The Hundred per cent. Australian Radio Journal.

THE WIRELESS WEEKLY

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

Vol. 1—No. 6 SYDNEY, SEPTEMBER 8th, 1922. Price Threepence

BEAUTY LISTENS TO A WONDER CONCERT

A TALK WITH "WIRELESS WEEKLY."

We publish elsewhere in this issue the outline of an ambitious experiment, namely, the reception of signals sent out by Californian [illegible], by Australian experimenters of the Victorian Division of the Wireless Institute of Australia who originated the scheme, and are carrying it out, to be congratulated.

Through official restrictions, amateurs in this country have been mainly listeners, and have had no experimenting, principally with circuits and apparatus for the reception of commercial stations. Of course, there are one or two exceptions, Mr. Maclurcan, for instance. This sort of thing, of course, has its value, but much better could be done. The Victorians have shown the way, and it is up to everybody to follow and support them.

Mr. J. S. Love, chairman of the board of control, pointed to [illegible] that he has received the assistance of the support of the South Australian Division of the Institute, but, at the time of writing had had no reply from New South Wales. Assuming that no reply has been sent from Sydney, we venture to say that the question of co-operating with the Victorians should be seriously gone into, and every effort to assist them should be made. It is a big proposition, and there will be plenty of work to be done.

There is no doubt that American amateurs look upon their Australian brothers in a patronising sort of way, as far as work is concerned, and, as they have heard of the restrictions here, nobody can blame them. But we have the brains in Australia, and men capable of turning out and handling the necessary apparatus, so the chance to show what we can do should be made the most of. There should be no insane interstate jealousy in the matter. It is up to all radio organisations throughout Australia to work with the originators, for the reputation of experimenters is at stake.

IN CANADA.

Wireless is booming in Canada. Hundreds of receiving sets are in use in such places as Montreal, Toronto and Winnipeg, by amateurs, business concerns, specially in the lumber operations, have been working over wide stretches of forest, using the wireless telephone with excellent results.

In the reporting of forest fires the radiophone has proved invaluable, and lumber companies are installing powerful apparatus connecting their offices with portable sets placed in the woods.

The steamship Leviathan, when she starts again in the transatlantic service next year, says a London contemporary, will have a complete plans for the reconstruction wireless telephone in every stateroom. The refitting of the huge liner call for the finest wireless equipment ever put on a passenger vessel.

TRANS-PACIFIC TESTS.

TO BE CARRIED OUT.

VICTORIANS MAKE A MOVE.

It has remained for the Victorian Division of the Wireless Institute of Australia to make one of the biggest forward steps taken in Radio since the science came to this country.

The members intend, with the co-operation of Californian amateurs, to make trans-Pacific tests.

The details are contained in a letter to "Wireless Weekly" from Mr. H. K. Love, Chairman of the Committee appointed to supervise the tests. He says:—

"About six months ago I got into touch with the Californian Radio Clubs re testing the possibility of receiving their 1 K.W. C.W. stations here in Australia. This I consider would be an experiment of value to our institute, and to the Radio science in general.

"This proposal was taken up by the reorganized Victorian Division, and I was appointed at the head of a special committee, known as the Trans-Pacific Test Committee.

"This committee has been re-divided into sub-committees, one of management and one technical, to advise all who will assist in this experiment.

"I have received a very favorable reply from America, and the thing is well in hand now. I have received the assurance of help and co-operation from the South Australian Division, but so far have not received a reply from New South Wales.

"We hope if everything goes well to begin the test in December of this year, and extend them for six months.

Mr. Maclurcan could help by sending out celebration waves on 250-300 metres. I am writing to him in regard to this matter.

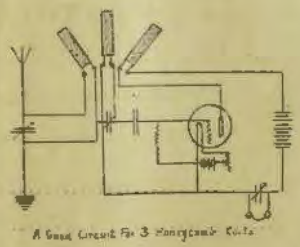
"The American people will send on a power limit of 1 K.W. C.W., wave length of 250-300 metres

"I think most of us know the American waves get here—who will be the first to find them?"

NOVEL FRAME AERIAL.

