Recommend you to get in touch with Mr. Sycamore, "Bonvenu," O'Mara Street, Lutwyche, Brisbane, who is the Esperanto Secretary for that district.

A.A. (Manly, N.S.W.) Aerial in Esperanto is "anteno"; alternating current is "alterna kurento"; direct current, "kontinua kurento"; battery, "baterio"; station, "stacio" (pron. stah-tsee-o). Easy, isn't it? Always glad to help you.

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20	74	210	1/5	6/5
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50	180	370	1/7	6/7
68	250	530	1/9	6/9
85	310	660	1/10	6/10
100	330	1030	2/1	7/1
120	350	1240	2/2	7/2
136	380	1400	2/3	7/3
150	430	1590	2/3	7/3
170	480	1800	2/6	7/6
200	700	2090	2/6	7/6
250	920	2150	3/3	8/3

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a presentation to one of the Club members, on the eve of his approaching marriage.

After the very flattering remarks of Mr. Stephenson, ably supported by Mr. Morton, the said member felt highly embarrassed but recovered sufficiently to thank the members for their kind thoughts.

The meeting was then closed for refreshments, after which transmission tests were carried out.

QSL's will be acknowledged. The Hon. Secretary, Mr. W. H. Barker, "Euripides," Wallace Street, Concord, will promptly reply to all enquiries as to membership, etc.

LEICHHARDT AND DISTRICT RADIO SOCIETY.*

(Licensed Experimental Transmitting Station 2LH.)

Members of the Leichhardt and District Radio Society held their 150th general meeting at the Club-room, 176 Johnston Street, Annandale, on the evening of Tuesday, November 13th.

The attendance was very satisfactory indeed, and after the Hon. Secretary had announced that an invitation had been received from the Wireless Institute of Australia for members to attend that body's general meeting to be held on November 19th the main business of the evening was proceeded with. This took the form of an organised "Fault Finding" discussion, and members were invited to bring before the meeting instances of troubles that had been met with by them during the carrying out of their experiments. The invitation met with a very ready response, and it was gratifying to note that several of the newer members took advantage of the opportunity thus offered them to bring their troubles under the notice of their more experienced brethren. The subjects dealt with during this discussion were many and varied, and included such matters as variations in radio-frequency circuits, the application of the most suitable voltages to the plates of "soft" valves, the effects of disconnection "aerial and earth" from certain types of sets, and the best arrangement for a three-coil circuit. Several other matters were also dealt with, and it was generally agreed that the meeting had been a most successful one.

Next Tuesday evening the Society will hold its 152nd general meeting, at which the 12th lecture of Syllabus No. 4. will be delivered by Mr. A. G. McFarlane of The Exide Battery Service Station. Needless to say the subject of Mr. McFarlane's chat to members will be "Storage Batteries," and in the capable hands of this gentleman, should prove of extreme interest and value to all. The Society's 37th Monthly Business Meeting will follow on Dec.

1st, when applications for membership will be dealt with and other formal business on hand disposed of. The 13th lecture of Syllabus No. 4 will also be delivered at this meeting—Mr. J. R. Alexander being booked to deliver a lecture under the novel title of "The Growth of Crystals." Mr. Alexander has promised something unusually interesting for the occasion, and a good roll up of members is anticipated.

At the time of writing this report information has come to hand to the effect that this Society has attained top place at the end of the 2nd quarter of the period covered by MacLurean Cup Competition, and in this respect members may congratulate themselves upon having risen from 3rd to 1st place. Nevertheless, the Cup is not yet won, and members do not intend to "rest on their oars." On the contrary, the fact that they have done so well during the period under review will only spur them on to greater efforts during the 3rd quarter now entered upon.

Inquiries regarding the activities of the Society are welcomed, and should be addressed to the Hon. Secretary, Mr. W. J. Zech, 145 Booth Street, Annandale.

THOSE HOWLING VALVES.

A correspondent (Mr. Douglas Smith, Darlinghurst), referring to Mr. Chell's letter in "Wireless Weekly" of November 6th, says that, though entirely in agreement with Mr. Chell's views on the serious interference being caused by howling valves in congested areas, in his opinion the prevention or extermination of such a menace rightly lies with the radio dealer.

Assumedly, the person who makes his set howl so intolerably as to make it impossible for his neighbours to listen-in, does so, not deliberately, but for the simple reason that he either doesn't realise his annoyance caused to others, or he is not proficient in the art of handling his receiver.

It is certainly up to the radio dealer, in his own interests, to evolve some scheme to cope with the matter, and one suggestion is that the dealer from whom any parts or set is purchased should point out to the buyer just what harm he can cause to other listeners—and, incidentally, to the radio trade—by careless handling of his set.

Mr. Chell contributes the idea of appointing honorary advisers in different districts, and if this could really materialise then it should, with the co-operation of the radio dealers, prove a sure way out of the difficulty.

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When any new product achieves the public approval and the wide-spread demand which has been attained by Burgess Batteries, it is customary that the success be attributed to a lucky invention or a fortunate aspiration. That Burgess success is built on firmer foundation is shown by the fact that the painstaking research and development work in dry battery improvements was begun over 20 years ago by President C. F. Burgess, then in charge of the Chemical Engineering Department of the University of Wisconsin.

This laboratory work was continued for ten years before a product was offered for sale and this same kind of research now done on a large scale by a number of scientists working under Mr. Burgess' direction, furnishes the basis of merit of the present product.

These Dry Battery experts are constantly on the alert to improve, even the high standard of Burgess batteries, and the development work in this regard has never ceased, and represents an outlay of hundreds of thousands of pounds. The results are covered by more than sixty patents defining special Burgess features.

To-day hundreds of thousands of radio sets are equipped with long lived noiseless Burgess Batteries of special radio construction and perfected by wireless Specialists, which make them batteries of quality, uniformity and dependability.

This unique position of esteem and confidence occupied by Burgess Radio Batteries is a natural development of the conservative policy which has characterised the manufacture, advertising and sale of Burgess products.

Of interest, perhaps, to the thinking battery buyer is the fact that no Burgess product is advertised or sold until its merit has been proven, not only by their own rigid tests, but also those of the foremost Radio Engineers, Manufacturers and Experimenters in the country.

Through friendly criticism and suggestions, to-

gether with extensive research and engineering by the Laboratories, the efficiency of Burgess Batteries has increased to a degree which we believe is not equalled elsewhere.

The adventures of Burgess Radio Batteries make interesting reading. They went "Farthest North" as they were used exclusively by the McMillan Expedition. They first came to Australia on the Millionaire's yacht "The Speejacks."

Being standard equipment for the United States Air Force they were carried on the ill-fated "Shenandoah."

The mammoth steamship "Leviathan" has them in its wireless rooms. They can be seen in the wireless rooms of the California, Tennessee, Maryland, and all other vessels of the United States Fleet, when it came to Australia this year.

Every United States Submarine carries them as standard equipment.

When the Radio Corporation of America carried out the successful experiments with English Engineers for transmitting by radio, photographs of the H.R.H. Prince of Wales and President Coolidge, that Burgess Batteries were exclusively used for this inspiring achievement is a pleasing indication of the confidence placed in them by experienced Engineers.

(To the Editor)

Sir,—I was very interested to read of your car trip to give advice to country amateurs, as it suggested the possibility of an opening for members of the suggested organisation of B.C.L.'s. and amateurs which you have been advocating for some time.

There are no doubt many listeners-in in the same position as myself. I have built a crystal set and on your advice altered it to a single valve 3-coil set, but I do not think I get the best out of the set. What little I know of radio I have learned from books, and a little advice from a practical man would help a great deal.

My suggestion is that the clubs might undertake a certain amount of this work, which would give them a considerable amount of publicity which is so necessary at the beginning, and even if a small charge (to go to club funds) were made I think there would be a great number who would avail themselves of the help. Incidentally it might reduce the number of joeys.—Yours faithfully,

ONE VALVE.

12/11/1925.

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2308 .. 45 volt



No. 2306 .. 45 volt.



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6 1½ volt



No.
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2370 4½ volt.



No.
5156 .. 22½ volt
4156 .. 22½ volt
2156 .. 22½ volt

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Rheostats, nicely finished en- graved knob, 6 ohms	3 0	Aerial Insulators, each 3d. 4d. and Insulated Terminals, per doz. . .	2 9
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The TEKAY CRYSTAL SET

By "Insulator"

OFTEN one hears of people many miles in the country hearing 2FC on a crystal set. As I write I recall a man at Dubbo who listens in on a simple crystal set to Sydney every night. Such reception can hardly be called freak reception considering the consistency of reception, rather should I say it points to a well designed receiver from which most of the losses are eliminated and I propose to submit to you this week a crystal receiver which, if any other set in the district is receiving, the long distances should do likewise and perhaps better.

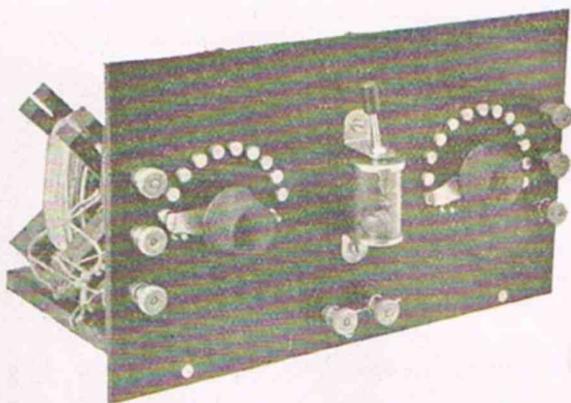
Bear in mind of course that I don't suggest that this receiver is particularly selective in or around the city. It is not selective, but will serve many other purposes.

Now that 2KY is on the air and his power is good this station should be well received many miles, say down the South Coast as far as Berry or Nowra, because I know of crystal sets there receiving Farmer's, but not 2BL. This latter fact may be explained by the unnecessary amount of dead end effect in the average crystal receiver.

For example if your coil has altogether 150 turns of wire to receive 2FC and only 30 are required to receive 2BL or 2KY, the remaining 120 turns hanging on to the short wavelengths reduce the efficiency greatly and often preclude the possibility of the short wave station being received.

In the Tekay, provision has been made for eliminating this dead end effect by breaking the coil in a place agreed upon for the short waves. Again many aerials are far too long to receive the short wave station, so I have included a .0005 mfd. fixed condenser in the circuit which may be placed in series with the aerial to step down the wavelength. This condenser may at will be placed in a parallel position with a view to increasing the wavelength of the set. More about this later.

I noticed in last week's Wireless Weekly that a new station, 2MK, has started in Bathurst. All hail Bathurst; this is a most laudable move and the Tekay will be found an ideal set for local reception as well as giving the listener in a chance



to receive Farmer's if this is at all possible.

The Tekay is not an expensive receiver to build. The following parts are required:—

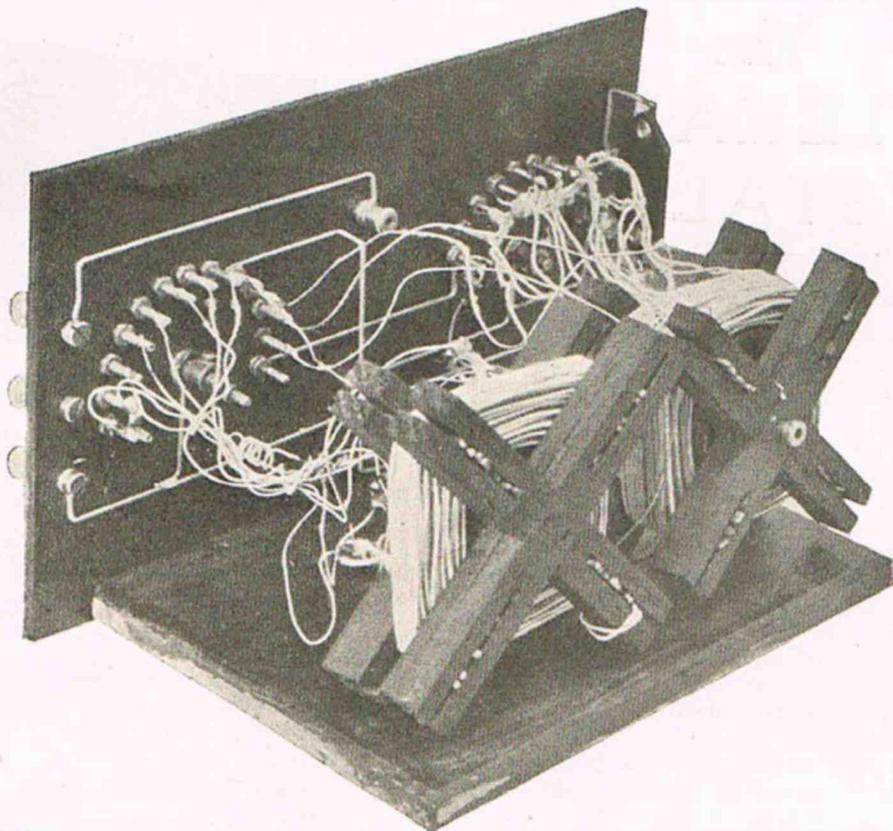
- 1 panel 10½ x 6 x 3/16ths.
- 2 rotary switches.
- 23 contact studs and nuts.
- 4 switch stops.
- 8 terminals.
- 1 crystal detector.
- 1 .0005 mica fixed condenser.
- 8 ozs. 18 d.c.c. wire.
- 3 busbars.
- 2 formers.
- 1 suitable baseboard.
- Sundry screws.

The panel may be either bakelite or radion; either is quite satisfactory. Don't use the red material known as fibre as it is not a good insulator for the high frequency currents experienced in radio.

If bakelite or radion is not available use good dry shellaced 3 ply for good results.

From the illustration you will note that I have used a glass enclosed crystal detector. This is a distinct advantage over the open type as any dust is excluded from the crystal, insuring thereby better reception. Now that you are looking at the illustration let us discuss it before we go on to the constructional details.

On the left hand side are three terminals, corresponding to T1, T2, T3 of the wiring diagram. To leave the .0005 fixed condenser out of the circuit the aerial should be connected to T2, and the earth to T3. To connect the .0005 condenser in series with the aerial, aerial goes to T1 and earth to T3. Again, if it is desired to increase the wavelengths to which the set will respond hook the aerial on to T2, earth to T3, and join T1 and T3, now T6, T7, and T8 are telephone terminals. If only one set of phones are to be used, they should be connected to T6 and T8, leaving T7 free.



