

The Hundred per cent. Australian Radio Journal.

THE WIRELESS WEEKLY

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

Registered at the General Post Office, Sydney, for transmission by post as a newspaper.

Vol. 1—No. 9 SYDNEY, SEPTEMBER 29th, 1922. Price—



A FEW VICTORIAN AMATEURS GATHER FOR A SUNDAY MORNING TALK ON RADIO.
They are (reading from left to right): Messrs. H. S. Beattie, M. Howden, W. Whitley, P. Howden, and K. Wides.

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A TALK WITH "WIRELESS WEEKLY."

In most things, not excluding the domestic cake, the term "home made" creates a certain suspicion in our minds.

In the field of Radio experimenting this is very noticeable, so much so that a good many young experimenters are loath to show or talk about their work outside their homes.

Why this should be it is hard to say. No doubt there is some very crude apparatus made up by experimenters, who have newly joined the ranks, but it is surprising how efficient it is.

The writer himself, when he was first interested in the science, made a loose coupler. Those were the days when there was no "Wireless Weekly," with a "Make Your Own" page, so the instrument turned out to be more loose than coupler.

But when it would not work efficiently, it was gone over, step by step, till it finally brought in signals as good, if not better, than the commercially made article. That coupler taught an experimenter quite a lot, and since that time he has made many pieces of apparatus that are certainly no disgrace to him.

"Wireless Weekly" is a staunch advocate of "Make Your Own," and when it was decided to publish the first number, it was determined that a page or so in every issue should be devoted to assisting the amateur in this direction.

There is no doubt as to the attitude of our readers towards this feature. We have received a number of letters of appreciation, many stating that the writers have successfully made the various apparatus according to the di-

rections.

The great advantage of making your own is that you know all about it when it is finished, and if it works badly you can generally take it to pieces and remedy the defect. Of course, there are many pieces of gear that it does not pay the experimenter to make, unless he is a very skilled workman and has a well-equipped workshop at his disposal.

It is generally known that there is at present a shortage of commercially made apparatus of certain types, in Australia, but this should not deter the would-be experimenter.

He should get to work and make it himself. The work is interesting, and if he carries it out properly, the results will justify the trouble.

MUSIC IN THE AIR.

Hush! what means it, this silence,
This soundless suspension of
time?
An ergy of gloom oppressing the
room,
Pervades without reason or
rhyme.

Each heart is unevenly beating,
Each nerve is by now over-
wrought,
Till the fierce concentration is
turned to elation
By the Loud-Speaker we have
just bought.

For the silence is suddenly broken
By the wail of the carrier wave,
And soon we are dancing to music
entrancing
From our willing new radio
slave.

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THE RADIO EXHIBITION.

To say that the Public Radio Exhibition last Friday and Saturday was a success is merely announcing the obvious.

It was a triumph for the cause of amateur radio, and the Metropolitan Radio Club is to be congratulated.

Iurcan, Stowe and Reed expressed satisfaction at the workmanship in the apparatus.

Considerable interest was taken in the splendid three-valve set owned by Mr. R. C. Marsden. This set stood on a table on the platform, flanked by a loud speaker

The prize winners were:—
Smallest crystal set, Mr. R. P. Addison.

Smallest valve set, Mr. E. B. Crocker.

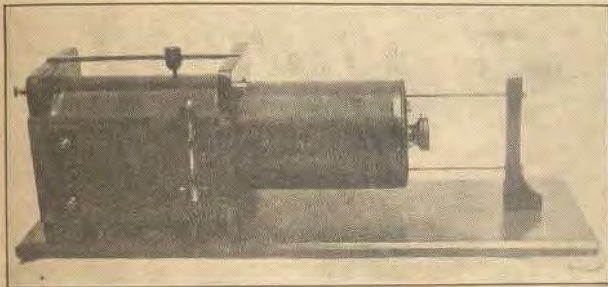
Best single-valve set, Mr. E. B. Crocker.

Best multi-valve set, Mr. A. E. Grigg.

Best single piece of apparatus, Mr. R. R. Wilshire (Honeycomb coil panel). Special prize, Mr. C. R. McKenzie (shell loud speaker).

Best complete crystal set, Mr. J. Watson. Highly commended, Mr. G. H. M. Silver.

Most novel idea incorporated in any piece of apparatus. (Special



The Best Crystal Set, owned by Mr. J. Watson. This was made entirely from directions given in "Wireless Weekly"

During the various sessions, it is estimated that close on 2,000 persons saw the exhibits, and it is fair to say that most of the visitors were impressed. The science has long needed something of this kind to advertise it, and there is little doubt that the coming boom will be accelerated through the show.

There was a good attendance when the State Governor, Sir Walter Davidson, officially opened the exhibition on Friday afternoon. In a well-chosen speech, His Excellency stressed the fact that while the experimenter was playing with his apparatus there was no telling what important discovery he might make.

Subsequently, Sir Walter and Dame Margaret Davidson inspected the various exhibits with much interest.