A rather novel suggestion for the frame aerial given by the wireless contributor of the Pall Mall Gazette is to insert four pegs in each of the corners of a door and wind the wire round these. As the door can be swung through an arc of about 180 deg., this permits the adjustment of the aerials to the most suitable position.

Directional wireless is perhaps the most immediate aim of experimenters. Already some small advance has been made in this direction, and one New York inventor actually claims to have succeeded in limiting transmission to one selected receiving station.



A Good Circuit For 3 Honeycomb Coils

Don't meddle with the electric light mains when erecting your receiver. You will only blow a fuse, and perhaps treat yourself to an unpleasant shock.

IN ADELAIDE.

An Adelaide newspaper, referring to the reception of Melbourne music by an amateur in the South Australian city, said recently:—

"For some time local amateurs have been picking up these entertainments, and it is felt that if arrangements could be made for a broadcasting station to be installed in Adelaide it would lead to the greatest public interest being taken in the marvels of wireless telephony and telegraphy.

At present the South Australian branch of the Wireless Institute of Australia numbers about 75 members, all enthusiastic in their experiments. The somewhat stringent regulations under which they hold their licences from the Federal Government to work receiving sets could probably be modified by the authorities if sufficient public support were given to the movement.

The licence fee per annum is £2, and holders are prohibited from transmitting messages; but the amateurs consider if they were restricted to a certain wave-length there would be no interference with commercial stations."

Leave your receiver alone when there is thunder about. A ground switch in your aerial circuit is well worth while. It may save your set from utter destruction.

MR. MACLURCAN'S PUZZLE.

WHO CAN SOLVE IT?

PRIZE OF ONE V24 VALVE FOR BEST ANSWER.

Mr. Charles Maclurcan has offered a prize of one V24 valve for the best answer to the following conundrum given out during the course of last Sunday night's concert :—

PUZZLE.

A rope is passed over a pulley. It has a weight at one end and a monkey at the other. There is the same length of rope on either side and equilibrium is maintained. The rope weighs four ounces per foot. The age of the monkey and the age of the monkey's mother together total four years. The weight of the monkey is as many pounds as the monkey's mother is years old. The monkey's mother was twice as old as the monkey was when the monkey's mother was half as old as the monkey will be when the monkey is three times as old as the monkey's mother was when the monkey's mother was three times as old as the monkey. The weight of the rope and the weight at the end was half as much again as the difference in weight between the weight of the weight and the weight of the monkey. Now, what was the length of the rope?

Write your answer clearly in ink on one side of the paper only, and attach to "Wireless Weekly" competition coupon. "Wireless Weekly" holds the right to publish all or any of the answers, but will not publish names if specially requested. Judging will be by Mr. Maclurcan and Editor of "Wireless Weekly," and their decision shall be final on every point.

Send your answer to "Puzzle," "Wireless Weekly," Box 378, G.P.O. The competition will close on September 20th.

BEST SET.

WHOSE IS IT?

A COMPETITION.

"Wireless Weekly" is conducting a competition.

We are looking for the best amateur crystal set, and the best amateur valve set.

There is no entrance fee.

All you have to do to enter a set is to get a good clear photograph of it, and send it, together with a description and details, not exceeding 200 words, and the filled out coupon on this page to the Editor, "Wireless Weekly," Box 378, G.P.O., Sydney. Envelopes should be endorsed "Competition."

The prizes will be an open order to the value of one guinea, on any establishment selling wireless apparatus, for the best crystal set and best valve set.

The competition will close on September 22, when all entries must be in the hands of the editor. All photographs and entries sent in become the property of the "Wireless Weekly."

COMPETITION COUPON.

To the Editor.

Sir herewith:—

*Photograph and description of my set as an entry for your competition,

or

*Answer to Mr. Maclurcan's puzzle.

I agree to be bound by your decision, and observe the rules of the competition.

(Name) .....

.....

(Address) .....

.....

(If under 18 years of age) .....

*Strike out paragraph not required.

A separate coupon must be sent th each competition.

TO SHOW THE PUBLIC.

RADIO EXHIBITION.

DATE FIXED.

The Metropolitan Radio Club has at last secured a home for its public exhibition of Radio apparatus, and the date has been definitely fixed.

It will be held on Friday and Saturday, September 22 and 23, in the Congregational Hall, next to the Criterion Theatre, Pitt Street, Sydney.