Two pairs of phones may be connected in series by connecting one leg of one pair to T6, and one leg of the other pair to T8, using T7 to hold the remaining legs of each pair—that is two tips are clamped under T7.

The terminals T4 and T5 are for the purpose of cutting out the dead end effect already spoken about. Looking at the back of receiver you will notice two coils, one has forty turns wound on it and the other boasts of 90 turns.

From the wiring diagram you will notice that the last turn of the smaller coil is joined to T4, and the beginning of the larger coil is connected to T5.

To receive 2FC, T4 and T5 should be connected with a link made from a piece of busbar, while short waves such as 2BL, 2KY and 2MK are best received with the loop open.

Now for the construction. First of all lay out your panel. I need not give you any directions as to this as it seems quite simple. Let me advise you here that the best spacing for the contact studs will be found to be 3/8th of an inch apart.

Drill for your component and mount as shown on the front view. Now before going any further wire up from the wiring diagram leaving out

the coil connections. I'll give you this in detail.

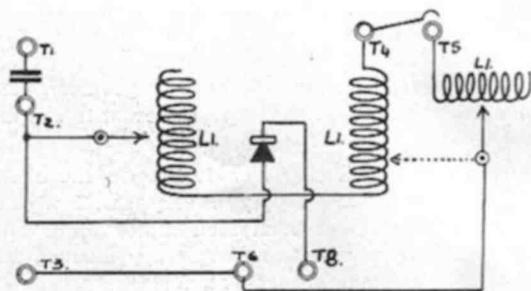
Between T1 and T2 solder your .0005 condenser. Take T2 to the nearest switch (S1) and from thence to the bottom of the detector. T3 join to T6, and the tens switch (S2) is joined to this connecting wire. The top of the detector is connected to T8. The bottom stud of the unit taps near the detector is joined to the bottom stud of the tens taps, also near the detector. The stud from this, that is, stud 4 of the tens is joined to T4. All these connections are made with square busbar. Leave the panel on the one side now and commence a little wood work. Two coil formers are now to be made. Obtain some 3/4 inch square timber, say 4ft. long and cut into 8 lengths each four and three quarter inches long. Each of these lengths is to be fashioned into the shape shown herewith. A chisel and a saw will help you to do this. Now put one piece into the halved joint of the other piece to form a cross with slots cut down the four ways to within one inch of the centre.

Repeat this operation with other two pieces and cut off the remaining scraps of timber a cube of 3/4 of an inch. Place this cube in the centre between the two crosses and screw all together with a 2-inch brass wood screw.

BURGESS—"OVER TWICE THE LIFE"—BATTERIES.

On this former is wound 90 turns of the 18 d. c.c. wire. Proceed in this manner. First of all get a box of matches and chop off all the heads. Strips of cane from those well known cane verandah blinds will serve the purpose admirably. Cane or matches, it doesn't matter which. Place one match in the slit from one side of the former to the slit in the other side of the former. Secure one end of the wire around this spacer and proceed to wind on the wire, placing another match between the next pair of slits wind over this match, insert another match in the succeeding slit, continue winding, a fourth match being placed in a similar manner between the next slits. You have now the former with one turn of wire between the crosses, and wound on the top of four matches placed between the slits and across the former.

Proceed with the winding on the top of these matches, one turn alongside of the next in the ordinary manner until you have 10 times wound. These ten turns you will find will occupy most of the space between the crosses in the form of one layer. Take a tap here by twisting a small loop

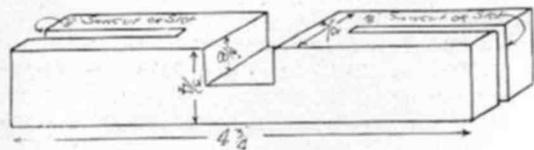


centre of a honeycomb coil proving to be ideal for this purpose. On this tube is to be wound the first ten turns of the smaller coil, the unit turns on fact and consequently each turn has to be tapped. To do this get a darning needle and pierce 11 holes through this tube, each hole being slightly staggered from the next and each about one quarter of an inch apart. Through the first hole thread one end of the wire and wind on a turn, double the wire loop and twist, leaving about 6 inches looped doubled tapping which is threaded through the next hole. Repeat this operation with the second turn threading the tap through the third hole, and so on, with each succeeding turn until 10 turns are wound on.

Don't break the wire here, but leave down for a few moments while you construct the second former. Fit the two legs together as you did the previous one, joining at the halved joints. Repeat this operation with the remaining two pieces and now clamp the wound cardboard former between these faces using another screw for the purpose.

Now as you did before, insert matches in the slits and wind ten turns in the same direction as the wire on the cardboard former, making the 11th turn come above the first turn, and so on as before.

Tap at the 10th turn and insert more matches—wind on another layer of 10 turns, another tap, more spacing matches, and then another 10 turns, break off the wire here, which leaves a former with



in the wire and insert four more matches in the manner already described and continue to wind on a further ten turns. But watch this carefully: When the first layer is completed and your second row of matches is inserted bring the wire back across to the side from which the first turn was started and wind on turn No. 11 above turn No. 1 and turn No. 12 above turn No. 2, and so on, taking the tap at turn No. 20. Insert more matches here and continue with turn No. 21 above turn No. 11, and so on. Continue winding and tapping every 10 turns, inserting matches in the prescribed manner as spaces between every layer until you have 90 turns wound on. Secure the end of the wire around one of the legs of the cross and leave aside.

The smaller coil now claims our attention. Firstly obtain a strip of cardboard tube, 2 inches in diameter by about 3 inch long; the cardboard

40 turns of wire wound on, the first ten tapped every single turn and 3 layers of ten turns each tapped at every 10th turn.

The coils are now completed and all that is necessary is to connect the taps to their respective

studs. Bare the cotton covering from each tap, using a pen knife for this purpose. Next solder about 6 inches of the remaining 18 d.c.c. wire, to each bared tap. A little fluxite, a good hot clean soldering iron and some soft solder will simplify this operation.

While the soldering iron is hot tin the end of each contact stud. Apply a very small wipe of fluxite to the tip of each stud and picking up a piece of solder with the hot iron, place a little "blob" on the end of each stud.

Next solder your tapping leads to each respective stud. Start with the end of the large coil and solder this to the bottom stud nearest the phone terminals, solder the next tap to the second stud, and so on, each succeeding tap to each successive stud. When taps are soldered you have three remaining ten turn studs on this switch which are not connected anywhere. Oh, by the way, don't forget to join the beginning of the large coil to terminal T5. Now the last turn of the smaller coil is connected to the top of the three remaining contact studs on the tens side and the second last to the next stud, the third last to the remaining stud.

The units are now to be soldered up. The first turn is soldered to the bottom, stud on the unit side, that stud which is connected across to the tens side. The second tap is soldered to the next stud and so on until every tap is connected.

When this is done a baseboard is screwed to the panel and the coils left standing on this baseboard. The set is now completed.

To listen in choose one of the methods of hooking up which has already been described to you, and rotate tens switch for rough tuning until a signal is heard. Fine tuning is accomplished by hand.

A little practise will accomplish much.

Read the article over again and familiarise yourself with the different methods of hooking up.

Try them all in turn, using the link of T4, T5 to advantage as the wavelength calls for. This is a most excellent receiver for the purpose it has been designed for, actually receiving Sydney a few miles south of Wollongong.

WEATHER BY RADIO.

The Director, Radio Broadcast Bureau, writes: The suggestion of Mr. Wearne, M.L.A., that arrangements should be made for farmers and graziers to receive weather forecasts by telephone has much to commend it, but this method is somewhat



The classic features of T. Kingsmill Abbott, Murulla, via Wingen, N.S.W., better known to the fraternity as 2TK. Tom just hates to see himself in print, hence the reason we publish his photo.

antiquated. By means of a radio set anyone in Australia can pick up the forecasts twice a day a few seconds after they are prepared. The saving in time is enormously valuable, especially in districts beyond the reach of telephones and telegraphs.

Radio for Country Press

NEW STATION WANTED

The Country Press Association continues its campaign to induce the Federal Government to permit the establishing of a wireless station at Sydney for the transmission of news to country newspapers. A letter has been sent to each candidate asking his view on the question. All the replies so far received are favorable.

The "Dungog Chronicle," referring to this question, says:

"The peculiar part is that owners of private sets receive race news and other items and post them up outside their shops or 'phone them around the town, but the Postmaster-General will not allow the legitimate disseminators of news to do the same."

H.F. Amplification and Neutralisation

By "Wireless Weekly"

LAST week, you will remember, we dealt exhaustively with the neutrodyne receiver, explaining the exceptional advantages of correct neutralisation of H.F. valves. We are this week publishing a rather unique hook-up, where, by means of the switching arrangements shown in Fig. 1, the H.F. valve may be neutralised for the lower wavelengths up to 600 metres, and for the higher broadcast wavelengths of 2FC and 6WF, the resistance capacity coupled H.F. amplification method may be used.

From an experimental point of view this hook-up will be found very instructive indeed, and for those who require a selective non-radiating broadcast receiver there is nothing better. Single or double circuit tuning is also made possible by means of the single pole double throw switch. With the single circuit tuning for the low wavelengths there are only two controls; for the higher wavelengths only one. We strongly advocate the use of this arrangement with all double circuit tuners, as it greatly simplifies tuning.

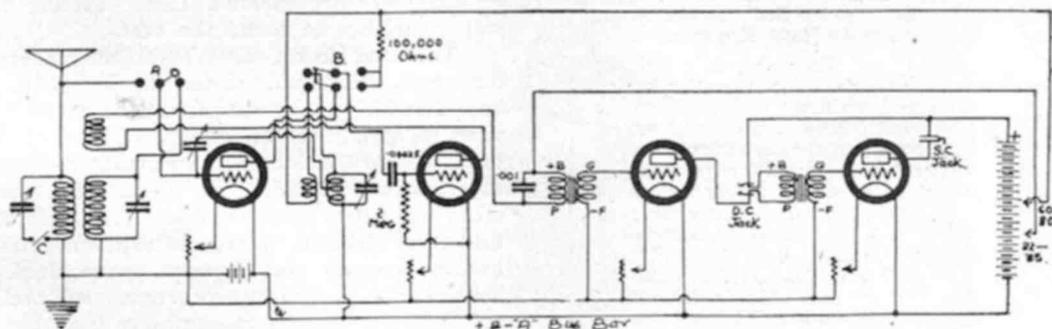
Usually, an easily tuned set is non-selective, but by means of the method shown here either single or double circuit tuning may be used at will. If you carefully study the circuit diagram

to 600 metres: Switch A to left, switch B to left, switch C made.

Double circuit tuning for short wave reception: Switch A to right, switch B to left, switch C made; aperiodic aerial tuning switch C broken.

With these combinations, reception on the lower wavelengths will be found much more efficient than with the ordinary tuned plate or transformer method of H.F. amplification. For wavelengths below 200 metres aperiodic aerial tuning should always be used. The radio transformer used by Wireless Weekly was made up of ordinary spider-web formers, mounted on a panel plug and coupling plug.

Various sized coils will be required to cover all the lower wavelengths satisfactorily, and the tapping point for neutralisation should be taken from second or third turn past the centre of the coil starting from the grid end of the coil. Those who prefer to build the standard neutrodyne as used in the neutrodyne receiver should obtain two cardboard or ebonite tubes, one with a diameter of two inches and seven eighths and the other with a diameter of three inches. The length of tube required to take the required number of turns for primary and secondary is three inches and a half.



The Circuit Diagram

you will see how the following combinations are made up:

Single circuit tuning for long wave reception: Switch A to left, switch B to right, switch C is made.

Double circuit tuning for long wave reception: Switch A to right, switch B to right, switch C is made; aperiodic aerial tuning switch C broken.

Single circuit tuning for short wavelengths up

The primary, which should be wound on the smallest former, goes inside the other and is wound with 40 turns of No. 22 or 24 d.c.c. wire. The secondary, the outside one, is wound with the same gauge wire, but has 44 turns wound on it, with a tap taken at the 24th turn for neutralisation. Care must be taken that No. 1 turn goes to the grid and not the 44th turn.

If this type of radio transformer is used, however, the lowest wavelength covered satisfactorily



A REPORT from KOSCIUSKO

To Messrs David Jones' Ltd.
George Street,
SYDNEY.

Dear Sirs,

I would like to congratulate you on the success of the "Wireless Set" supplied by you to the Hotel Kosciusko.

Kosciusko, as is well known, is a difficult location for good wireless results. From what I have seen of your set however, the reception, the entire absence of foreign noise and the volume, are far beyond any expectations I may have had. The following Stations we brought in—5CL; 2FC; 3LO and 2BL. 4QC was also brought in by Mr. Cooke, but as I was not at Kosciusko at the time I cannot give my personal opinion about the reception.

Any results other than those stated will be communicated to you if thought of sufficient interest.

P. Speet, P.M.
Manager,
Hotel Kosciusko.

DAVID JONES'

will not be less than 200 metres even with a .00025 variable condenser (viz., eleven plates). If, however, various sized spider-web coils are used, a .0005 variable condenser may be used to tune with the secondary, but care must be taken regarding the correct neutralising point. (See previous instructions.)

It will be readily seen that the primary of the R.F. transformer is aperiodic with both spider-web coils and the neutroformer method, so that the primary in all cases must be smaller than the secondary. If a larger sized primary coil were used than that used for secondary, the primary would control or take charge of the tuning on all wavelengths below its natural wavelength. This is actually what happens with the neutroformer method with its fixed numbers of turns in both primary and secondary.

In actual practice with plug-in spider-web coils, it will be found that five turns less in the primary than the secondary will obviate this possibility of the primary taking charge, especially when a .0005 condenser is used for tuning the secondary.

Hints on Construction.

The size of the panel, 24in. x 8in., affords ample room for all components. The three-coil mount should be placed on the extreme left. If spider-web coils are used for radio frequency transformer, the panel and coupling plug or two-coil mount should be placed inside on the baseboard. In this position interaction cannot take place and short leads from neutralising condenser to tapping point on secondary are assured. Tight coupling of coils will invariably be found the best.