The amateur exhibits in the competitive classes were not so numerous as they might have been, but in quality they were excellent. The judges, Messrs. Mac-

and a magnavox, by means of which radio music was thrown into the hall. Despite an aerial only a few feet above an iron roof, the music came in very strongly, especially that transmitted on Saturday afternoon for the University Fete, by Messrs. Amalgamated Wireless, Ltd.

At various times during the sessions, lectures on the science were given, and on Saturday night Messrs. Best and Swinburne, of the Metropolitan Club Committee, who had just returned from Stanthorpe, Queensland, after having assisted the Royal Astronomical Society's party in the observation of the eclipse of the sun, gave talks on the phenomenon and their experience.

The Exhibition was organised by Mr. O. F. Mingay, a committee-man of the club, who should be proud of his success. He was ably assisted by the president, Mr. Marsden; the hon. treasurer, Miss F. V. Wallace; and the hon. secretary, Mr. A. Mitchell.



Mr. C. R. McKenzie's Shell Loud Speaker, which won a Special Prize.

prize, presented by "Wireless Weekly", Mr. A. E. Grigg (Radio Frequency Transformer-Selector).

Best commercial exhibit (non-competitive), Miss F. V. Wallace.

TELEPHONE TRANSFORMERS. THEIR VALUE OVERLOOKED.

The value of telephone transformers is not generally recognised by the experimenter, and consequently they are seldom found in the sets used by him.

There is, too, a certain amount of prejudice against using a piece of apparatus which certainly does not increase the signal strength, and seems only an unnecessary expense. They are, however, well worth including in a set, their value being particularly marked in valve work.

Their chief advantage is that they permit the use of low resistance telephones in place of the customary high resistance. High resistance phones are a weakness in a set as their construction entails the use of very fine wire, while to obtain the necessary impedance a large number of turns must be wound in a very limited space. Because of this, the insulation on the wire must not be too bulky, and so usually consists of a single silk or enamel covering.

This makes proper insulation of the windings a difficult problem, and makes them liable to break down if, as in valve work, particularly when amplifiers are used, the phones are subjected to high voltages.

FOREIGN NOISES.

If their insulation is at all faulty a current will leak from the "b" battery via the operator to earth, causing foreign noises to be heard.

This is overcome by the use of a telephone transformer, which removes the phones from the actual plate circuit.

A telephone transformer consists essentially of a soft iron core, laminated to prevent eddy currents and consequent distortion, upon which is wound two coils, the windings being either side by side or one over the other. Of these, the primary is a high resistance winding, wound with fine copper wire, its impedance being made equal to or slightly greater than the impedance of the tube with which it is used.

This condition is usually given when it has a D.C. resistance of 3,000 to 4,000 ohms. The secondary winding is governed entirely by the phones, for which the transformer is designed. Its impedance is made equal to that of the phones, and this is approximately obtained by making their resistances equal. Thus, with high-resistance phones the two windings would be similar, having the same number of turns in each, or as it is technically known a 1 : 1 ratio, while with low resistance phones a smaller number of turns of a heavier wire would be used in the secondary.

MAGNETS WEAKENED.

The transformer windings are not necessarily confined to a small space as with phone windings, and as more care can be taken in insulating, the likelihood of breakdown is reduced to a minimum.

The phones generally used with telephone transformers have a resistance of about 120 ohms. They are wound with much heavier wire than the high-resistance type, and can be made much stronger both electrically and mechanically.

Again, in valve work there is a constant current flowing in the plate circuit whether signals are being received or not. If this current passes through the 'phones so as to oppose their magnetic field, the permanent magnets will tend to weaken, and so eventually lower the sensitivity of the receivers. This is avoided by the use of a transformer as the constant current is not transferred to the secondary circuit, and the transformer itself has no permanent field to weaken.

With reasonably well designed transformers there is no loss in signal strength, while, if the 'phones have not suited the tube with which they have been used, there will possibly be a distinct increase.

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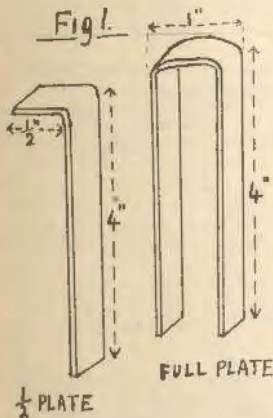
ACCUMULATOR "B" BATTERY.

(By E. J. B.)

The amateur who contemplates using a valve set, or who has one, is faced with the problem of a "B" battery, and usually finishes up by buying a dozen torch cells, which costs 15/-, and furnish 48 volts.

Now I have made up a "B" battery, which, in my opinion, is far

From the plumber obtain a sheet of 2-lb. lead, 12 inches by 9 inches, and cut into strips $\frac{3}{4}$ -inch wide by 9 inches long. Bend them as in fig. 1. Twenty-four of these strips are required. When completed, cut one of the strips in halves to form the first and last electrode of the cells.



superior to the dry cell type, because it is cheaply made, furnishes strong current, will last for years, and looks neat. If the following directions are followed failure is impossible:—

Suppose you want a 48 volt "B" battery, then procure from your local chemist:

- (1) Two dozen $\frac{3}{4}$ -inch or 1-inch test tubes at 3/- a doz.
- (2) $\frac{1}{6}$ worth of chemically pure sulphuric acid.