Intending competitors and exhibitors are asked to procure entrance forms from the secretary and send in particulars of the exhibits as early as possible.

Mr. Charles Maclurcan has kindly consented to judge the exhibits in the various classes, and he will be assisted in this work by Mr. J. Reed and Mr. Basil Cooke.

The exhibition was arranged with the object of giving the general public an insight into the science, and with this end in view, the committee of the club are arranging many things to interest the visitors.

It is intended to make the commercial exhibits a feature, and all firms wishing to display apparatus will be allotted stalls.

NO BATTERIES.

The latest from America is a circuit for a 5 valve radio set to be used without batteries.

It is for connection to an ordinary electric lamp socket, for its source of energy, and consists of a crystal detector and five-stage amplifier.

It uses 60 cycle current to supply power for the filaments and plates, a balancing resistance, radio frequency transformers, audio frequency transformers, telephone transformer, tungar rectifier, plate voltage rectifier, power transformer, filament rheostats, condensers, etc.

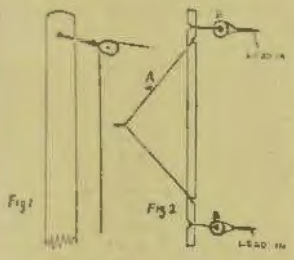
Does it appeal to you as an economical idea?

MAKE YOUR OWN.

MAKING AN AERIAL.

Now are you going to make your aerial and put it up?

For those who are not too sure of the answer to this question, we give these hints. It will be assumed that the reader is starting on a crystal set, and this being so, the higher he can get the aerials and the longer they are, the better will be the results. In valve reception the height is not so important, though length is desirable.



An aerial should not be an expensive part of the amateurs' equipment. The wire, which can be procured at any of the wireless shops advertising in these columns does not cost much. The insulators are only a few pence each, and the spreaders can easily be made at home.

The masts must be left to the discretion of the amateur. Any wood, as long as it is strong enough to support the wire is suitable. If you have a tree near your station it may serve as one mast, provided you keep the branches well clear of the wires, and allow sufficient slack in the aerial to provide for any swaying of the tree by the wind.

The construction of the aerial is simplicity itself. Having arranged a pulley and ropes for raising and lowering the aerial (fig. 1), get two pieces of fairly light hardwood, six feet long, for the spreaders, and notch them (as in fig. 2) for the span ropes and wires to fasten the insulators. The span rope arrangement is shown at "a" in fig. 2; the free end going to the halliard.

The insulators ("b" in fig. 2) are the ordinary reel type, and four will be needed in this aerial. Attach the insulators to both spreaders with wire or light rope (as shown in fig. 2) and pass one end of the aerial wire through one of them, leaving plenty of end to form one side of the lead in.

Take a few turns in the wire to keep it from slipping, and take the coil of wire to the corresponding end of the other spreader and put it through the insulator, again

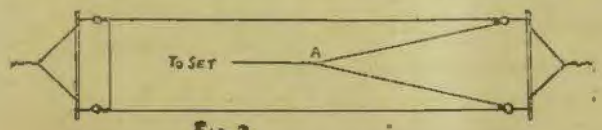


Fig 3.

For a crystal set an aerial at an average height of 30 feet is desirable, and it should be 100 ft. long. The one described in this article has two wires, and is of the type known as the inverted "L".

taking three or four twists.

Carry the end through the other insulator on this spreader, again putting in the twists, and then on to the remaining insulator on the other spreader. The free end, and the end left at the start, are now taken together to form a V shape (as in fig. 3), and soldered together at the point marked "A".

One wire is now cut off below the soldered joint, and the other taken to the aerial terminal of the set.

The completed aerial is shown in fig. 3, and it will be found quite efficient for receiving. It might be mentioned that the lead in should be kept as short as possible, and well insulated where it enters the building.

BATTERIES.

An excessive charge or discharge current is liable to buckle the plates.

Discharge should not be continued below 1.7 volts, as sulphating will occur.

Level of Electrolyte must be kept above plates, by topping with distilled water.

Dilute acid must be added at intervals to make up for acid loss by spraying or gassing. Only pure acid and water should be used. When breaking down acid for cells, do not forget to add acid to water and not water to acid.