The lead from one side of the neutralising condenser, which goes to the tapping point, should be a flexible one, so that it can be easily removed when plugging in different sized coils. In our tests we used a Marco neutralising condenser for experiments with this hook-up, but any other good make will prove quite satisfactory. Note that the grid return of H.F. valve goes to the negative of A battery and no potentiometer is required. The neutralising condenser prevents self-oscillation, and does it much more efficiently than the potentiometer method. The actual method of neutralisation was described very fully in last week's Wireless Weekly, so that it will not be repeated here.

Reports from our readers regarding the results they obtain with this hook-up, both on the short and long broadcast wavelengths, would be appreciated. This receiver was designed at the Wireless Weekly experimental station, and is being used with great success on the Wireless Weekly service car, which is now touring the country districts. The regenerative receiver is now of little use in congested towns, where the howling valve menace is evident.

BASEMENT BARGAINS

Of particular interest to radio dealers, experimenters and the electrical trade generally is the stock of surplus wireless and electrical gear now on view at the basement of Amalgamated Wireless (A/sia) Ltd.

The stock comprises a huge quantity of apparatus than can be put to excellent use, especially by experimenters.

In nearly all cases the prices have been practically cut in half, in some cases they have been reduced 75 per cent., and there is not the slightest doubt that for those who are after bargains in wireless equipment and who are willing to effect small alterations in the apparatus, the values are remarkable.

To instance a few lines:

Fixed wavelength receivers, with cabinets of first-class workmanship are priced from £2; with a little alteration these can be made to receive all broadcasting stations.

Another excellent line is variable grid leak condensers of either mica or Empire paper dielectric. These are especially suitable as neutralising condensers and at 1/6 each, are a gift.

Radio Frequency Transformers (circular type) at 1/-, and honeycomb coil plugs at 10d. need little comment.

There are hundreds of other lines of apparatus which are well worth the attention of the radio enthusiast. It is as well not to leave the inspection too late, as the pick of the line will, of course, go to those who first take the opportunity of inspecting this basement stock.

IT PAYS TO ADVERTISE.

This little bouquet reached us from a reader of "Wireless Weekly." The moral is obvious.

"Some little time ago I advertised a set in your 'Weekly,' and sold same to the first applicant. All through the week-end I was deluged with inquiries. I am satisfied that this is a good medium for advertising this class of goods, as an advertisement in the leading morning paper a week previously met with absolutely no response."

A-2RD is the experimental station owned and operated by Mr. Walter R. Hardy, "Dudville," Beulah St., South Kensington. Readers please note.

Telephone B 5925

CHARLES D. MACLURCAN
Consulting Radio Engineer

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Give Radio Presents for Xmas**A Brief Description of the Latest in Radio**

THE WONDERFUL TRUE BLUE TUBES. The only Valve free from microphonic noises, and with sterling silver contact points which cannot corrode; 2 to 3 times longer average filament life than any other Valve produced. The little power-plus is the only full power small socket valve made. Same price as Standard size.

HEATH RADIANT VARIABLE CONDENSERS: Non-dielectric and strictly low loss. Prices with geared vernier: .001, 35/6; .0005, 30/; .00025, 27/-. Plain 7/- less. .00035 Plain, 25/6. Dials extra—3in., 4/-; 4in., 5/-.

HEATH SHOCK PROOF SOCKETS. Even the screws have shock absorbers. 4/9 each.

HEATH RESISTANCE COUPLED AMPLIFIERS 3 stage, assembled and wired, 79/.

TUNGSTALITE CRYSTALS. Not a dead spot in Tungstalite. Gold Label 24/- per doz., Blue Label 18/- per doz.

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REMO PHONE UNITS. Attach it to your gramophone. 37/-.

BATTERY CHARGERS. To charge both A & B Batteries, £8.

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CARDWELL TRANSFORMERS. 4.8 to 1. 25/-.

DYMAC SILENT RHEOSTATS, 6/-. Potentiometers, 7/3. Jacks—Open, 2/9; Double, 3/6.

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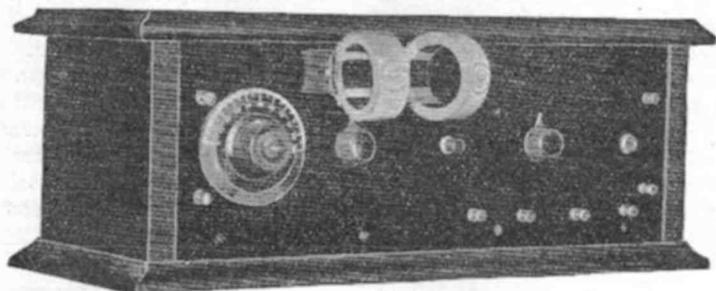
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A WAVE TRAP

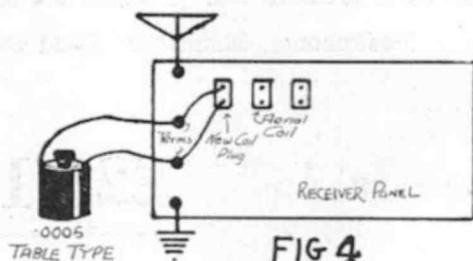
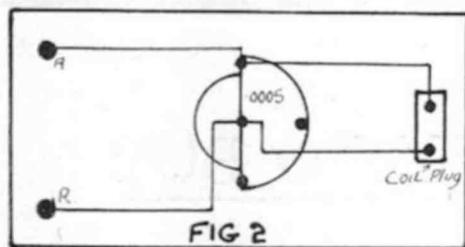
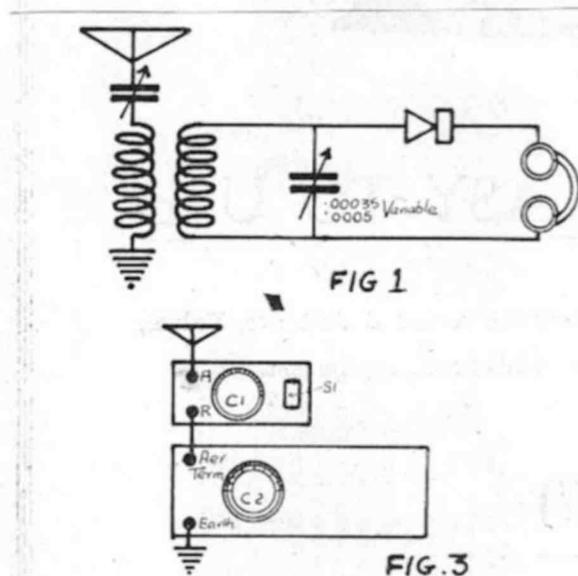
SEPARATE 2KY FROM 2BL

By R. C. V. Humphery

MUCH has been said in the past about wave-traps, and other means of obtaining selectivity, but as these articles did not apply to the majority of us, we read them casually and passed them over. Now, however, with the coming of 2KY on the air, some of us are searching frantically for those old numbers containing the necessary information for the elimination of undesirable stations, whilst others who have discarded their old wireless papers, seek advice from their more advanced radio friends.

Users of crystal sets are the people most bothered by 2KY, and those of us who use the two coil crystal receiver, whether in the form of honey-

comb coils or loose coupler, will be able to eliminate 2KY by purchasing an extra .00035 or .0005 variable condenser. This condenser is connected across the secondary, or closed circuit coil, as shown in Fig. 1, and by using fairly loose coupling between the two coils (keeping the coils slightly apart) and carefully tuning both circuits simultaneously, no further trouble should be experienced from 2KY.



comb coils or loose coupler, will be able to eliminate 2KY by purchasing an extra .00035 or .0005 variable condenser. This condenser is connected across the secondary, or closed circuit coil, as shown in Fig. 1, and by using fairly loose coupling between the two coils (keeping the coils slightly apart) and carefully tuning both circuits simultaneously, no further trouble should be experienced from 2KY.

These remarks, of course, only apply to those of us who have only one tuning device (whether variable condenser or variometer) in their sets.

side of the coil plug. When the trap is not required, the terminals A and R may be shorted by means of a piece of wire, or better still, a small switch (not shown), but this is not absolutely necessary.

The aerial is connected to the terminal A, and R connected up to the aerial terminal of the receiver, as shown in Fig. 3.

To eliminate 2KY, set the condenser C1 to about the mid position on the dial, and tune in 2KY to maximum loudness, by the receiver condenser C2. Now re-tune C1 until 2KY is no longer

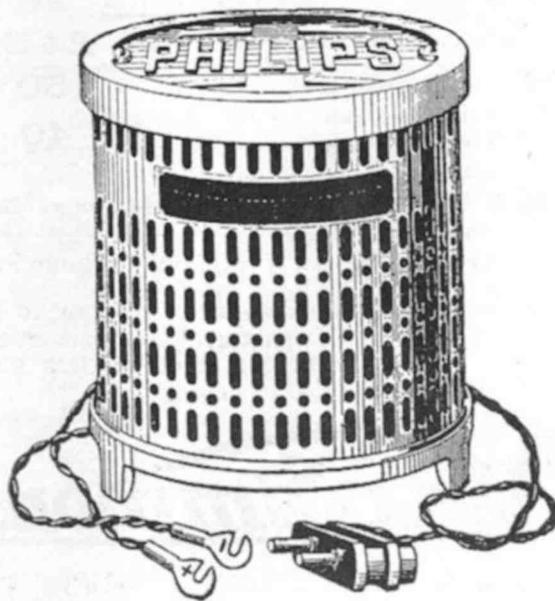
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22½ volts	13/-	"
3/16 and 1/8 Sheet Bakelite	6/-	lb.
Kenotron Rectifier Valves, UV 216, 5 watts	47/6	each
Phillip's Type G Transmitting Valves, 20 watts	75/-	"
Faradon Condensers, 1 mfd—1750 volts, D.C., Model UC490	18/6	"
Magnetic Modulator, R.C.A., Model 5-1, 5 amps.	£3/4/-	"
Radio Frequency Choke Calls, UL1655	26/6	"
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You can put everything you want to say on a Publicity Press QSL card. It takes only a minute to fill in and conveys all the information the transmitter wants.

Over the last few months we have printed thousands of these cards for both transmitters and receivers, among them 2UW, 2CX, 2BF, 2LM, 2WW, 4CK, etc.

There is a QSL card for every purpose and they may be had either from stock or to suit individual tastes.

Write, phone or call.

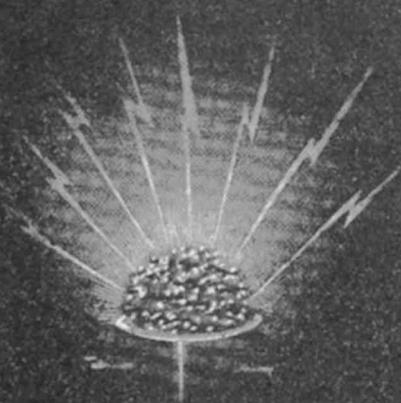
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audible in the telephones, changing if necessary the value of the coil S1 from 35 to 50 turns or vice versa. Now tune in 2BL with condenser C2 until he comes in maximum strength. The whole thing is extremely simple. There is no need to buy an expensive condenser, and a vernier or geared action is unnecessary. So long as the condenser is rigid, and that the moving plates make good electrical contact with their terminal, that is all that is required.

Another method of connecting up a wave-trap

to a set, is to place a coil panel plug to left of the aerial coil plug (Fig. 4) and connect this to two terminals placed on the edge of the receiver panel. These two terminals are in turn connected to a .0005 table type variable condenser. The operation is exactly the same as that described above, and when the trap is not required, the left hand coil may be removed. The extra cost of this trap will not exceed £1, and 2KY will be tuned out completely.



**BRADLEY'S OLD-TIME
ORCHESTRA.**

3LO.

Mr. J. Sayers—drums.

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Mr. P. Taylor—violin.

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Mr. J. Stevens—flute.

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New De Forest Valve

De Forest Audion, Type DV-5.

Filament battery voltage: 6 volts.

Filament current: .25 amperes.

Plate battery voltage for—

(1) Audio Frequency Amplifier.

(a) Transformer coupled: 90-112½ volts.

(b) Resistance coupled: 112½-180 volts.

(2) Radio Frequency Amplifier: 67½-133 volts.

(3) Detector in a regenerative circuit only: 12-22½ volts.

Resistance of rheostat for operating on DV-5 tube only 15 ohms. Resistance of rheostat for operating two or more DV-5 tubes in parallel, 6 ohms.

When "B" Battery voltages greater than 90 volts are used on audio frequency amplifiers, the following "C" battery voltages should be applied:

"C" Battery Voltages.
1½, 3, 6, 7½ volts.

"B" Battery Voltage.

112½, 135, 157½, 180 volts.

When using the DV-5 as a regenerative detector use a grid condenser of .00025 mfd. capacity and a grid leak of from 5 to 10 megohms.

The DV-5 may be used in all positions, but with particular advantage:

As a radio frequency amplifier in non-oscillating R.F. circuits. As a detector in regenerative circuits using low "B" battery voltage. As an audio frequency amplifier in resistance coupled A.F. circuits. As an audio frequency amplifier in transformer coupled A.F. circuits, where the transformers are especially designed to handle considerable amount of power. As an amplifier in reflexed positions of reflex circuits.

The DV-5 is designed to utilise a high "B" battery voltage. Maintenance of this voltage is absolutely necessary for proper working of any set for operating DV-5 audions.

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150 American stations logged by Tasmanian amateur using Wecovalves

EXTRACT from a letter dated April 21, 1925, sent to Western Electric Coy. Ltd., London, by Mr. W. A. Smith, 37 Cascade Road, Hobart.

"I am writing to you for the purpose of bringing before your notice some very interesting experiences I have had with a couple of your Wecovalves (white spots).

I purchased these two little valves about six months ago to build a portable low loss receiver. This consisted of detector and one-step audio frequency amplification, and I received all Australian and New Zealand experimenters working below 100 metres at loud speaker strength on a small loud speaker. Also, with phones, about 150 American Amateur Stations have been logged (between 70 and 90 metres).

American Broadcasting Station K.D.K.A. 63 metres quite a fair strength on small speaker. This set has been worked under all conditions. On the top of Mt. Wellington, 1466 ft. above sea level, these valves gave us some very fine results, Australian and American stations being received again, three pairs of phones being used. While on the mountain a heavy fog or mist came over and not having any cover for ourselves or the set, we decided to continue experiments and note the effect moisture had on signal strength, the set, etc. Well, signal strength dropped considerably, but the valves oscillated freely while the induction coils were quite wet. I think, sir, this is quite a severe test and speaks highly for the Weco.