Obtain from some battery service station, some discarded celluloid plate separators, or strips of hardwood, or rubber 4 inches long by $\frac{9}{16}$ -inch wide, by $\frac{3}{32}$ -inch or $\frac{1}{8}$ -inch thick, 24 such pieces being required. (If hardwood, immerse in melted paraffin, remove and stand up to drain).

Arrange the tubes in a rack or box, and stand the U-shaped pieces of lead with one leg in the adjoining cell, and so on throughout. Then put a half strip in the first

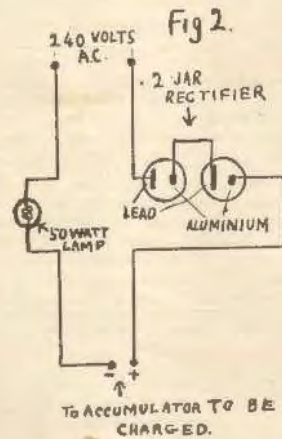
cell, and one in the last. Insert the separators between the plates and the cell is ready for the electrolyte, which is mixed as follows: 4 parts of water to one of chemically pure sulphuric acid. (When mixing the electrolyte add the acid to the water in small quantities, never vice versa, as this cost me 12/6 for a new jug).

Now fill each of the tubes with $\frac{1}{2}$ inch of the top, and the "B" battery is ready for charging.

The charging takes 25 minutes when using a two-jar rectifier, and one lamp in series on 240 volts A.C. With D.C. use a lamp in series.

An electrolytic rectifier may be made as follows:—Procure two 1 pint Leclanche jars, two strips of lead 6 inches by 2 inches by $\frac{1}{16}$ -inch, and two strips of aluminium 6 inches by $\frac{3}{4}$ inch by $\frac{1}{8}$ inch. Place a lead and an aluminium electrode in each jar, and connect a lead of one jar to the aluminium of the other, as in fig. 2. Add about $\frac{1}{3}$ rd of a breakfast cup of carbonate of soda, and fill with tank water. Stir solution, and allow it to settle. The rectifier is then ready for use.

These cells have been in use in my station for about nine months and are as good as the day I made them.



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ON AERIALS.

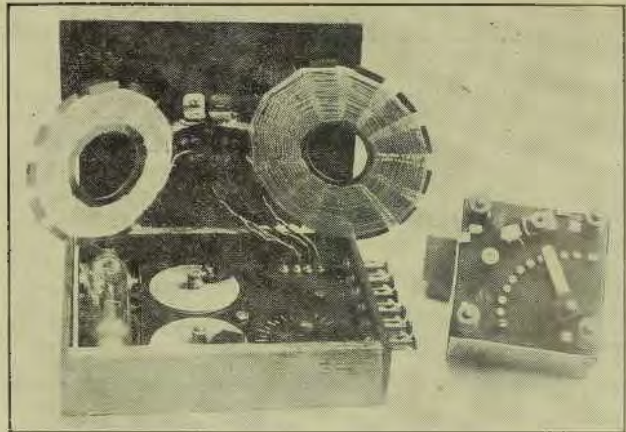
FOR BIG STATIONS.

In the technical report of the Wireless Telegraphy Commission of Great Britain, with regard to the Imperial wireless system connecting Great Britain with the British colonies, there is an interesting section on transmitting aerials.

The choice of an aerial for a new type of transmitter, states this section, lies between low aerials of great area and high aerials of smaller area. In the case of vacuum tube oscillators, where a plant large enough for the task is being made with difficulty, the high aerial of relatively small area is preferable. The preference is independently supported by a deeper study of the better wavemaking properties of high as compared with low aerials. From the nature of the vacuum tube oscillator, it can be shown that a symmetrical aerial is more suitable than an un-symmetrical one, whether a low or a high aerial is concerned.

The masts or towers used for supporting the aerial constitute the most costly item of a wireless station, and unless properly designed they affect and cause great loss of oscillatory energy generated. The ideal mast would be built of insulating material; wooden structures

At the Exhibition.



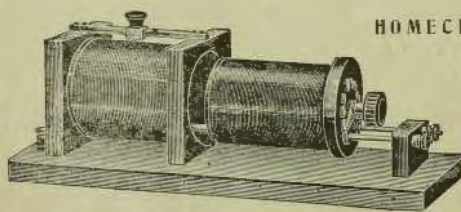
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are an approximation to the ideal, but are unsuitable for the tropics. Steel structures are conductors, and cause considerable electrical loss.

A great deal of this loss can be avoided by making the mast or tower in sections with insulating portions and standing the mast on an insulating base. There are some mechanical difficulties in this

mode of construction, but they do not greatly affect the capital cost, and may be regarded as subsidiary detail. The above remarks apply alike to self-supporting towers and to masts supported by guys, the guys also being segmented by insulators in the latter case. The cost of masts is much less than of towers.