Impurities in the electrolyte and overheating cause disintegration of plates. This causes the internal short circuits, and they in their turn cause buckled plates. If plates become buckled, specially prepared wooden sticks, ebonite or glass rods are pushed down between them to stop the short circuits.

Sulphating of a cell increases the internal resistance, and therefore decreases the output. Sulphated plates are easily recognised by their whitish appearance. The plates should be a chocolate colour and the negative grey, when in good condition. If a cell is not to be used for a lengthy period it should be fully charged and then given a short period of charging every week.

Directional Wireless.

Recently, in a lecture on "Short-wave Directional Wireless Telegraphy," Mr. C. S. Franklin described many interesting experiments.

He has proved to complete satisfaction that wave lengths of twenty metres are capable of providing point-to-point directional communication over considerable distances says "Popular Wireless," London. Moreover, these short waves have increased possibilities of secrecy as compared with the usual non-directional method of transmission.

The range of wave lengths at which it is possible to send messages is rapidly becoming fully occupied, and once the range is full, the only way to enable a further increase in the number of possible services will be by employing systems of directional control.

Senator Marconi began experiments in this direction in 1916. He tried waves of only two or three metres' length, but found that, although they were satisfactory in many ways, they were disturbed by waves from motor cars and motor boats.

700 WATTS.

In 1919 further experiments were carried out at Carnarvon with valve transmitters and a fifteen-metre-wave. Speech of a strong and clear nature was obtained at Holyhead, twenty miles distant, and after a little adjustment communication was effected with Kingstown Harbour, a distance of about seventy nautical miles.

The centre of experimental action was then transferred to Hendon, and tests were made over all-land distances from a reflector and with a transmitter of fifteen-metre waves. The reflector was pointed in the direction of Birmingham.

A portable receiving set was then fitted up in a motor car, and messages were sent from Hendon and received in the car. Very good speech was heard up to a distance of 66 miles, and quite fair results in the neighbourhood of Birmingham.

In the autumn of last year a reflector station was erected near Birmingham at a place called Frankly. This is about ninety-seven miles from Hendon, but speech of strong and good quality was received. Reflectors were used at both ends.

The transmitters consisted of two medium-size power valves working in parallel, and the power used was roughly 700 watts.

So good have been the directional effects obtained with reflectors that are large compared with the waves length that suggestions have been made that this method might be of use for ships for finding their positions when they approached dangerous localities.

FOG SIGNALS.