Another test is that of robustness and after trying hard I am satisfied that these little tubes are very nigh unbreakable. On one occasion I placed them in my coat pocket and a little later forgetting they were in my coat took the coat out and shook it well. Remembering valves were in the pocket I at once tested them and found them to be quite undamaged.

On another occasion a friend of mine was helping me test some transmitting circuits and chokes and in rushing along the test bench to reach the ammeter knocked the set containing these doomed valves on to the floor, a drop of 3 ft. 6 ins. Well a few remarks passed between us and my friend offered to stand the expense. 'Anyway,' I said 'we'll test them in case one is alright.' 'Not worth your while,' replied my friend. However, I tested them and found them both to be O.K. to my great surprise, and I think this wonderful for valves and it speaks well for the makers."



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R261

As a regenerative detector, the grid return should be connected to the positive filament terminal.

As an audio frequency amplifier the grid return should be connected to the negative "A" battery terminal. When "B" battery voltages high-

er than 90 volts are used, the use of a "C" battery is necessary.

As a radio frequency amplifier, the grid return should be connected as described in the particular circuit being used.

Melbourne Cup Broadcast

The recent broadcasting of the running of the Melbourne Cup by station 3AR, Melbourne, is an unique event which typifies one of the many ways in which wireless is proving itself of real public service to the community.

It is estimated that 150,000 people were present at the running of the Cup, and although this constitutes a record attendance for this event, this year there was, in addition, an unseen audience of many thousands who listened to the race "by wireless."

A graphic description of all the races was very clearly given and illustrated by the voices of the bookmakers, the band upon the lawn, the cheers of the crowd, and even the thudding of the horses' hoofs which all came over the air with such detailed accuracy, that listeners could almost see the

final flash as Windbag passed the winning post amid the tumultuous cheers of excited punters.

Apart from the very real pleasure this must have proved to many situated at long distances away who were unable to witness the race itself, those who benefited most by the innovation were the patients in several of the metropolitan hospitals where wireless receivers now constitute an accepted feature in the institutions. Among these was the Anzac Hostel at Brighton, where many bed-ridden returned soldier patients were treated to the novel experience of hearing the cup run by wireless.

This marks the first time in the history of wireless that the Melbourne Cup race has ever been broadcast, and the announcer at 3AR is certainly to be heartily commended upon the success of the transmission.

What they Write

BOUQUETS.

To the Editor.

Dear Sir,—I made up a receiving set on the lines of the Reinartz described by Mr. Howell in your issue of September 4th.

I used the same parts and the same coils for all the short-wave stations, but used 130, 200, 150 for 6WF and 2FC. I added the potentiometer and found this an ideal means of adjusting the filament current.

I used a True Blue miniature valve and found that the plate voltage was rather critical for best results, 40 v. giving maximum strength. 5CL and 6WF came in on loud speaker; 3LO and 2FC just audible in phones, but static was bad. I made the set up in two hours, and it worked on first hook-up.

I have tried Browning-Drake regeneration, but so far have failed to get it to work as per book.

The Reinartz is the best single-valve set I have tried, and it is the latest of some two dozen I have made up.—Yours faithfully,

RON. N. ELLSON.

Box 49, Wickiepin, W.A.

AN APPRECIATION.

A striking tribute to the efficiency of the De Forest receiver is contained in the following copy of a letter received by the International Radio Co. Ltd.:—

October 15th, 1925.

Dear Sirs,—Just a line to express my appreciation of the performance of the De Forest D-12 receiver you installed for me in August last. The results obtained from the various Australian stations, including 4QG (Brisbane), 5CL (Adelaide), 2BL (Sydney), and 3LO (Melbourne) are a source of wonderment to my friends. In fact, so popular has the set's performance become that on several occasions of late I have found difficulty in accommodating the many friends that have rolled up. One evening 27 were present.

The transmission of 1YA (Auckland), 4AB (Dunedin), and 4YA (Dunedin) are also received very well, although the latter station sometimes fades very badly. My only regret is that I have not had time early in the evening so far to give the set a fair test on American stations, but KGO's jazz band was well received at 7.30 one evening.

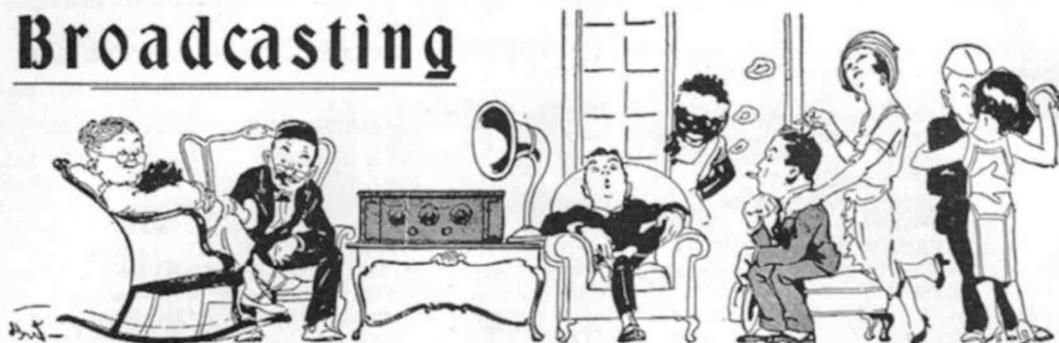
Again thanking you.

Yours sincerely,

D. W. BUCHANAN, Z3AR.

Burgess—"They're used throughout the United States Navy"—Batteries

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BROADCASTERS (SYDNEY) LTD. SERVICE.

Call Sign, 2BL. Wavelength, 353 Metres.

FRIDAY, NOVEMBER 20.

Afternoon Session: 3—G.P.O. Clock and Chimes. Weather and Commercial Reports and Social Notes from "The Sun." 3.15—Music from the Studio. 3.30—G.P.O. Clock and Chimes. A talk on "Modern Psychology" by Mr. J. M. Prentice. 3.45—Music from the Studio. 4—G.P.O. Clock and Chimes. Music from the Studio. 4.30—G.P.O. Clock and Chimes. Serial Story entitled "The Black Cat" by Louis Tracey. 4.45—Music from the Studio. 4.55—Late Market Reports from "The Sun." 5—G.P.O. Clock and Chimes. "Sun" News Service. 5.15—Close down.

Early Evening Session: 6—G.P.O. Clock and Chimes. Pavilion Dinner Orchestra under the direction of Mr. Cec. Morrison. 6.30—Sporting Resume from "Sun" Newspapers. The pupils of Miss Monica Scully will entertain the Kiddies. 7.45—Late Stock Hides and Market Reports by courtesy of Pitt, Son and Badgery. 7.50—Close down.

Evening Session: Popular Programme from the Studio featuring Celebrity Trio in harmony numbers; Richard McClelland basso cantate; Reg. Harrison, comedian; Round-the-World Travelogue by Mr. J. M. Prentice. During the evening Mr. Morgan will speak on "Motoring."

SATURDAY, NOVEMBER 21.

2—G.P.O. Clock and Chimes. Special Sporting News by courtesy of "Sun" Newspapers. Music from the Studio. 5.15—G.P.O. Clock and Chimes. Close down.

Early Evening Session: 6—G.P.O. Clock and Chimes. Pavilion Dinner Orchestra under the direction of Mr. Cec. Morrison. 6.30—Sporting Resume from "Sun" Newspapers. Uncle George and the Kiddies. 7.30—Brin-ga will speak to the Kiddies about the Aborigines. 7.45—A talk on Roads.

Evening Session: Mr. K. Brown and Miss C. Loudon will be heard in a farce entitled "Packing Up"; Marjorie Skill, soprano; Maisie Barnett, contralto; Mary Charlton, pianist; and other well-known artists will be heard from the Studio. Dance Music supplied by the Dungowan Modern Dance Band, from Manly, under the direction of Mr. C. J. Little. At 8.30 Mr. W. Fitzpatrick will speak on "Life at

Sea," and at 9.30 Brin-ga will talk about the Aborigines.

SUNDAY, NOVEMBER 22.

Service broadcast from Newtown Congregational Church. Minister: Rev. Mearns Massey. Classical Concert from the Studio featuring Stanley Catlett, tenor; Ethel Friend, contralto, and other well-known vocalists.

MONDAY, NOVEMBER 23.

Afternoon Session: 3—G.P.O. Clock and Chimes. Weather and Commercial and Social Notes from "The Sun." 3.15—David Jones' Tea Room Trio. 3.30—G.P.O. Clock and Chimes. A Talk on "A Course in English Literature" by Mr. J. M. Prentice. 3.45—Music from the Studio. 4—G.P.O. Clock and Chimes. David Jones' Tea Room Trio. 4.15—Music from the Studio. 4.30—G.P.O. Clock and Chimes. Serial Story entitled "The Black Cat" by Louis Tracey. 4.45—Music from the Studio. 4.55—Late Market Reports from "The Sun." 5—G.P.O. Clock and Chimes. "Sun" News Service 5.15—Close down.

Early Evening Session: 6—G.P.O. Clock and Chimes. Pavilion Dinner Orchestra under the direction of Mr. Cec. Morrison. 6.30—Sporting Resume from "Sun" Newspapers. Uncle Jack and the Kiddies. 7.45—Late Stock, Hides and Market Reports by courtesy of Pitt, Son, and Badgery. 7.50—Close down.

Evening Session: Popular programme from the Studio including: Florence Yates, contralto; Hilda Boyle, Soprano; Stan Smallwood, tenor; Brass Quartette; Dance Music supplied by Ambassadors' Combined Orchestra under the direction of Mr. Charles Aves. During the evening Mr. H. E. Crab will continue his lectures on "Evolution, the Master-Key" No. 2, and Mr. C. H. Bertie, City Librarian, will speak.

TUESDAY, NOVEMBER 24.

Afternoon Session: 3—G.P.O. Clock and Chimes. Weather and Commercial and Social Notes from "The Sun." 3.15—Music from the Studio. 3.30—G.P.O. Clock and Chimes. Special Operatic Session. 4—G.P.O. Clock and Chimes. Music from the Studio. 4.30—G.P.O. Clock and Chimes. Serial Story entitled "The Black Cat" by Louis Tracey. 4.45—Music from the Studio. 4.55—Late Market Reports from "The Sun." 5—G.P.O. Clock and Chimes. "Sun" News Service. 5.15—Close down.

Early Evening Session: 6—G.P.O. Clock and Chimes. Pavilion Dinner Orchestra under the di-

BURGESS—"THEY'RE ON THE SPEEJACK'S"—BATTERIES

rection of Mr. Cec. Morrison. 6.30—Sporting Resume from "Sun" Newspapers. Uncle George and the Kiddies. 7.45—Late Stock, Hides, and Market Reports by courtesy of Pitt, Son and Badgery. 7.50—Close down.

Evening Session: Miscellaneous programme from the Studio including Pauline Harford-Foster, soprano; Alice Prowse will be heard in solos with Trio accompaniment. At 8.30 Mr. T. Alkin will speak on "Care of the Teeth" and at 9.30 Mr. J. M. Prentice will talk on "Foreign Affairs."

WEDNESDAY, NOVEMBER 25.

Afternoon Session: 3—G.P.O. Clock and Chimes. Weather and Commercial Reports and Social Notes from "The Sun." 3.15—Music from the Studio. 3.30—G.P.O. Clock and Chimes. A talk on "The Musical Outlook" by Mr. J. M. Prentice. 3.45—Music from the Studio. 4—G.P.O. Clock and Chimes. Music from the Studio. 4.30—G.P.O. Clock and Chimes. Serial Story entitled "The Black Cat" by Mr. J. M. Prentice. 4.45—Music from the Studio. 4.55—Late Market Reports from "The Sun." 5—G.P.O. Clock and Chimes. "Sun" News Service. 5.15—Close down.

Early Evening Session: 6—G.P.O. Clock and Chimes. Pavilion Dinner Orchestra under the direction of Mr. Cec. Morrison. 6.30—Sporting Resume from "Sun" Newspapers. Uncle George and Uncle Jack with the Kiddies. 7.45—Late Stock, Hides and Market Reports by courtesy of Pitt, Son and Badgery. 7.50—Close down.

Evening Session: Popular programme from the Studio featuring Richard McClelland, Scottish basso; Thomas A. Thompson in a selection of well-known poems. Dungowan Modern Dance Band, Manly, under the direction of Mr. C. J. Little. During the evening Mr. N. G. McWilliam will continue his lectures on Community Settlement and Co-operation, and Mr. W. Patterson will speak on "The Care and Preservation of Eyesight."

THURSDAY, NOVEMBER 26.

Afternoon Session: 3—G.P.O. Clock and Chimes. Weather and Commercial Reports and Social Notes from "The Sun." 3.15—David Jones' Tea Room Trio. 3.30—G.P.O. Clock and Chimes. A Talk on "Studies in English Poetry" by Mr. J. M. Prentice. 3.45—Music from the Studio. 4—G.P.O. Clock and Chimes. David Jones' Tea Room Trio. 4.30—G.P.O. Clock and Chimes. Serial Story entitled "The Black Cat" by Louis Tracey. 4.45—Music from the Studio. 4.55—Late Market Reports from "The Sun." 5—G.P.O. Clock and Chimes. "Sun" News Service. 5.15—Close down.

Early Evening Session: 6—G.P.O. Clock and Chimes. Pavilion Dinner Orchestra under the direction of Mr. Cec. Morrison. 6.30—Sporting Resume from "Sun" Newspapers. Uncle Jack and the Kiddies. 7.45—Late Stock, Hides and Market Reports by courtesy of Pitt, Son and Badgery. 7.50—Close down.

Evening Session: Miscellaneous programme from the Studio including Dorne & Montfort, musical comedy duo; Ray Beatty, basso cantante and Millie Hughes, soprano will be heard in solos and duets. Jazz until midnight supplied by Ambassadors' Combined Orchestra under the direction of Mr. Chas. Aves. At 8.30 a lecture will be given by Mr. A. T. Keeble, B.Sc., and at 9.30 Mr. Norman Campbell will speak on "Plays and Players."

5CL

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SATURDAY, NOVEMBER 21.