WIRELESS EXPERIMENTERS: NOTE THESE!



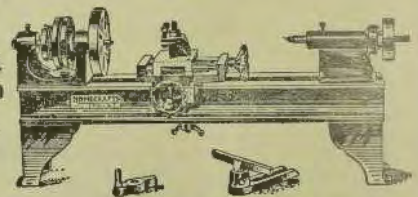
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September 29th, 1922

WIRELESS WEEKLY

7

Our
Radio
Yarn

BUDDIN'S RUSE.

By
Q.R.M.

James Tressillian, plantation manager for the Southern Copra Company, entered the living room of the little bungalow, with a deep frown furrowing his forehead.

It was nightfall, and through the open windows came the voices of the native labourers, who were at their evening meal in the barracks. The sounds were not those usually heard about this time. Tonight, there seemed to be some excitement in the voices, and there was an absence of laughter.

The door of the bungalow opened to admit Tom Buddin, Tressillian's assistant. The new arrival threw his hat on a chair, and shook his head.

"Jim," he said, "I don't know what to make of it. The 'boys' are plainly stirred up, and they seem ready for mischief. It is my opinion that there are a few agitators among those of the new drafts."

Tressillian's frown deepened. He realised the awkwardness of the situation. The two were the only white men on the island of Malu, which was the biggest of the Southern company's plantations. There were several hundred natives employed on the island, and for several days they had shown signs of discontent and agitation. But a more ominous sign was the appearance of weapons among the savages. Buddin, while in an out-of-the-way portion of the plantation, that day, had come across a partly concealed bundle of spears, and Tressillian had caught a fleeting glimpse of a man with an old-fashioned gun.

"Oh, well," said the manager; "we can only await developments. I have put out our rifles and ammunition, and warned the three house 'boys.' They, of course, are absolutely loyal, and can be trusted. If the worst comes, we can put up a very good defence

here, and perhaps hang out till we get assistance."

Buddin nodded. "By the way, have you told headquarters by wireless yet?"

"No," replied Tressillian. "I don't want to get them alarmed till we are pretty certain of attack. I'll muster the 'boys' tomorrow, and see if we can't clear the whole business up. Meanwhile, we will eat."

The speaker clapped his hands, and a house "boy" entered the room. "Kaikal one time," said Tressillian, using the pidgin English of the islands.

The meal was a silent one, and after a couple of pipes on the cool verandah, the men turned into their beds, their rifles near at hand.

A few hours later Tressillian was awakened by a slight sound on the verandah. Grabbing his rifle, he sprang to the window in time to see a black form climbing over the low railing. At the white man's challenge, the intruder streaked across the clearing round the bungalow to the shelter of the trees, and soon after a spear struck the window sill, and fell clattering to the floor.

It was the work of a few minutes to put the bungalow in a state of defence, and soon Tressillian was at his wireless set, tapping out a call for help to the station at headquarters. The call was answered, but the white men knew it would be about 48 hours before a ship could reach Malu.

During the next hour or so, all was quiet, and the defenders knew that the labourers were preparing to rush the bungalow. The suspense was nerve racking.

"Jim," said Buddin, suddenly; "I have an idea, and I want you to let me try it. The beggars seem determined, and whichever way it goes there will be blood-

shed, and we may possibly prevent it."

Buddin expounded his scheme, and Tressillian gave his consent.

After ten minutes at the wireless, Buddin took off the receivers with a smile, and busied himself with a coil of wire and a piece of apparatus. With a warning from Tressillian to be careful, he let himself out of the house and ran swiftly across the clearing, dragging the wire after him.

A couple of spears flicked past the running form, but Buddin was lucky. He got to within 20 yards of the trees on the other side of the clearing, deposited something in the long grass, and was soon back in the bungalow.

In the brilliant moonlight, the natives could be seen moving about among the trees, and it was evident that an attack was about to be made.

"They're coming," said Tressillian, who was watching from a window, and Buddin at the Radio set, gave a couple of taps on the sending key. He listened in, and a smile came over his face.

Then loud and clear from somewhere in the long grass near the trees came the sound of a voice.

The advancing natives stopped and listened to the mysterious being predicting the evil that was in store for them if they attacked the white men. They hesitated, fear overcame them, and they were soon in full flight for their quarters.

Two days later the relief steamer arrived, and about a dozen detected black agitators were put aboard.

"But how did you keep them off," asked the captain of Tressillian.

The latter laughed. "Oh, Buddin rigged up the loud speaker in the clearing, connected it to our receiver, and we got the operator at headquarters to give 'em a little speech by radiophone."

SAINT ASSISE.

France's Latest.

36,000 Words an Hour.

Direct wireless communication between France and New York was established from the great wireless station at Saint-Assise. The first message dispatched was from M. Millerand, the President of the French Republic, who sent cordial greetings to Mr. Harding, the President of the United States.

A few minutes after the message had been despatched, New York announced that it had been received at the rate of 80 words a minute.