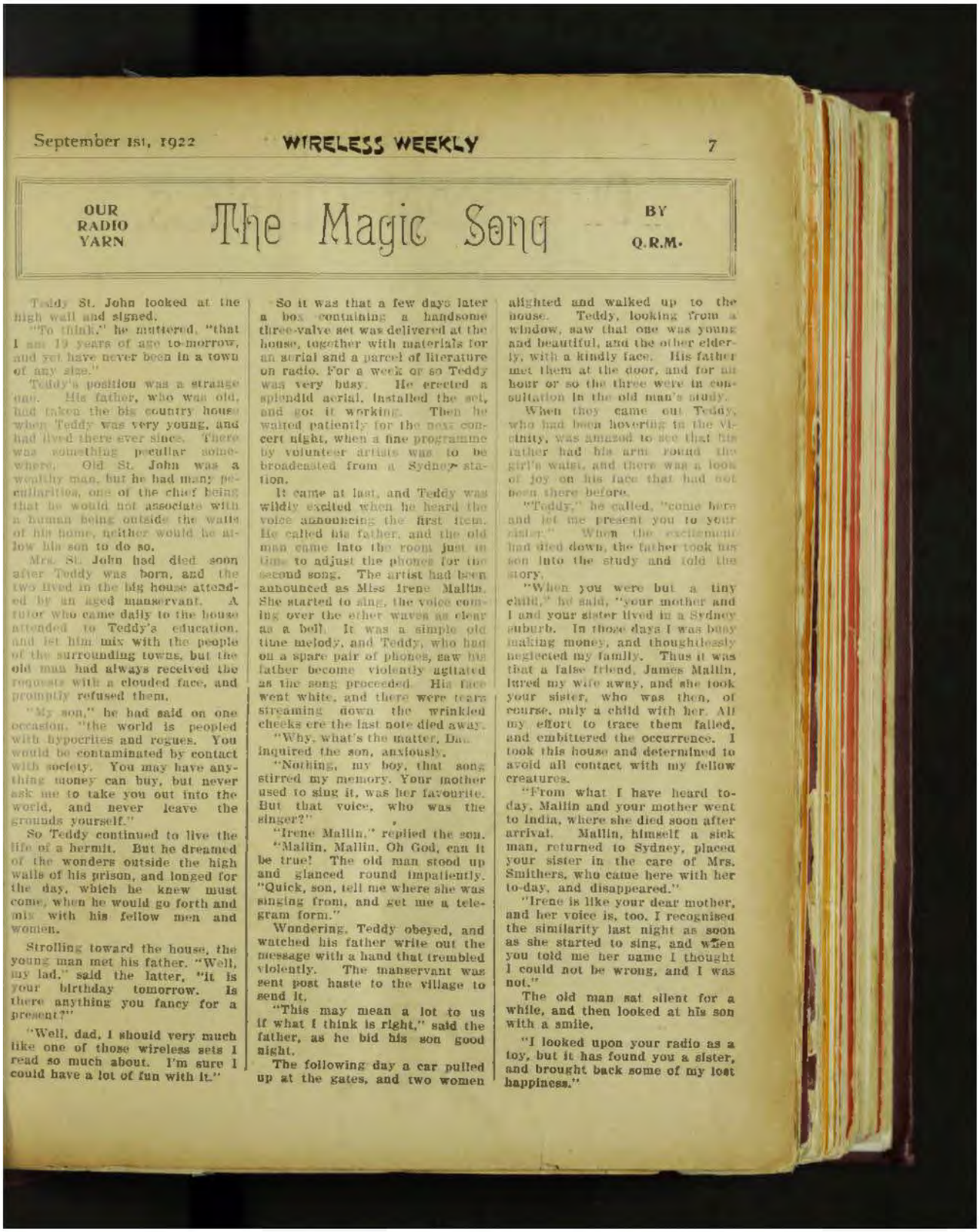
With this object in view trials are being made at Inchkeith Island with a transmitter and revolving reflector. The machine installed forms a kind of wireless lighthouse.

Its range of utility at present is not intended to be great, but the suggestion is that reflectors should be put up in position such as are occupied to-day by fog signals, and that wireless warnings of position should be given to ships when they are within ten miles of the danger-point.

In 1920 tests were made between Inchkeith Island and a light-house tender of the Northern lights Commissioners, the Pharos. A working range of seven nautical miles was obtained, using a four-metre wave, a spark transmitter, a reflector of eight-metre aperture, and a single valve receiver on the tender.

The reflector made a complete revolution once in two minutes, and clear and distinct signals were easily sent to every point of the compass.

From the tender it was found that the bearing of the transmitter could be determined to within one quarter point of the compass or within 2.8 degrees.



OUR RADIO YARN

The Magic Song

BY Q.R.M.

Teddy St. John looked at the high wall and signed.

"To think," he muttered, "that I am 19 years of age to-morrow, and yet have never been in a town of any size."

Teddy's position was a strange one. His father, who was old, had taken the big country house when Teddy was very young, and had lived there ever since. There was something peculiar somewhere. Old St. John was a wealthy man, but he had many peculiarities, one of the chief being that he would not associate with a human being outside the walls of his home, neither would he allow his son to do so.

Mrs. St. John had died soon after Teddy was born, and the two lived in the big house attended by an aged manservant. A tutor who came daily to the house attended to Teddy's education, and let him mix with the people of the surrounding towns, but the old man had always received the requests with a clouded face, and promptly refused them.

"My son," he had said on one occasion, "the world is peopled with hypocrites and rogues. You would be contaminated by contact with society. You may have anything money can buy, but never ask me to take you out into the world, and never leave the grounds yourself."

So Teddy continued to live the life of a hermit. But he dreamed of the wonders outside the high walls of his prison, and longed for the day, which he knew must come, when he would go forth and mix with his fellow men and women.