Morning Session: 10.30—The 5CL Studio Orchestra will play from the Studio: Overture, "On the Riviera" (Gruenwald), Violin Solo, "Souvenir" (Ordla), Fox Trot, "Sweet Little You" (Irving Bibb), Sextette, "Lucia Di Lammermoor" (Donizetti), Waltz, "Louisiana" (Freed), Polish Dance (Scharwenka), Oriental, "Japanese Sunset" (Deppen), Instrumental Trio, "La Sonnambule" (Bellini), Finale, Selection, "Primrose," (Gershwin). 11.45—S. C. Ward & Co's., Stock Exchange Reports and prices. Announcements. Official Weather Synopsis. Close down.

Afternoon Session: Salanola and pianoforte items. From the Studio, broadcast Racing and Cricket results and any other sports.

Evening Session: 6.30—Bedtime Stories for the Children by Uncle Radio and King Electron. 7.30—S. C. Ward & Co's., Stock Exchange Reports and Prices; Dalgety & Co's.; Farmers' Union; A. W. Sandford & Co's.; and Weather Reports. General Information and Sunday's programme. 7.40—Sporting Results. 8—Broadcast from Victoria Hall:—Edwardstown Choral Society. Under the patronage and in the presence of the Mayor and Mayoress of the City of Unley (Mr. and Mrs. E. Bendall). Conductor, Mr. Montague Finlay. Accompanist, Mr. Frederick Finlay, L.A.B. The Society will render a fine selection of Glee and Part Songs (accompanied and unaccompanied) and will be supported by the following well-known artists. Mrs. J. L. Davey, contralto (Prize winner at Ballarat), Miss Eileen Cashman, violin, Mr. E. G. Whittle, elocutionist, Mr. Joseph Higgins, tenor, "Kiora" Male Quartette. Messrs. Phillips, Adams, Samels and McKinna. Weather Observations and Forecast. Station announcements. National Anthem. Close down.

SUNDAY, NOVEMBER 22.

Morning Session: 10.55—Broadcast from Black Forest Church. Divine Service.

Evening Session: 6.3—Broadcast from the Studio Story for the little ones by Uncle Radio. 6.55—Broadcast from Flinders Street Baptist Church, Preacher Rev. F. G. Benskin M.A. Hymn No. 9. Prayer, "The Lord's Prayer." Hymn No. 10. Lesson. Solo, "The Lord is my Light" Mr. F. M. Blackwell. Prayer. Notices and offertory (Hymn No. 3 during offering). Hymn No. 12 (Congregation join). Sermon, Rev. F. G. Benskin, M.A. Hymn No. 4. Benediction. Hymn No. 5. 8.30—Studio Concert of vocal and instrumental numbers, under direction of Mrs. W. Keith Steward. Weather observations and Forecast. Station Announcements. National Anthem.

MONDAY, NOVEMBER 23.

Morning Session: 11.30—Pianoforte Selections on Hobart M. Cable reproducing piano. 12.15—News and Cable Service. 12.30—The 5CL Studio Orchestra will play:—Selection "The Arcadians" (Monck-

ton), Cello Solo, "Moonlight" (Tolhurst), Two Tzogine Dances (Jacobs Bond), Fox Trot, "China Girl" (Louis Linger), Reverie, "Love Fancies" (Zamecnik), Instrumental Trio, "Chanson Polonaise" (Wieniawski), Waltz, "Honest and Truly" (Rose), Intermezzo, "Petals" (Raymond), Finale, "The Maid of the Mountains" (Fraser Simson). 1.45—S. C. Ward & Co's., Stock Exchange Reports and Prices and Official Weather Synopsis. 2—Close down.

Afternoon Session: 3—Salanola and Pianoforte Items. Broadcast from Messrs. Ellis' Ltd. "Arcadia Cafe" vocal and instrumental numbers. 4.55—S. C. Ward & Co's. Stock Exchange Reports and Prices, and Weather Synopsis. 5—Close down.

Evening Session: 6.30—Bedtime Stories for the Children by Uncle Radio and King Electron. 7.30—S. C. Ward and Co's. Stock Exchange Reports and Prices; Dalgety & Co's.; Farmers' Union; A. W. Sandford & Co's.; and Weather Reports, General Information and Tuesday's Programme. 8—Broadcast from Studio, a programme of vocal and instrumental numbers under direction of Mr. Sable Grivell, L.A.B. 8.20—"Twinklers" Humorous Talk. 8.40—Studio Concert. 9—Weather Observations and Forecast. 9.5—Studio Concert. 10.15—Station Announcements. National Anthem. Close down.

TUESDAY, NOVEMBER 24.

Morning Session: 11.30—Pianoforte Selections on Hobart M. Cable reproducing piano. 12.15—News and Cable Service. 12.30—The 5CL Studio Orchestra:—Selection, "Sybil" (Victor Jacobi), Cornet solo, "Hawaiian Love" (Bridges), Fox Trot, "On the Oregon Trail" (Cohen), "Pas Des Escharpes" (Chaminade), Instrumental Trio, "L'Elisir D'Armour" (Donizetti), Waltz, "Funny" (Anderson), Suite, "Love Sonnets" (Zamecnik), Romance in E Flat (Rubenstein), Finale, "Lilac Time" (Franz Schubert). 1.45—S. C. Ward & Co's. Stock Exchange Reports and Prices and Official Weather Synopsis. 2—Close down.

Afternoon Session: 3—Salanola and Pianoforte Items. Broadcast from Messrs. Ellis' Ltd. "Arcadia Cafe" vocal and instrumental numbers. 4.55—S. C. Ward & Co's. Stock Exchange Reports and Prices and Weather Synopsis. 5—Close down.

Evening Session: 6.30—Bedtime Stories for the Children by Uncle Radio and King Electron. 7.30 S. C. Ward & Co's. Stock Exchange Reports and Prices, Dalgety & Co.; Farmers' Union; A. W. Sandford & Co.; and Weather Reports, General Information and Wednesday's programme. 8—Broadcast from Pirie Street Lecture Hall, a complete programme of Vocal, instrumental and elocutionary items. 10—Weather Observations and Forecast. Station Announcements. National Anthem. Close down.

WEDNESDAY, NOVEMBER 25.

Morning Session: 11.30—Pianoforte Selections on Hobart M. Cable reproducing piano. 12.15—News and Cable Service. 12.30—5CL Studio Orchestra will play: Selection, "Carmen" (Bizet), Violin Solo, "Londonderry Air" (Kreisler), Fox Trot, "Because of You" (Fiorite), Novelette, "Autumn Day" (Brahm), Instrumental Trio, "Tranmere" (Schumann), Waltz, "Nightingale" (Brock-

man), Prelude in C flat Minor (Rachmaninoff) Novelette, "Water Sprites" (Van Norman), Finale, "Bird of Paradise" (Walton Tully). 1.45—S. C. Ward & Co's. Stock Exchange Reports and Prices and Official Weather Synopsis. 2—Close down.

Afternoon Session: 3—Salanola and Pianoforte Items. Broadcast from Messrs. Ellis' Ltd. "Arcadia Cafe" vocal and instrumental numbers. 4.55—S. C. Ward & Co's. Stock Exchange Reports and Prices and Weather Synopsis. 5—Close down.

Evening Session: 6.30—Bedtime Stories for the Children by Uncle Radio and King Electron. 7.30—S. C. Ward & Co's. Stock Exchange Reports and Prices; Dalgety and Co's.; Farmers' Union; A. W. Sandford & Co.; and Weather Reports. General information and Thursday's programme. 7.40—Boy Scouts' Corner. 8—Musical Programme under direction of Miss Lola Penalurick, A.M.U.A. piano solo, Miss Lola Penalurick, A.M.U.A.; saxophone solo, Mr. Roy Sandercock, Soprano song, Miss Enid Besanke, L.A.B., Violin solo, Mr. Leslie Hunter, Soprano song, Mrs. Walter Warhurst, Euphonium solo, Mr. J. R. Sandercock, Pianoforte Novelty, Mr. Maurice Sheard, Recitation, Miss Narda Penalurick, Baritone solo, Mr. Arthur Bartle, Medley, Piano, Violin, and Saxophone, Tenor solo, Mr. Roy Sandercock, Piano solo, Miss Lola Penalurick, A.M.U.A., Soprano song, Miss Enid Besanke, L.A.B., Saxophone solo, Mr. Roy Sandercock, Baritone solo, Mr. Arthur Bartle. Violin solo, Mr. Leslie Hunter, Euphonium solo, Mr. J. R. Sandercock, Soprano song, Mrs. Walter Warhurst, Pianoforte novelty, Mr. Maurice Sheard, Recitation, Miss Narda Penalurick, Vocal duet, Miss Lola Penalurick and Mr. Roy Sandercock. Medley, Piano, Violin and Saxophone. Weather Observations and Forecast. Station Announcements. National Anthem.

THURSDAY, NOVEMBER 26.

Morning Session: 11.30—Pianoforte Selections on Hobart M. Cable reproducing piano. 12.15—News and Cable Service. 12.30—The 5CL Studio Orchestra will play: Selection, "Lucia Di Lammermoor" (Donizetti), Cello solo, "Intermezzo" (Tours), Fox Trot "You left me in the Rain" "Violinsky", Instrumental Trio, "Elegie" (Messenet), Novelette, "Flirtation" (Cross), Waltz, "Pal of my Cradle Days" (Piantadosi), Serenade, "Indian Dawn" (Zamecnik) Tanzweise (Meyer Helmund), Selection, "Merry Widow" (Franz Lehar), Finale, "Dear Old Southland" (Layton). 1.45—S. C. Ward & Co's. Stock Exchange Reports and Prices and Official Weather Synopsis. 2—Close down.

Afternoon Session: 3—Salanola and Pianoforte items. Broadcast from Messrs. Ellis' Ltd. "Arcadia Cafe" vocal and instrumental numbers. 4.55 S. C. Ward & Co's. Stock Exchange Reports and Prices, and Weather Synopsis. 5—Close down.

Evening Session: 6.30—Bedtime Stories for the Children by Uncle Radio and King Electron. 7.30 S. C. Ward & Co's Stock Exchange Reports and Prices; Dalgety & Co's.; Farmers' Union; A. W. Sandford & Co's.; and Weather Reports. General Information and Friday's programme. 7.40—Copec Lecture, Rev. Harold Giles. 8—"A night with Sir Arthur Sullivan." A programme of vocal, orchestral and instrumental numbers by leading South Australian Artists. 10—Weather Observations and Forecast. Station Announcements. National Anthem. Close down.

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WAVELENGTH — 267 METRES

SUNDAY, NOVEMBER 22.

7 to 7.30—Bedtime Stories. 8—Miss Ada Althouse (piano solo), Fantasia Impromptu (Chopin). 8.5—Miss Lillian Leverton and Edgar Vincent (duet) Miserere from "Il Trovatore." 8.10—Mr. Stan. Holthouse (monologue), (a) Gunga Din, (b) The Courtship. 8.20—Miss Ada Althouse (soprano), (a) Tiptoe, (b) Fairpiper. 8.30—Miss Madge Smith (violin), (a) Song of India, (b) Fair Maid. 8.40—Mr. Edgar Vincent (tenor), (a) Ave Maria by

Kahn, (b) E Luchivan La Stella. 8.50—Miss G. Kennerley (soprano), (a) Loves Cigarette, (b) Billia. 9—Interyal. 9.5—Miss L. Leverton (soprano), The Valley of Laughter. 9.10—Edgar Vincent (tenor), La Donne Mobile. 9.15—Miss Hilda Grace (piano), Popular Dance Numbers. 9.30—Miss Josie Standish (contralto), (a) Summer Rain, (b) I Wonder if ever the Rose. 9.40—Miss Hilda Grace (piano solo), Prelude. 9.45—Mr. Edgar Vincent (tenor), Serenade. 9.50—Miss Hilda Grace (piano), Popular Dance Numbers. 10—National Anthem.

TUESDAY, NOVEMBER 24.

8.10—Kings' Instrumental String Orchestra (Bondi Junction).

Programme continued on page 38**Britain's BEST Batteries**

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DUPLEX WORK.

ON Sunday, 8th November, at 12 p.m. midnight, an impromptu two-day duplex C.W. test was arranged on 85 metres by amateur stations 3PX, St. Kilda, Victoria, and 4RB, Toowong, Queensland. A very reliable "break-in" communication was established, despite the fact that the difference in wavelength of both stations was not at any time more than two metres.

Only one aerial was in use at each end, the "change-over" switch being left on the transmitter side and no aerial being used for the receiver. It is believed that this is the greatest distance yet covered by Aussie hams on duplex C.W. 4RB was putting .16 T.C.A.'s into the aerial, using one 201A tube with 2 watts at 150 volts on plate. 3PX stated that this input was 12 watts, using 500 volts R.A.C. on one "apex" 202 tube.

**SOUTH RANDWICK AND DISTRICT
RADIO CLUB.***

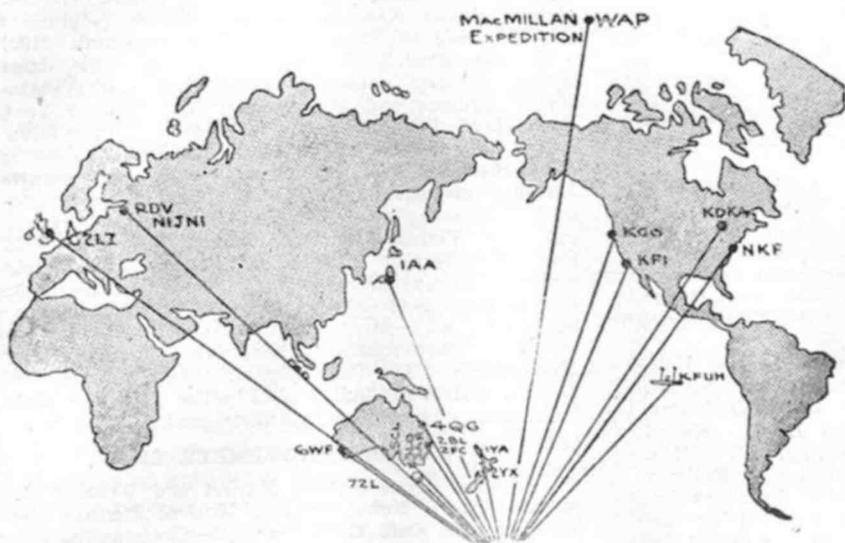
At the last meeting, held in the Daceyville Band Hall, the attendance was very large and a splendid lecture on a P1 Circuit and other one-valve sets by Mr. Hamilton ("Insulator") was very much appreciated.