The new wireless station at Saint-Assise is the most powerful in the world, and it is claimed that the system used is several years in advance of that of America or Germany. The station is situated near Melun, not far from

the Forest of Fontainebleau, and has been named "Radio-France." The wires are supported on seven pylons 820ft. high.

The Saint-Assise installation is 50 per cent. more powerful than that of Bordeaux, hitherto the biggest in the world. Three new sets of apparatus are shortly to be erected at the Saint-Assise station, which will then be four times more powerful than the Bordeaux station, and 35 times more powerful than the Eiffel Tower station.

From Saint-Assise five or six messages to other parts of Europe and to other continents can be despatched simultaneously, at an average rate of 100 words per minute per message. Thus it is computed that Saint-Assise can send 36,000 words an hour, or nearly 1,000,000 words a day.

M. Branly, a modest electrician still living in France, deserves a great place in the list of wireless pioneers, for by his invention of the coherer he undoubtedly made possible the early wireless work.

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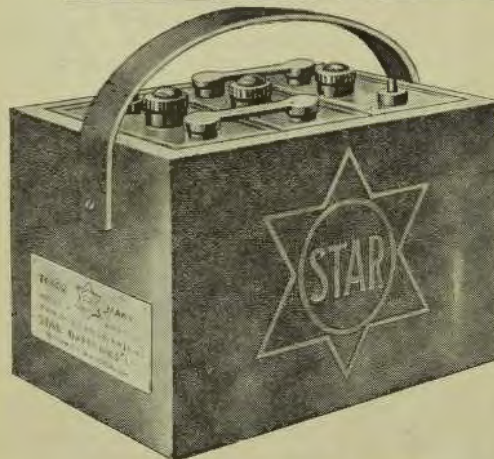
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September 29th, 1922

WIRELESS WEEKLY

9

WIRELESS INSTITUTE'S WORK.

At the recent general meeting of the Wireless Institute of Australia (N.S.W. Division) the following report by Mr. Phf. Renshaw was read:—

In the absence of Mr. E. T. Flak, our popular president, who is away in Great Britain on business for his firm, I have endeavoured, in my capacity as honorary secretary, to draw up a short report upon the activities of the N.S.W. Division of the Wireless Institute during the past 17 months, which period has elapsed since the last Annual General Meeting and Election of Officers.

It must be mentioned that in April, 1921 the Institute was faced with a very difficult proposition in the selection of gentlemen capable and willing to undertake the onerous duties which the holding of office involves, as the membership then was only on third of what it is at present, and, at the time, fully 33 per cent. of the members were country members. As a result of this position, several of the gentlemen elected to hold office happened to be members of the staff of Amalgamated Wireless, Ltd. This fact later on gave colour to a rumor that the affairs of the Institute were controlled by that firm for its own interests. On every occasion that I came in contact with the expression of that opinion, and they were many, I gave it an unqualified denial, pointing out the facts as mentioned above.

As to how Amalgamated Wireless, Ltd. could be considered to control the affairs of an Institute such as this, which includes among its members representatives of at least three other commercial wireless organisations apart from many members of the staff of the Postmaster General's Dept. has always passed my comprehension.

The policy adopted by the N.S.W. Division over the last period, has been inspired by the desire to increase the membership as much as possible, in fact, it was genuinely hoped that the Institute

would have been made sufficiently attractive to have induced all experimenters, young and old, to join up, and at the same time attract those who were interested in the science commercially, and also those in the service of the Commonwealth Govt. These activities, it was expected, would have been State wide, and consequently elaborate arrangements were in hand for the formation of Suburban and Country sections of the Institute, with suitable means of conducting their own local affairs, assisted by the Central Body of the Institute, which would then have become the Metropolitan section.

It so happened that, quickly though the Institute acted, events beyond our control resulted in the formation of a number of radio clubs, principally in Sydney and suburbs, there being only one country club formed to date, and that is at Goulburn. All these clubs are acting quite independently of each other.

I place the matter before the Institute, with the result that we conceived the idea of holding a mass meeting of all interested in Wireless, to be under the combined auspices of all the existing clubs, with the object of making the public aware of the existence and objects of the clubs, and also in the hope that some solution of the disconnected situation might be forthcoming.

Accordingly, all the clubs were invited to send representatives to confer with members of the Institute's Council, to decide whether this should be done. As you are all aware, it was decided that the meeting was unnecessary, and the delegates unofficially resolved themselves into a committee to consider the co-ordination of the activities of the several clubs under the general control of a central body. This unofficial Committee was later confirmed by all the clubs, with the exception of the Military Radio Association, and the deliberations are still in progress. The following is the in-

ference I have drawn from this desire for co-ordination:—

That it is analogous of the position which the Institute proposed to create by dividing the N.S.W. Division into a series of Sections, Country, Suburban and Metropolitan, and that the Metropolitan Section would really act as a central body comprising the best wireless and commercial brains in Sydney, with delegates from all suburban and country sections; and that its meetings would be always open to members of all sections.

In my opinion, it is not yet too late for all the clubs to seriously consider this aspect of the case, which would immediately co-ordinate all interests, and afford the clubs the advantages of the registration already effected by the Institute.