Strolling toward the house, the young man met his father. "Well, my lad," said the latter, "it is your birthday tomorrow. Is there anything you fancy for a present?"

"Well, dad, I should very much like one of those wireless sets I read so much about. I'm sure I could have a lot of fun with it."

So it was that a few days later a box containing a handsome three-valve set was delivered at the house, together with materials for an aerial and a parcel of literature on radio. For a week or so Teddy was very busy. He erected a splendid aerial, installed the set, and got it working. Then he waited patiently for the next concert night, when a fine programme by volunteer artists was to be broadcasted from a Sydney station.

It came at last, and Teddy was wildly excited when he heard the voice announcing the first item. He called his father, and the old man came into the room just in time to adjust the phones for the second song. The artist had been announced as Miss Irene Mallin. She started to sing, the voice coming over the ether waves as clear as a bell. It was a simple old time melody, and Teddy, who had on a spare pair of phones, saw his father become violently agitated as the song proceeded. His face went white, and there were tears streaming down the wrinkled cheeks ere the last note died away.

"Why, what's the matter, Dad," inquired the son, anxiously.

"Nothing, my boy, that song stirred my memory. Your mother used to sing it, was her favourite. But that voice, who was the singer?"

"Irene Mallin," replied the son.

"Mallin, Mallin, Oh God, can it be true! The old man stood up and glanced round impatiently. "Quick, son, tell me where she was singing from, and get me a telegram form."

Wondering, Teddy obeyed, and watched his father write out the message with a hand that trembled violently. The manservant was sent post haste to the village to send it.

"This may mean a lot to us if what I think is right," said the father, as he bid his son good night.

The following day a car pulled up at the gates, and two women alighted and walked up to the house. Teddy, looking from a window, saw that one was young and beautiful, and the other elderly, with a kindly face. His father met them at the door, and for an hour or so the three were in consultation in the old man's study.

When they came out Teddy, who had been hovering in the vicinity, was amazed to see that his father had his arm round the girl's waist, and there was a look of joy on his face that had not been there before.

"Teddy," he called, "come here and let me present you to your sister." When the excitement had died down, the father took his son into the study and told the story.