The two competitive crystal sets were on view for the first time at the Club, and, according to critics, were both pronounced super sets capable of loud speaker results. Further details will be published later.

This Club, as readers will note, is a newly formed one, and all intending members should get into touch with Mr. L. Horner, Austral Street, Long Bay.

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Until, by the appointment of Agents throughout Australia our receiving sets are made readily available to the public, we shall continue to sell receiving sets at retail.

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Programme Continued from page 36

3AR

ASSOCIATED RADIO CO. LTD.

Wavelength, 484 metres. Power, 1600 watts.

SATURDAY, NOVEMBER 21.

12 noon—Time Signal. Market and Weather Reports. "Age" News Service. Musical Items. 1—Close down.

Caulfield Races: 2.15—Two Year Old Handicap, 4½ furlongs. 2.45—Result of Open Handicap, 6 furlongs. 3.15—Description while racing of the Brush Steeple, 2 miles 15 chains. 3.30—Musical Items from the Studio. 3.45—Description while racing of the Epsom Handicap, 1½ miles. 4.20—Result of the Trial Plate, 1 mile. 4.55—Result of the Trial Purse, 1 mile 1 furlong. 5—Close down.

6.15—Georgian Cafe Orchestra. 7.15—The Children's Corner by Uncle Peter. 8—Time Signal. 8.15—Dance Night: The Rhythmic Dance Orchestra, under the direction of Mr. George Lewis, relayed from the Maison De Luxe, Broadway, St. Kilda. 9.30—Week End Travellers' Information. Railway Information supplied by the Victorian Railways Department. Tramway Information supplied by the Tramways Board. Road Information supplied by the Royal Automobile Club. 9.50—The Maison De Luxe. 11—National Anthem and Close down.

SUNDAY, NOVEMBER 22.

11 a.m.—Service from Scots Church, Collins St., Melbourne. 3 p.m.—The People's Sunday Hour from St. Mark's Church, Fitzroy. Service conducted by the Rev. R. G. Nicholls. 7—Service from Scots Church, Collins St., Melbourne. 8.30—Mr. A. N. Bishop (F.A.I.S.) will speak on "The Church and the Totalisator." 9—Musical Items from the Studio. 9.15—Orchestra under the direction of Mr. George Henry, relayed from the Eclipse Theatre, Port Melbourne. 10—Time Signal; "Age" News Service exclusive to 3AR; Foreign Exchanges and Market Reports of the World supplied exclusively to 3AR by Messrs. Thos. Cook & Son. 10.15—National Anthem and Close down.

MONDAY, NOVEMBER 23.

12 noon—Time Signal; Market and Weather Reports. "Age" News Service; Musical Items. 1—The Georgian Cafe Orchestra. 2—Close down.

Richmond Trotting: Results immediately after each race. 3.30—Musical Items from the Studio. 5—Close down.

6.15—The Georgian Cafe Orchestra. 7.15—The Children's Corner by Uncle Rad. 7.30—The Boy Scouts' Bulletin. 8—Time Signal. 8.1—Miss Lillian Horn (soprano): (a) A Japanese Love Song (May Brahe); (b) Pale Moon (Logan). 8.8—Miss Kit Mills (contralto): Selected. 8.15—Miss Maxwell Cowderoy (solo pianiste): (a) Tannhauser (Wagner Liszt); (b) Prelude (Bach). 8.22—Mr. Sydney Bird (baritone): (a) Blow, Blow Thou Winter Wind (Sargeant); (b) The Star (Rogers). 8.29—Miss Hilda Addison soprano: (a) Parted (Tosti); (b) A Brown Bird Singing (Wood). 8.36—Miss Pauline

West (violiniste): (a) Allegro Brilliant (William Ten Have); (b) Serenade (Ch. Gounod). 8.43—Miss Anne Jeffery (elocutionist): The Death of Sydney Carton (Charles Dickens). 8.48—Mr. J. A. Williams (baritone): (a) Son of the Desert; (b) Invictus (Kahn). 8.55—Mrs Stan. McIntyre (soprano): (a) I'll Sing to You; (b) Until (Sanderson). 9.2—Mr. Pip. Powell, Humorous selections. 9.9—Miss Hylda Bartrop (contralto): Selected. 9.16—Miss Hylda Addison and Mr. Sydney Bird (duet): Your Eyes Have Told Me So. 9.21—Miss Maxwell-Cowderoy (solo pianiste): (a) Rondo Brilliant (Weber); (b) Deaux Arabesque (Debussy). 9.28—Miss Anne Jeffery (elocutionist) The old Grey Squirrel (Alfred Noyes). 9.33—Miss Lillian Horn (soprano): (a) Star Vicino (Salvator Rosa); (b) The Wild Rose (Schubert). 9.40—Miss Pauline West (solo violiniste): (a) Meditation "Thais" (Massenet); (b) Bourres. 9.48—Miss Hylda Bartrop (contralto): Selected. 9.55—Mr. J. A. Williams (baritone): Selected. Accompanists, Miss Mary Sampson and Mrs. Judge. 10—Time Signal; "Age" News Service exclusive to 3AR. 10.10—The Georgian Cafe Orchestra. 11—National Anthem and Close down.

TUESDAY, NOVEMBER 24.

12 noon—Time Signal; Market and Weather Reports; "Age" News Service; Musical Items. 1—The Georgian Cafe Orchestra. 2—Close down.

3.30—Musical Items from the Studio. 4.—The Georgian Cafe Orchestra. 5—Close down.

6.15—The Georgian Cafe. 7.15—The Children's Corner by Uncle Rad. 8—Time Signal; Dr. Northey Du Maurier, Health Talk, "Household Pests" (3rd series). 8.15—Miss Dorothy Mattingley (pianiste): (a) Grillen (Schumann). 8.22—Miss Gina Terry (soprano): (a) I Heard You Singing (Coates); (b) Caro Mio Bien (Giordani). 8.29—Mr. Wilfred Kane (tenor): (a) To a Wild Rose (McDowell); (b) My Life's Ideal (Tosti). 8.36—Mr. Robert May ('celist): (a) Largo (Handel); (b) Minuet (Squire). 8.43—Mrs. John Brennan (Lyric soprano): (a) Vainka's Song (Wishaw); (b) When Love is Kind (A.L.). 8.50—Mr. Eric Henderson (baritone): (a) Give a Man a Horse He can Ride (O'Hara); (b) Cotswold Love (Riley). 9—Mr. R. J. Edwards (of Herschels Pty. Ltd.), will speak on "Slew Motion Cinematography." 9.15—Miss Dorothy Mattingley (pianiste): (a) Etude in G sharp Major (Moscheles) (b) Shadow Dance (McDowell). 9.22—Miss Gina Terry (soprano): (a) The Little Damozel (Novello), (b) Ouvre tes yeux bleus (Massenet). 9.29—Miss Nelie Delachy (elocutioniste): (a) Earthenware, (b) Any other Time. 9.36—Mr. Robert May ('celist): Adagio (Mozart), (b) Cradle Song (Hensalt). 9.43—Miss Margaret Groom (contralto): (a) The Sweetest Flower That Blows (Hawley), (b) The Silent Forest (Torens). —9.50—Mr. Eric Henderson (baritone): (a) The Lute Player (Alitson), (b) Requeim (Homer). At the piano Miss Ruth Phillips. 10—Time Signal; "Age" News Service exclusive to 3AR. 10.15—The Georgian Cafe Orchestra. 11—National Anthem and Close down.

WEDNESDAY, NOVEMBER 25.

12 noon—Time Signal, Market and Weather Reports. "Age" News Service. Musical Items. 1—Georgian Cafe Orchestra. 2—Close down.

BURGESS—"POWER, HARMONY, ENDURANCE"—BATTERIES

Bendigo Races: Results after each Race. 3.30—The Georgian Cafe Orchestra. 4—Musical Items from the Studio. 4.45—Girl Guides' Bulletin. 5 Close down.

6.15—The Georgian Cafe Orchestra. 7.15—The Childrens' Corner by Auntie Betty. 8—Time Signal. 8.3—Miss Doris Hawker (solo pianiste): (a) Nocturne in E Flat (Chopin); Copelia. (Sibelius). 8.13—Miss Florence Tame (soprano) Damon (Strange). 8.20—Mr. Val Bird (baritone): (a) The Star (Rogers), (b) Castilian Lament (del Riego). 8.30—Talk: Mr. S. P. England "Some Recent Impressions of Tennis in America." 8.40—Mrs J. Williams (contralto): (a) Meadowsweet (Brahe), (b) Danny Boy (Weatherley). 8.47—Mr. Charles Tobin (elocutionist), Mrs. Brown on Hamlet. 8.57—Mr. Les. Jensen (baritone), (a) Harlequin (Sanderson), (b) I arise from Dreams of Thee (Salaman). 9.4—Miss Etie Kerr (soprano): Selected. 9.11—Miss Muriel Heales (mezzo), (a) Cradle Song (Schubert), (b) If Thou but Smile (Faust). 9.18—The Ascot Orchestra (Miss Wigley, Conductress) Fox Trots, One Steps, etc. 9.33—Miss Laura Wauchope (soprano), (a) Selected, (b) In an Old Fashioned Town. 9.40—Miss Molly Holick (violinist Serenade (Pierne), Simple Avuc (Thome). 9.50—The Ascot Orchestra. Accompanist, Miss Florence Tame. 10—Time Signal, "Age" News Service exclusive to 3AR. 10.15—The Georgian Cafe Orchestra. 11—National Anthem and Close down.

THURSDAY, NOVEMBER 26

12 noon—Time signal. Market and weather reports; "Age" news; musical items. 1—The Georgian Cafe Orchestra. 2—Close down. Bendigo Races: 2.15—Result of first race. During the afternoon, results will be broadcast as received of each race. 5.40—Special pig and calf report by Messrs. McPhail Anderson & Co. 5—Close down. 6.15—The Georgian Cafe Orchestra. 7.15—The Children's Corner, by Uncle Rad. 8—Time signal. 8.1—Lecture on "The Care and Feeding of Infants." 8.15—Musical items from the Studio. 8.30—Weekly Radio Chat: under the auspices of the Popular Radio Weekly, "Radex" (Mr. J. Len Bain), will talk on "The Case for the Short Aerial." 9—Dance Night: Rhythmic Dance Orchestra, under direction of Mr. George Lewis, relayed from the Maison De Luxe, Broadway, St. Kilda. 9.30—M. Leonard Cook, pianoforte selections. 9.50—"Age" news service, exclusive to 3AR; Maison De Luxe Orchestra. 11—National Anthem and close down.

FRIDAY, NOVEMBER 27.

12 noon—Time signal; market and weather reports; "Age" news; musical items. 1—The Georgian Cafe Orchestra. 2—Close down. 3.30—Musical items from the Studio. 4—The Georgian Cafe Orchestra. 4.30—Mr. N. Stanley Hayes, of Brunnings Pty. Ltd., will talk to the children on Gardening. 5—Close down. 6.15—The Georgian Cafe. 7.15—The Children's Corner by Auntie Betty. 8—Time signal. 8.1—Mr. R. Stanley Haines, of Brunnings Pty. Ltd., Weekly Gardening Talk. 8.16—Miss Marion Daniels (mezzo-soprano): (a) I love a little cottage; (b) Carmina. 8.23—Miss Winnie McCready (solo pianiste), Husarenritt (Fritz Spindler). 8.27—Duet: Miss Gladys and Mr. Reg Hayward: When Song is Sweet (San

Souci). 8.30—Madam Royer-Easton: French Talk: Remarques pour aider a comprendre le francais parle—la lettre s—les deux sceura." 8.41—Mr. Sydney Falk, flute solo, Souvenir of St. Petersburg (Kohler). 8.46—Mr. Reg Hayward (baritone) (a) What a wonderful world it would be (Lohr); (b) Ma little banjo (Dichmont). 8.52—Miss Freda Stevens (operatic soprano): (a) The waters of Minnetoka, with flute obligato by Mr. Sydney Falk; (b) The Star (Rogers). 8.59—Mr. Walter Holder (baritone), Prologue from Paggiacci). 9.5—Miss Hay Ferguson (mezzo-soprano): (a) I heard you go by; (b) The Rosary (Nevin). 9.12—Miss Winnie McCready (pianiste) Harp Frolienne (Smith). 9.17—Duet: In the Springtime (Newton), Miss Gladys and Mr. Reg Hayward. 9.20—Miss Marion Daniels (mezzo soprano), Selected. 9.27—Miss Freda Stevens (soprano) The Star (Rogers); 9.30—Mr. Fred Mitty, Special Racing Commissioner to 3AR, Racing Anticipations. 9.40—Mr. Sydney Falk (flautist): (a) Mazurka (Percival); (b) Selected. 9.47—Mr. Walter Holder (baritone): (a) The Banderlero (Stewart); (b) King Charles (Maud White). 9.54—Miss Freda Stevens (soprano): (a) I hear a thrush at Eve (Cadman); (b) Serenade (Gounod) with flute obligato by Mr. Sydney Falk. 10—Time signal; "Age" news service, exclusive to 3AR. 10.15—The Georgian Cafe Orchestra. 11—National Anthem and close down.

4QG

QUEENSLAND RADIO SERVICE.

Wavelength, 385 metres.

FRIDAY, NOVEMBER 20.

Midday Session: 12.55—Tune in signal. 1—Market reports, supplied by the Council of Agriculture; Stock Exchange Information, supplied by the Committee of the Brisbane Stock Exchange; Weather information, supplied by the Commonwealth Weather Bureau; "Daily Standard" News Service. Close down.

Night Session: 7.55—Tune in signal. 8—Instrumental number: The Dream of the Flowers (Ohen), the Studio Trio; contralto solo, O Western Wind (May Brahe), Miss Mae King; ten minutes of humour by Mr. W. F. Kenny; baritone solo, The Green Hills o' Somerset (Coates), Mr. J. B. Cloirec; tenor solo, Love is for ever (Newton), Mr. Geo. Williamson; Duet, Love is meant to make us glad (German), Misses Mae King and Nance King; Steck Duo Art Pianola: Herrot and Pierrette (Edwards); soprano solo: I wonder if love is a dream (Foster), Miss Nance King; elocutionary number, Lasca, Mr. S. O'Grady; Instrumental number, 'Ole South, the Studio Trio. 8.55—Announcements. 9—Instrumental number: March, Pioneer (Rosey), the Studio Trio; contralto solo, Soul of Mine (Ethel Barnes), Miss Mae King; ten minutes of humour by Mr. W. F. Kenny; baritone solo, Beyond the Dawn (Weatherby), Mr. J. B. Cloirec; tenor solo, I dream that I hear you singing (Marshall), Mr. Geo. Williamson; soprano solo, Prince Charming (Liza Lehmann), Miss Nance King; duet, Flow

(Programme Continued on Page 42)



Amateur Notes

By Q.T.C.