I feel assured a basis of arrangement, satisfactory to all, could be arrived at, and, should such a scheme eventuate, it would possibly be advisable to alter the Institute's title to that of "Wireless Society of Australia."

Mr. Renshaw mentions the circumstances surrounding the temporary abandonment of the club-room, and states that this matter remains to be dealt with by the new Council. He adds:—

One of their first actions, to my mind, should be the raising of the annual subscription to at least double the present amount, with the imposition of an equitable entrance fee.

He concludes by thanking those who have worked for the Institute during the period under review.

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MUSIC IN THE AIR

SUNDAY NIGHT'S CONCERT.

MR. MACLURCAN'S CONCERT.

For next Sunday, October 1st, the following Pathe records will be played for Mr. Maclurcan's concert, starting at 7.30 p.m.:—

- Fox-Trot: "I Want my Mammy."
- Hawaiian Guitar: "My Isle of Golden Dreams."
- Soprano: "Good Bye" (Tosti).
- Yvonne Gall.
- Piano Solo: "Study, Op. 10, No. 7" (Chopin).
- Operatic: "Pilgrim's Chorus"—Tannhauser.
- Code: CW and Buzzer.
- Flute Solo: "Offertoire, Op. 12" (Doufon)
- Xylophone: "Snowdrops."
- Hawaiian Guitar: "My Land of Memory."
- Baritone: "Toreador's Song"—Carmen.
- Waltz: "Mississippi Cradle Waltz."
- Recitation: Selected.

IN CASE OF WRECK

Radio for Lifeboats,

To instal radio telephone apparatus for sending and receiving on a lifeboat presents some difficult problems. Everything must be reduced to the minimum size, and no loose wires are allowed about, as these would interfere with the proper handling of the boat.

A test was recently made in the United States with a motor driven lifeboat equipped with a heavy metal keel. The complete set was installed well forward in the boat, and one wire was run forward and connected to the metal keel. Two other wires, heavily insulated, were run aft along the guards and connected to the keel. This formed a particular kind of coil antenna, of which the keel formed a part. There was thus

nothing to hinder the navigation of the boat.

The transmitting part of the set consisted of a five-watt radio telephone transmitting set using a wave length of about 380 metres, and a similar transmitting set on the shore station used a wave length of 675 metres. Three stages of radio frequency and two stages of audio frequency amplification, all in a compact case, were used. When the boat was six miles from the shore, perfect communication was established, the speech being particularly distinct, but, of course, messages could be transmitted to a much greater distance.

Keep your high-tension batteries well ventilated or they will begin to "sweat," and, consequently deteriorate.

NEW REGULATIONS.

The Victorian Division of the Wireless Institute is giving a dinner on October 3rd. Mr. Malone, The Controller of Wireless, has accepted an invitation to be present, and has signified his intention of announcing the new Radio Regulations.

KEEP YOUR HAIR.

A spectator at a demonstration of an English Radio Society, recently, asked members if wireless work tended to promote the growth of the hair. He was evidently impressed by the fine "crops" on the heads of those present.

It seems quite possible that the electricity is responsible for promoting the growth, and it seems difficult to call to mind a bald operator.

RADIO SETS
and Parts to make them.

Send for Price Lists.

ELECTRICAL UTILITIES SUPPLY COY.

605 GEORGE STREET, SYDNEY.



Remler, Mullard, Stromberg-Carlson Radio Apparatus Supplies

Arriving Shortly.

Head Phones all Sold. Book your Order for next supply.

See our Complete Crystal Set, with Head Phones, Aerial, Insulators, etc., in Portable and Presentable Box: £7 10s.

Valve Sets Made-up. Trade Supplied.

BURGIN ELECTRIC COMPANY

352 KENT STREET, SYDNEY.

September 29th, 1922

WIRELESS WEEKLY

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METROPOLITAN CLUB.

There was a well attended meeting of the Metropolitan Radio Club at the Laurel Cafe, Royal Arcade, on Wednesday last. Mr. O. F. Mingay, one of the delegates to the last inter-club conference, reported the progress towards forming the Association of Radio Bodies in New South Wales, which report was adopted by members. The Club's delegates were authorised to proceed with the formation of the Association.

An interesting talk on interference was given by Mr. Mingay, and Mr. Marsden contributed a lecture on Radio Frequency Transformers.

BOX HILL (VICTORIA) CLUB.

The second meeting of the Box Hill District Radio Club was held at the club room, generously lent by Mr. Beattie, at his home. Mr. Howden was elected president. After a discussion on the receiving licences, the meeting adjourned for buzzer practice.

CONCORD RADIO CLUB.

The annual meeting of this Club was held at the Club Room on Saturday night, September 16th. The principal business was the election of officers for the year. There was a good roll up of members. Mr. G. B. Deer was unanimously elected president, Mr. K. Taylor, vice-president and Mr. A. Smith, secretary-treasurer.

It was also decided that the Club meet on Saturday nights, from 7 p.m. to 10 p.m.

WAVERLEY CLUB DANCE.