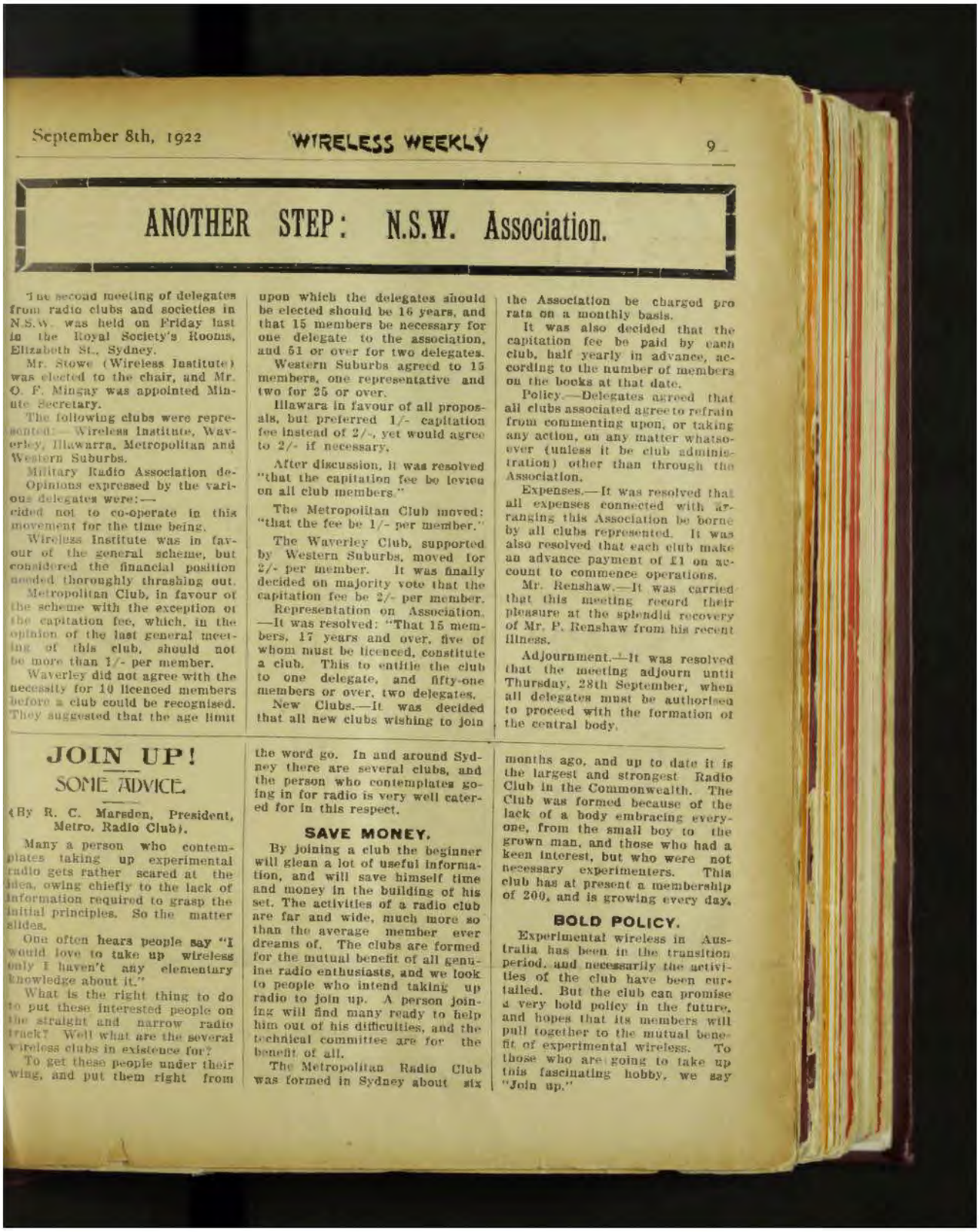
"When you were but a tiny child," he said, "your mother and I and your sister lived in a Sydney suburb. In those days I was busy making money, and thoughtlessly neglected my family. Thus it was that a false friend, James Mallin, lured my wife away, and she took your sister, who was then, of course, only a child with her. All my effort to trace them failed, and embittered the occurrence. I took this house and determined to avoid all contact with my fellow creatures.

"From what I have heard to-day, Mallin and your mother went to India, where she died soon after arrival. Mallin, himself a sick man, returned to Sydney, placed your sister in the care of Mrs. Smithers, who came here with her to-day, and disappeared."

"Irene is like your dear mother, and her voice is, too. I recognised the similarity last night as soon as she started to sing, and when you told me her name I thought I could not be wrong, and I was not."

The old man sat silent for a while, and then looked at his son with a smile.

"I looked upon your radio as a toy, but it has found you a sister, and brought back some of my lost happiness."



ANOTHER STEP: N.S.W. Association.

The second meeting of delegates from radio clubs and societies in N.S.W. was held on Friday last in the Royal Society's Rooms, Elizabeth St., Sydney.

Mr. Stowe (Wireless Institute) was elected to the chair, and Mr. O. F. Mingay was appointed Minute Secretary.

The following clubs were represented:—Wireless Institute, Waverley, Illawarra, Metropolitan and Western Suburbs.

Military Radio Association decided not to co-operate in this movement for the time being.

Opinions expressed by the various delegates were:—

Wireless Institute was in favour of the general scheme, but considered the financial position needed thoroughly thrashing out.

Metropolitan Club, in favour of the scheme with the exception of the capitation fee, which, in the opinion of the last general meeting of this club, should not be more than 1/- per member.

Waverley did not agree with the necessity for 10 licenced members before a club could be recognised. They suggested that the age limit upon which the delegates should be elected should be 16 years, and that 15 members be necessary for one delegate to the association, and 51 or over for two delegates.

Western Suburbs agreed to 15 members, one representative and two for 35 or over.

Illawara in favour of all proposals, but preferred 1/- capitation fee instead of 2/-, yet would agree to 2/- if necessary.

After discussion, it was resolved "that the capitation fee be levied on all club members."

The Metropolitan Club moved: "that the fee be 1/- per member."

The Waverley Club, supported by Western Suburbs, moved for 2/- per member. It was finally decided on majority vote that the capitation fee be 2/- per member.