On looking round the suburbs of Sydney one sees many and varied types of aerials. There are short and long ones, they are high and they are low, and generally they are shaky. In a number of cases the lead-in wire is dragging over the roof or wound round the spouting, also in some cases the actual aerial is dangling over the house or fondly embracing some playful tree. It is quite beyond me how some of these antennae push any juice into the receivers at all. However, that is beside the point. The question to be debated is whether the collection box should be high and long or vice versa.

Now 30 feet is the average height to be found in suburban stations. If it is raised to 40 feet, a considerable difference will immediately make itself apparent. In the first place, local and distant stations will be somewhat increased in strength; also, supposing that on 30 feet you could separate 2BL

and 3LO satisfactorily, you will now find this very difficult, if not impossible. Condensing this, we find that we now have stronger signals but much flatter tuning. As the signals increase, so will the accompaniment — static, in fact, a very small rise makes a big difference in this bugbear. It has been proved quite definitely that a high aerial on the low amateur waves is more of a hindrance than a help. Generally speaking I think that a long low aerial is the best for receiving purposes. Of course, when the station is in a sheltered position, a higher aerial than usual may prove more successful.

Quite a lot of Aussies have been breaking through to England of late, some of those conspicuously successful being 2BC, 2LJ, 2YI, 3BD, 3EF, 5BG, and, of course, many of the evergreens whose success is always taken for granted.

The famous Mosul Iraq station GHHI whose QRA puzzled the local hams for many moons has now been pinned down; he has been allotted the call M-1DH and can be addressed as follows:—Sergt. Hall, No. 6 Squadron, R.A.F., Mosul Iraq.

Has anyone heard American Broadcasting Station WJZ yet? He is supposed to be working on 50 Kilowatts at the present time. Ought to be heard here—hi!!

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40	1/10	3/10
50	2/-	4/-
60	2/2	4/2
75	2/4	4/4
100	2/8	4/8
125	2/11	4/11
150	3/2	5/2
200	3/6	5/6
250	3/10	5/10

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RADION

PANELS ~ DIALS ~ SOCKETS ~ KNOBS

Programme continued from page 39

gently Diva (Parry), Messrs. J. B. Cloirec and G. Williamson. 9.30—From the Tivoli Theatre: By courtesy of the Directors of Haymarket Theatres Limited, half an hour's music by the Tivoli Operatic Orchestra of 20 performers (under the baton of Mr. C. Groves) will be relayed from the Tivoli Theatre. 9.55—From the Studio: "The Daily Mail" news service. Close down.

SATURDAY, NOVEMBER 21.

No Midday Session.

The Children's Hour: A special children's bedtime story session is held each Wednesday and Saturday evening. At a later date this session will be made a nightly feature, but in the immediate present, while transmission is being effected under temporary conditions, it will be held twice weekly. 6.25—Tune in signal. 6.30—The Children's Hour. Nursery Rhymes and music; bedtime stories by the "Sandman." 7.15—Close down.

Night Session: Studio Concert, Lennon's Ballroom. 7.55—Tune in signal. 8—From the Studio: pianoforte solo, March Romaine (Gounod), Miss Naomi Archdall; elocutionary number, Pierrot (Gardner), Miss Jean Trundle; soprano solo, The Valley of Laughter (Sandreson), Miss Beryl Huntington; tenor solo, Mother Macree (Young), Mr. E. Ungerer; Aeolian Vocalion Selections: orchestral numbers (a) waltz, Loin du Bal (Gillet), (b) Fox Trot, Kismet, played by the Green Bros. xylophone orchestra; baritone solo, Mate o' Mine (Elliott), Mr. J. Morgan; pianoforte solo, Grand Fantasia (Jules de Sivva), Miss Naomi Archdall; tenor solo, Homing (Del Reigo), Mr. E. Ungerer; elocutionary number, The Highwayman (Noyes), Miss Jean Trundle; flute solo, selected, Mr. H. C. Marshall; baritone solo, The Devout Lover (White), Mr. J. Morgan. 9—From Lennon's Hotel: By courtesy of the proprietors of Lennon's Hotel, an hour and a half's programme of jazz music played by Miss May Dobbyn's Vice-Regal Orchestra will be relayed from Lennon's Ballroom. 10.30—From the Studio. "The Sunday Mail" News Service. Close down.

SUNDAY, NOVEMBER 22.

International Bible Students' Association Service: The complete evening service of the International Bible Students' Association will be relayed from the School of Arts, Brisbane. 7.10—Tune in signal. 7.15—Organ, overture. 7.30—Opening hymn, No. 281, The Church's One Foundation, Prayer, Announcements, Hymn No. 58, Zion's Glorious Hope; Scripture reading, Genesis 1 v. 26-31; Romans 5, v. 12-20; Acts 3, v. 18-23; contralto solo, O Thou that Teltest (Handel), Mrs. D. Taylor; Address, Man's Inheritance and its Restoration, Mr. L. R. Macgregor; tenor solo, The Everlasting Day (Bevan), Mr. W. A. Donald; closing hymn, No. 72, Hail to the Brightness of Zion's Glad Morning; Benediction; Close down.

MONDAY, NOVEMBER 23

Midday Session: 12.55—Tune in signal. 1—Marker reports, supplied by the Council of Agriculture; Stock Exchange information, supplied by the Committee of the Brisbane Stock Exchange; Weather information, supplied by the Commonwealth Weather Bureau; "Daily Standard" News Service. Close down.

Afternoon Session: 2.55—Tune in signal. 3—By courtesy of the Directors of Haymarket Theatres Limited, an hour's programme of music played by the Tivoli Operatic Orchestra of 20 performers (under the baton of Mr. C. Groves) will be relayed from the Tivoli Theatre and broadcast by 4QG. Close down.

The Children's Hour: A children's bedtime story session is held each Monday, Wednesday and Saturday evening. At a later date this session will be made a nightly feature; but in the immediate present, while transmission is being effected under temporary conditions, it is held three times weekly. 6.25—Tune in signal. 6.30—The Children's Hour. Nursery Rhymes and music; bedtime stories by the "Sandman." 7.15—Close down.

Night Session: 8—Tune in to the Tivoli Theatre. 8.5—From the Studio: Pianoforte solo: Fantasie Impromptu in C Sharp Minor (Chopin), Miss Irene Ness; soprano solo, Lily of Laguna (Leslie Stuart); Mrs. Robert Bell; Lecturette, Life-Saving, the third of a series of four, by Mr. J. C. Deeny (Honorary Lecturer to the Queensland Head Centre, Royal Life Saving Society); soprano solo: Can't you hear me callin' Caroline (Caro Roma), Miss Ruth Portrate; flute solo, selected, Mr. H. C. Marshall; elocutionary number, The Minister comes to Tea, Miss Feo Todd; contralto solo, Requiem (Homer), Miss Audrey Iiff; vocal duet, Marcheta, (Schertzinor), Mrs. Robert Bell and Miss Ruth Portrate; pianoforte solo: Les Sylvans (Chaminade), Miss Iris Ness; tenor solo: Questa O Quella (from Rigoletto—Verdi), Mr. Wm. Green; elocutionary number: Break, break, break (Tennyson), Miss Feo Todd; contralto solo, Love's Garden of Roses (H. Wood), Miss Audrey Iiff; flute solo, selected, Mr. H. C. Marshall; tenor solo, E Lucevan le Stelle (from Tosca—Puccini), Mr. Wm. Green. 9.30—From the Tivoli Theatre: By courtesy of the Directors of Haymarket Theatres Ltd., half an hour's music by the Tivoli Operatic Orchestra will be relayed from the Tivoli Theatre. 10—From the Studio—"The Daily Mail" News Service. Close down.

TUESDAY, NOVEMBER 24.

Midday Session: 12.55—Tune-in Signal. 1—Market Reports supplied by the Council of Agriculture; Stock Exchange Information supplied by the Committee of the Brisbane Stock Exchange; Weather Information supplied by the Commonwealth Weather Bureau; "Daily Standard" News Service. Close down.

Night Session: Portion of to-night's programme will be provided by the Brisbane Apollo Club (formerly Liedertafel) under the leadership of Mr. Leonard Francis. 8—Tune-in to the Tivoli Theatre. 8.5—From the Studio. Choral Number, Pilgrim's Chorus (Tannhauser) (Wagner), the Brisbane Apollo Club. Contralto solo, Beyond the Dawn (Sanderson), Miss Vera Parker. Choral Number, Serenade, (De Koven), The Brisbane Apollo Club. A Musical Novelty by Mr. Golding. Baritone solo, Zillah, Mr. Maurice Goldhill. Instrumental Number, Oh, Mr. Finkleheimer (Talbot), the Studio Trio. Lecturette, Photography, The ninth of a series by Mr. F. L. South (Manager, Kodak Ltd.). Contralto solo, Provence (G. Carne) Miss Winifred Anderson. Violin solo, Old Viennese Dance (Drda), Mr. H. Scot MacCallum. Soprano solo, Happy Summer Song (Kahn), Miss Olga Harris.

A Musical Novelty by Mr. Golding. Baritone solo The Yoeman's Wedding Song (Poniatowsky), Mr. Maurice Goldhill. Instrumental Number, Mighty like a Rose (Waltz on the popular song), the Studio Trio. Contralto solo, Life's Recompense (Del Riego) Miss Winifred Anderson. Aeolian Vocalion selections: Hawaiian Numbers, (a) Swanee Butterfly (Rose), (b) While Hawaiian Stars are Gleaming (Hampton). Soprano solo, Spring's Awakening (Sanderson), Miss Olga Harris. Duo Art Selection, At the end of the Road (Hanley) Instrumental Number, Moon Madrigal (Willeby), The Studio Trio. 10—"The Daily Mail" News Service. Close down.

WEDNESDAY, NOVEMBER 25.

Midday Session: 12.55—Tune-in Signal. 1—Market Reports supplied by the Council of Agriculture; Stock Exchange Information supplied by the Committee of the Brisbane Stock Exchange; Weather Information supplied by the Commonwealth Weather Bureau; "Daily Standard" News Service. Close down.

Afternoon Session: 2.55—Tune-in Signal. 3—By courtesy of the Directors of Haymarket Theatres Limited, an hour's programme of music played by the Tivoli Operatic Orchestra of 20 performers (under the baton of Mr. C. Groves), will be relayed from the Tivoli Theatre and broadcast by Station 4QG. 4—Close down.

THE CHILDREN'S HOUR.

A Children's Bedtime Story session is held each Monday, Wednesday and Saturday evening. At later date this session will be made a nightly feature, but in the immediate present, while transmission is being effected under temporary conditions, it is held three times weekly. 6.25—Tune-in Signal. 6.30 The Children's Hour. Nursery Rhymes and Music. Bedtime Stories by "The Sandman." 7.15—Close down.

Night Session: 8—Tune in to the Tivoli Theatre. 8.5—From the Studio. Hawaiian Duet, Popular Airs, Messrs. Bleek and Gardiner. Contralto solo, Mighty like a Rose (Nevin), Miss Hilda Cooper. Group of Banjo numbers by Mr. W. G. McGrath. Lecturette, Chemistry in everyday Life, Mr. W. G. Carson Cooling, M.Sc., Chief Chemistry Master, Grammar School. Instrumental Number, one Step, Lucky Dog (Seymour), The Studio Trio. Contralto solo, My Dreamland Rose (Phillips, Miss Clarice Cox. Elocutionary Number, The Shooting of Dan McGrew Mr. S. O'Grady. Bass solo, The Road that Brought You Back to Me (Hamblen), Mr. J. P. Cornwell. Contralto solo, Life's Lulaby (Lane), Miss Hilda Cooper. Hawaiian duet, Popular Airs, Messrs. Bleek and Gardiner. 9—From the Tivoli Theatre. A quarter of an hour's music by the Tivoli Orchestra. 9.15—From the Studio. Lecturette, The Farmer's place in the Community, Mr. G. S. Well. Baritone solo, Red Devon by the Sea (Clarke), Mr. J. P. Cornwell. Group of banjo numbers by Mr. W. G. McGrath. Contralto solo, Songs my Mother taught me (Dvorak), Miss Clarice Cox. 9.45—From the Centennial Hall. A quarter of an hour's dance music by the Centennial Hall Orchestra. 9.55—From the Studio. The Daily Mail News Service. Close down.

THURSDAY, NOVEMBER 26.

Midday Session: 12.55—Tune-in Signal. 1—Market Reports supplied by the Council of Agriculture;

Stock Exchange Information supplied by the Committee of the Brisbane Stock Exchange; Weather Information supplied by the Commonwealth Weather Bureau; Daily Standard News Service.

Night Session: Southern Jubilee Celebrations. Portion of the Speeches delivered in connection with the banquet at the Southport Jubilee Celebrations will be relayed by trunk line from Southport and broadcast by 4QG. 7.25—Tune-in Signal. 7.30—From Southport. The jubilee Celebration Banquet. Speeches by His Excellency the Deputy Governor, the Hon. Wm. Lennon, The Mayor of Brisbane (Alderman Jolly. The Mayor of Toowoomba. The Mayor of Maryborough. The Mayor of Ipswich. The Mayor of Southport (Alderman Walters). Interspersed with musical numbers. 9—From the Studio. Instrumental Number, March Militaire (Schubert), the Studio Trio. Baritone solo, Shipmates o' Mine (Sanderson), Mr. A. Falk. Bookman's Raidette, A talk on latest literature by Mr. W. A. Braiden (McLeod's Bookstore). Soprano solo, The Nightingale and The Rose (Thompson), Miss Mary McNeish. Tenor solo, Rose of My Heart (Lohr), Mr. Ernest Bayton. Lecturette, Wireless, How to Avoid Interference, Mr. J. W. Robinson. Mezzo soprano solos, (a) I did not Know, (Trotter), (b) Beloved Sleep (Slater), Miss Millicent Baker. Duo Art Selection, Stay Home Little Girl, Stay Home (Brown and Hanley). Tenor solo, Like Stars Above (Squire), Mr. Ernest Bayton. Instrumental Number, Selections from "Sally" (Kern), The Studio Trio. Baritone solo, Who Knows (Ball), Mr. A. Falk. Soprano solo The Little Damozel (Novello), Miss Mary McNeish. 9.55—From the Studio. The Daily Mail News Service. Close down.