The dance held by the Waverley Amateur Radio Club in the Athenaeum Hall, Coogee, on Friday, 22nd September, was a success in every way. One hundred and fifty people danced to music transmitted from a distant part of Randwick.

The music came in extraordinarily loudly; many complained, indeed, that it was too loud. It was danced to for nearly an hour, and came in with the same power all the time. The instruments were kindly lent and operated by Mr. Allsop, of the Wireless Electric Co., of Coogee. Mr. Allsop used three Cunningham valves, with an amplifier, the music being magnified by a Magnavox.

Valuable assistance was also given the function by Mr. Perry, of the Amalgamated Wireless, Ltd. Altogether, it was a great success, and augurs well for the future affairs which the Club intends to hold. The organisers were Messrs. Lawrence, Rubie and Harvey, and it was chiefly their efforts which made the dance a success.

WESTERN SUBURBS

At the last meeting of the Western Suburbs Wireless Association, Mr. G. R. Challenger lectured on the construction and design of audio frequency transformers, which he dealt with very clearly, touching the interest of the members.

Tickets are now on sale for Western Suburbs Annual Social and Dance, to be held on October 28th. Tickets, 1/-.

INSTITUTE COUNCIL

The following were elected to the Council of the Wireless Institute of Australia (N.S.W. Division), at the annual general meeting:—

Messrs. P. Henshaw, C. D. MacLurcan, C. P. Bartholomew, H. A. Stawe, H. R. Gregory, R. D. Charlsworth, N. S. C. Perry.

CRYSTALS:
Large Stocks on hand.
Silicon, Galena, Carborundum, Iron Pyrites, Molybdenite, Murdoch's Phones.
3000 O.H.M.'s. A few left.

O'Sullivan's Electric Shop
296 Pitt St., Opp. W. & S. Board.

STATION CALLS.

SHIPS STATIONS. GREAT BRITAIN

Eurypylus YRJ, Euterpe BFG, Everest GDSL, Everilda ZVC, Everton GFNZ, Evesham GDQS, Exeter City BQW, Exmouth EOU, Exmouth H. GYF, Explorer MVV, Fabian GBWS, Paternian EMK, Falls City ZNR, Fallsmead GCLK, Fanad Head YXF, Fantees YCC, Faraday GTP, Farnworth ZXI, F. A. Tamplin ZLX, Fan Sang GFKX, Felixstowe BER, Fenchurch ENX, Fenella GFBZ, Fernandina OEG, Ferngarth YKR, Fernhill GDJV, Fieldmarshal ZWQ, Figing ZLV, Fife GDRL, Finchley YIX, Flonashell YKO, Firpark GDNM, Fishpool ZWL, Flamborough GDZN, Flaminian YLY, Flamma OFR, Flandrier MSX, Flixton ELU, Flowergate GBRW, Flying Breeze EPD, Ford Castle GDYC, Forst GBYC, Fort Hamilton GCJQ, Fort Victoria GCTN, Fotinia ZVS, Foyle ZUR, Francis MDG, Framlington Court ERV, Francisco GCSW, Frances Duncan ZWG, Frankburn YDX, Frankby BEA, Frankdale GBPK, Frankenfels BRI, Frankfurt GBJF.

Frankier, YHF; Franklinver, BOP; Frankmere, ZAD; Frank Parish, MUL; Franktor, YGD; Franziska, GBLD; Franz Wilke, GBRM; Fraser River, ZEG; Fred Cloves, GFJC; Freienfels, ZPJ; Freshwater, ETS; Freida Fahrenheit, GDLS; Friedrichsruhe, GBKM; Friesland, GDKP; Frinton, BFV; Fullerton, BKZ; Fulmar, GBNW; Fultaia, GDC; Furst Bulow, GBCX.

Gaboon, ZMK; Gaelicstar, ZXO; Gaelic Prince, XIW; Kaika, MQU; Gairsoppa, GCZB; Galileo, GHI; Gallie, MVO; Gallipoli, GBFS; Galtee More, GUU; Galtymore, GBNV; Gamaria, GCZF; Gambada, ZNF; Gambhira, GCQY; Gambia, ESH; Gambia River, ZEH; Gandara, GCMR; Ganges, GWJ; Garada, GCMS; Garbeta, GCYX; Gardenia, BFO; Garmula, GCZJ; Garryvale, ELH; Garth Castle, MQP; Gascon, MQV; Gasconier, OEU; Gaslight, GDSZ; Gayana, GCYZ; Geddington Court, EUN; Genesee, MIT; General Allenby, ZZB; General Church, BOL; General Milne, GDLC; Gen-

? ? ?

What do you want to know?

Every reasonable specific query in the field of general wireless addressed to the Information Department will receive a prompt reply.

Address the Information Editor, "Wireless Weekly," Box 378, G.P.O., Sydney.

R.H. (Nth. Ryde), asks:—

(1) I have directions for making a loose coupler as follows:—Primary: 250 turns of No. 28 d.c.c. copper wire, wound on an ebonite tube 6-in. dia. x 7in. long. Secondary: 350 turns of No. 36 d.c.c. wound on a former 4in. diameter x 8in. in length, the wire being given in the number of turns. I would like to know about what quantity of wire I would require? (2) What wave-length would I be able to receive with a single wire aerial 100ft. long in conjunction with the aforesaid coupler. (3) Would the aerial be better if it was longer.

Answer: (1) About 1/4lb. (?) of each. Advise to use the dimensions and wire as given in No. 4 of the "Wireless Weekly." (2) Height and length in an aerial are an advantage with a crystal reception. (3) Wave-length would go to about 2,000 metres.

eral Napier, GBMR; George Ward, GDYJ; Gera, GBLN; Gerano, GDJK; Gerent, XEQ; Germanicus, GBCV; Gertrud, GBDV; Gharinda, GCDP; Gibel Zedid, BRS; Gileston, XIJ; Gitano, GFQC; Gladiator, YER; Glamorganshire, BHI; Glanbrydan, GFBT; Glasgow, EJQ; Glassford, GDCF; Glaucus, GDYZ; Glenade, GBQC; Glenafric, BDC; Glenamoy, ZLP; Glenapp, GDXT; Glenariffe, GCLM; Glenavy, ZLB; Glenbridge GWX; Glendevon, YRT; Glendu, MXJ; Glendun, GFPT; Glencarn, GBTS; Gleneden, ENR; Glenelg, ZIK; Glenetive, MEZ; Glenfinlas, BFX; Glengorm Castle, MQS; Glen Gower, GFNT; Glengyle, ZKW; Glen Head, ODA; Glenlifer, MUE; Glenluce, GCWK; Glenluss, GBMN; Glenlyon, - ZOX; Glenmorag, YEP; Glennevis, ZVC; Glenogle, GDQW; Glenomera, GDCN; Glenorchy, YNU; Glenpark, XEB; Glensanda, ENV; Glenshane, XIO; Glenshiel, YZC; Glensloy, YDF; Glenspean, ZAB; Glenspey, ZHP; Glenstrai, EQR.

Glentara, GCWQ; Glentworth, GDWN; Glen Usk, GFNS; Gllat, XFP; Glltra, XFW; Globe, ZEV; Glofield, YCX; Gloxinia, GDWB; Gloria de Larrinaga, ELA; Gly-nymel, BLE; Gloucester Castle, MQZ; Goalpara, GCBW; Glouce-

SALE & EXCHANGE

Three Lines (approximately 15 Words), may be inserted in this Column for 9d.

Extra Lines or part thereof, at 6d. per line.

FOR SALE.—Complete set, £1; also 1 pair 'phones, 10/; L. coupler, 7/6; detector and condenser, 5/; 35ft. aerial tower, 21. A. Pickering, Wigram St., Harris Park.

FOR SALE.—700 Metre Coupler, prim 10 tapings, sec. 11; price £1. E. Baker, 63 Estell St., Maryville, Newcastle.

WANTED TO BUY.—One pair of wireless 'phones, N. S. Panten, Hoddsworth Av., Greenwich.

WANTED.—Valve, 2,000 ohm., head-set, 6-volt accum., "D" battery, R. G. Ellis, 40 Park Rd., Marrickville.

FOR SALE.—A cabinet receiving set; cheap, new condition. E. Harris, 186 James St., Leichhardt.

tershire, MYG; Gogra, GCLB; Goleonda, GCKP; Gondia, GCMN; Goodwin, GFLX; Goorkha, MQW; Gorala, GCLD; Gordon Castle, ZNN; Gothic, BJV; Gothic Prince, XIU; Gothicstar, YVR; Gourko, ODX; Governor, ENE; Gracchus, GDF; Grace Dollar, ZOY; Gracefield, OCY; Gracia, GFDR; Graciana, ZFD; Graf Walderssee, GBZM; Graig, ENG; Graiton, YPN; Grampian, MRN; Grangemouth, GBNP; Grangepark, GCNW; Grantley, OEC; Grantully Castle, MQQ; Graphie, LSJ; Gray, YBL; Graziella, ELY; Great City, MKW; Great Southern, YZV; Great Western, YZW; Grecian Prince, YRN; Greenore, GUS; Greenwich, BFB; Gregory, YLG; Grelarlie, YFS; Greibank, BQP; Greiben, YFR; Greicaddy, ZUW; Grelidon, BQK; Grelidon, BCB; Greifryda, LSV; Greilgrant, YXZ; Greilhead, ZCX; Grelisle, OER; Grelrosa, XHL; Grelstone, EPP; Grelwen, ZZI; Greyhound, GFPZ; Greylight, GDPL; Grey-stoke Castle, ZYM; Grainatg, MOQ; Grindon Hall, YAY; Griqua, ZPT; Grodno, GBVY; Guatemala, MWM; Guide, GDNV; Guilford Castle, MPZ; Gujarat, GBO; Gulf of Suez, XEF; Gundomar, GBFL; Gundreda, GCKM; Gurna, GCZD; Gwladys, EQK; Gwynmead, BJW; Gymeric, EPZ; Gyp, BFS.

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