LICENSES

NOVEL APPEAL TO LISTENERS.

BY THE QUEENSLAND RADIO SERVICE.

In Queensland a novel appeal to listeners has been made by the Manager of the Queensland Radio Service (Mr. J. W. Robinson).

Mr. Robinson has issued his appeal in the form of an open letter, and some thousands of copies have been printed.

Radio traders have been supplied with as many copies as they require, free of charge, and have agreed to wrap one of the circulars in all parcels made up at their shops.

The suggestion to appeal to listeners in this form was made by representatives of the wireless traders of Brisbane at a recent conference between the Controller of Wireless (Mr. J. Malone), Mr. J. W. Robinson (Manager, Queensland Radio Service), and representatives of the trading interests.

It is interesting to note that some little time ago Mr. Robinson declared that his policy was one of co-operation with the traders. "Increased business by the trade," he said, "means an increase in

Continued on page 46

BURGESS—"THEY'RE ON THE 'LEVIATHAN'"—BATTERIES

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Philip's A410 (dry cell type) English Cap	15	0
Ediswan AR06 Dry Cell Valve (English or American)	18	6
True Blue: Brightson True Blue Valves	21	0
Supertron: 199 Type, 4 volts, .06 amp.	15	0
Valve Adaptors: Standard American to 199 or WD11	3	9
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" English Base Mounting, 2/3 and	2	0
" American 3/9, 3/-, and	2	0
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WIRELESS OFFICERS

LIST OF MARINE STAFF CHANGES FOR WEEK ENDING 12th NOVEMBER, 1925.

F. R. Sharpe (2nd) signed off "Esperance Bay" in Sydney.

H. W. Baker (3rd) signed off "Esperance Bay" in Sydney.

D. McIntosh (2nd) signed on "Esperance Bay" in Sydney.

J. R. Clifford (3rd) signed on "Esperance Bay" in Sydney.

H. R. Sharpe signed on "Mataram" in Sydney.

H. R. Hain signed off "Waiotapu" in Sydney.

A. C. Torrens signed on "Waiotapu" in Sydney.



A REMARKABLY GOOD PHOTOGRAPH.

Little Douglas Kelly, one year and seven months old, who won the first prize in the Children's Juvenile Ball at Kandos, as "Dream Daddy."

Photo forwarded by Mr. N. Souter.



He Listened-In on a Crystal Set

And had a lot of fun.
He enjoyed the programme from
the local station.

He Longed for Distant Stations

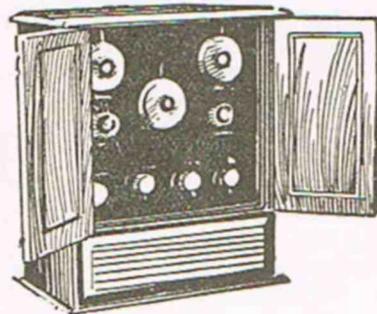
He wanted a multi-valve set,
He tested lots of makes
And finally decided, so ———

He bought a RADIOPHONE

The four-valve
Long-range receiver
Made by Edison Swan.

Now he gets them all

He tunes in ———
3LO, 5CL, 2FC, 6WF, 7ZL, 3AR,
2BL
And all the amateurs, perfectly.



FOR Selectivity and Long Range Reception
this set surpasses most 4 Valve Sets on
the market. Price, including H. T. Battery
only, excluding Valves . . . **£37/10/-**

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Co. Ltd.

Sydney 58 Clarence Street
Melbourne 368 Little Collins Street
Brisbane 32-34 Adelaide Street
Adelaide 102 Gawler Place

Continued from page 43

radio users and a consequent increase in license fees.

"All money from license fees received at Station 4QG goes back into the station revenue, and is spent in the providing of a service. Co-operation, therefore, can only have one result—increased service to listeners."

The following is a copy of the open letter:—

AN OPEN LETTER.

TO ALL WIRELESS ENTHUSIASTS.

Station 4QG, Brisbane.

Dear Listener,—

I am taking the liberty of writing just a few lines to you in connection with the all-important question of wireless licenses.

The name "license" is not a good one, because it immediately makes one think that some sort of legal formality must be gone through before you can listen-in.

I want you to forget the word "license" and just remember that when you pay your fee it is not a "license" you are taking out, but merely a subscription you are paying for the service you already receive, or are about to receive with the apparatus you have purchased.

In Australia all persons who listen-in must pay this fee by taking out a license at any post office. The cost is 27/6 per annum, and if you happen to find this sum too large to pay at once you may pay your fee by easy instalments. The nearest post office official will give you full details.

You will not have a long and wearied wait when you go to pay this fee—you need only walk in to any post office and purchase your "license" (we seem to have to use that word) just as you would purchase a money order.

Now, let me tell you what happens to the subscription you pay. It is a very simple story: It is handed over by the authorities to Station 4QG, and helps to pay the cost of the running of the station and the providing of programmes. It works out at five-sixths of a penny per day, and I am sure that you will agree with me when I say that it is remarkably cheap.

Now, to come to the most important point in my letter: If quite a large number of people pay subscriptions, I can give you a good service from 4QG, but if large numbers of people do not pay, then the service and programmes must suffer.

Thus, you see, the man who does not pay his fee is not only reducing the quality of the programme he himself receives, but is also reducing the quality

of the programme received by his neighbour.

Station 4QG is not being run for profit. If it were, my letter to you would perhaps be presumptuous. All revenue received at 4QG is paid back into the station and is used for the providing of a service.

With strong support from listeners, 4QG should be able to give you a service second to none.

If you have not paid your fee, will you help me to give a good service by paying it immediately? If you have paid it, will you help me by persuading anybody who has not paid to do so without delay?

Yours faithfully,

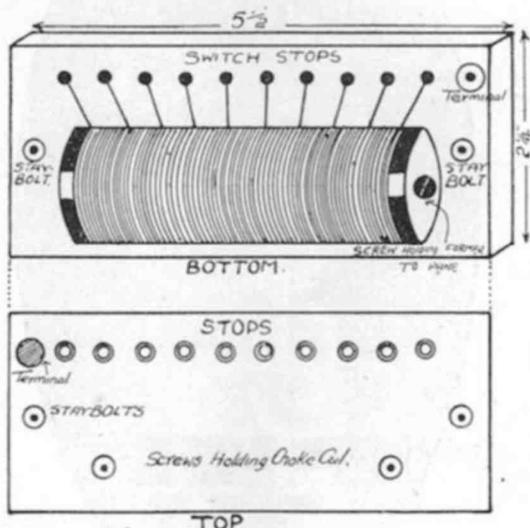
(Sgd.) J. W. ROBINSON,
Manager, Station 4QG,
Queensland Radio Service.

More about the Howell Reinartz

By R. W. HOWELL

I AM still experimenting with the choke coil, and have found that by using one that is tapped every ten turns, it makes a decided improvement, by allowing the set to oscillate with a lower voltage on the detector.

I suppose that the majority of the users of this circuit find that, using the detector valve alone



there is no difficulty in bringing in any interstate station such as 3LO and 5CL, 4QG, etc. But out of the lot I think you will agree that 3LO is sometimes difficult to tune in, especially with a stage of audio. The reason of this I find is be-

BURGESS—"OVER TWICE THE LIFE"—BATTERIES.

cause of the choke coil being in series with the primary winding of the transformer; the result is that the circuit won't oscillate so freely unless a higher voltage is put on the plate, which makes it harder to tune.

By using the tapped choke, this difficulty is overcome by tapping back on the choke until you get the desired results. (Somewhere about 20 or 30 turns of the choke seem about the best on my own set.) By using this method of tapped choke, the set will oscillate with a much lower voltage on the detector valve. This adds further to the selectivity of the set. To build this choke takes only a little time and the majority of the parts will be found in the average person's "junk box." The following parts are required:—

1 piece of bakelite, $5\frac{1}{2} \times 2\frac{1}{4} \times 1/8$ in. (or perhaps a shade larger; it is not vital).

10 of the long headed type of switch stops.

1 terminal, $2-1/8 \times \frac{1}{4}$ in.

Metal screws and nuts.

1 bar clip.

Two pieces of $1/8$ in. brass rod screwed both ends will be sufficient; these act as stay bolts to suspend the panel holding the choke. Two $1/8$ in. nuts and washers are required on each end of stays.

The best way to arrange this addition to your set is to place it at the rear of your baseboard, near the detector valve. Drill two holes through your baseboard, to allow the stay bolts to come

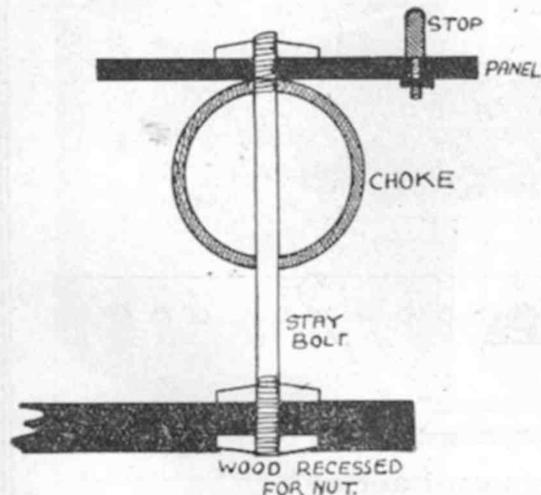


Fig. 3

through. Underneath the baseboard make a recess to take the nut and washer of the bolt so that it will be flush with the bottom of the board. The spacing of the stops should be about $\frac{1}{4}$ in. centres. You will notice that the terminals is placed at the

left of the panel, the beginning of choke coil is connected to the bottom of the terminal, then from the top of terminal to the plate of your valve. The choke coil is placed below the line of stops, and fastened to the panel with a set screw and nut at each end of coil. Leave about $\frac{1}{2}$ in. of the bare former at each end so as to make holes for the screws.

TAMWORTH RADIO CLUB.*

At a meeting of the Tamworth and District Radio Club on Saturday last, in the club rooms, Presbyterian Hall, Marius Street, there were about 20 present. Mr. Woollett, the President, occupied the chair.

A letter was received from the Secretary, who is at present in Sydney, stating that he had made application to the Wireless Institute for affiliation.

The report of the "B" Class Station Committee was postponed till next meeting owing to one member being unavoidably absent from the meeting, and also to finalise a few matters which were left in the hands of the President.

It was resolved that the club meet fortnightly in the summer. The next meeting will, therefore, be held on Saturday, November 21.

At this meeting Mr. L. V. Todd will give his lecture on "Characteristics and Advantages of Different Circuits." There will also be a discussion on the best way to learn the Morse code. This will be demonstrated with a buzzer, and a class will be formed.

Mr. Spencer having notified that as he was going out of business and was not able to attend and give his lecture, Mr. Carter gave a lecture on "Accumulators—Construction, Care, and Maintenance."

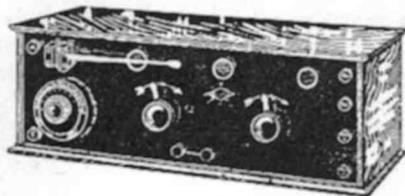
A low-loss set owned by Mr. Sutter was the subject of much discussion.

Mr. Stephan demonstrated the use of loop aerials with a three-valve set. Local reception was first tried, and later it was tested on some of the distant stations. The result showed that static could be eliminated totally on local transmissions, and was just slightly noticeable on the distant stations. This test was greatly appreciated by the members present.

At the conclusion of the meeting the President moved a vote of thanks to Messrs. Carter and Stephan for their lecture and demonstration. This was carried by acclamation.

Anyone wishing further particulars of this club may have same on application to the Secretary, Tamworth Radio Club, c/o Post Office, Tamworth.

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The Little Giant Sets are sold complete with all accessories, including aerial wire. The three valve Little Giant is complete with all Accessories and Atlas Loud Speaker.

One Valve Set	£7 10 0
Two Valve Set	£12 10 0
Three Valve Set	£20 0 0

THE LITTLE GIANT ALWAYS LIVES UP TO ITS NAME. A GIANT IN TONAL QUALITIES, EFFICIENCY, AND SIMPLICITY OF OPERATION ARE FEATURES NOT SURPASSED IN LARGER HIGH-PRICED INSTRUMENTS.

Col-Mo Ready to Wire Sets

GENUINE RADIO SETS THAT WILL WORK

WIRING TAKES TIME, AND TIME IS MONEY.

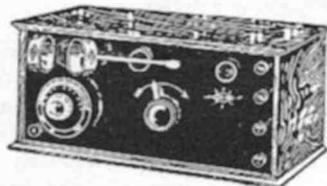
DO THE JOB YOURSELF AND SAVE MONEY.

ONE-VALVE SET: Complete with Cabinet, £2/15/0.

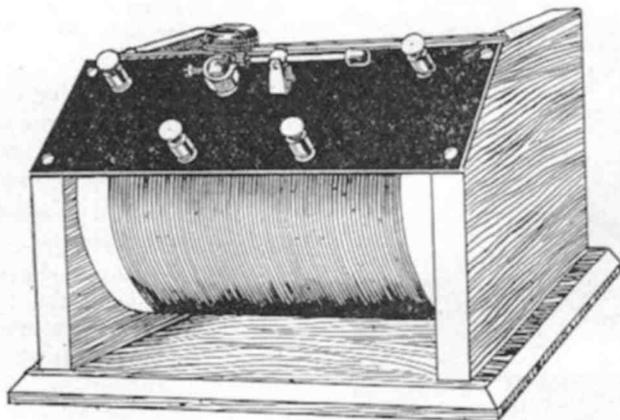
TWO-VALVE SET: Complete with Cabinet, £4/10/0.

THREE-VALVE SET: Complete with Cabinet, £6/5/0.

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U.V. 200

U.V. 201a

W.D. 12

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W.D. 12 is designed for operation off a single dry cell, the voltage being 1.5 and the amperage .25.

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Radiotron

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GEC_oVALVES are backed by the incomparable efficiency in manufacture of the Osram Lamp Works plus constant and exhaustive research at the G.E.C. Research Laboratories, Wembley.

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