Representation on Association.—It was resolved: "That 15 members, 17 years and over, five of whom must be licenced, constitute a club. This to entitle the club to one delegate, and fifty-one members or over, two delegates.

New Clubs.—It was decided that all new clubs wishing to join the Association be charged pro rata on a monthly basis.

It was also decided that the capitation fee be paid by each club, half yearly in advance, according to the number of members on the books at that date.

Policy.—Delegates agreed that all clubs associated agree to refrain from commenting upon, or taking any action, on any matter whatsoever (unless it be club administration) other than through the Association.

Expenses.—It was resolved that all expenses connected with arranging this Association be borne by all clubs represented. It was also resolved that each club make an advance payment of £1 on account to commence operations.

Mr. Renshaw.—It was carried that this meeting record their pleasure at the splendid recovery of Mr. P. Renshaw from his recent illness.

Adjournment.—It was resolved that the meeting adjourn until Thursday, 28th September, when all delegates must be authorised to proceed with the formation of the central body.

JOIN UP!

SOME ADVICE.

(By R. C. Marsden, President, Metro. Radio Club).

Many a person who contemplates taking up experimental radio gets rather scared at the idea, owing chiefly to the lack of information required to grasp the initial principles. So the matter slides.

One often hears people say "I would love to take up wireless only I haven't any elementary knowledge about it."

What is the right thing to do to put these interested people on the straight and narrow radio track? Well what are the several wireless clubs in existence for?

To get these people under their wing, and put them right from the word go. In and around Sydney there are several clubs, and the person who contemplates going in for radio is very well catered for in this respect.

SAVE MONEY.

By joining a club the beginner will glean a lot of useful information, and will save himself time and money in the building of his set. The activities of a radio club are far and wide, much more so than the average member ever dreams of. The clubs are formed for the mutual benefit of all genuine radio enthusiasts, and we look to people who intend taking up radio to join up. A person joining will find many ready to help him out of his difficulties, and the technical committee are for the benefit of all.

The Metropolitan Radio Club was formed in Sydney about six months ago, and up to date it is the largest and strongest Radio Club in the Commonwealth. The Club was formed because of the lack of a body embracing everyone, from the small boy to the grown man, and those who had a keen interest, but who were not necessary experimenters. This club has at present a membership of 200, and is growing every day.

BOLD POLICY.

Experimental wireless in Australia has been in the transition period, and necessarily the activities of the club have been curtailed. But the club can promise a very bold policy in the future, and hopes that its members will pull together to the mutual benefit of experimental wireless. To those who are going to take up this fascinating hobby, we say "Join up."

MUSIC IN THE AIR

SUNDAY NIGHT'S CONCERT.

MR. MACLURCAN'S CONCERT.

For next Sunday, September 10th, the following Pathe records will be played for Mr. Maclurcan's concert, starting at 7.30 p.m. :—

Fox Trot.—"Say it with Music."
Violin Solo. — "Humoreske" (Dvorak).
Tenor.—"Mother Macree" (Chas. Harrison).
Hawaiian Guitar.—"Kawaka."
Code Practice.
Whistling.—"Listen to the Mocking Bird."
Fox Trot.—"Fluffy Ruffles."
Hawaiian Guitar. — "Wailana Waltz."
Piano. — "Rhapsody No. 13" (Liszt).
Soprano.—"My Old Kentucky Home" (Yvonne Gall).
Recitation.

Amplification.

IN WIRELESS.

The problem of amplifying music or speech received by wireless is more complete than the ordinary methods of amplification with which we come in contact every day.

The deaf use ear-trumpets. The short-sighted glasses; we continually use microscopes, levers and such devices as the pantagraph, for enlarging the dimensions of a picture, and the transformer for magnifying electrical current. But the electrical magnifier in connection with a wireless receiver, must amplify power.

If we insert a power-amplifying device between the aerial and the detector, thus amplifying the original radio wave, we have radio-frequency amplification.

If the device is inserted after the radio waves have been detected and transformed into electrical waves of an audible frequency, we have audio-frequency amplification.

The device unually employed as the magnifier of voice and speech is the vacuum tube, which has inherent amplifying properties.

Avoid a gas-pipe earth—especially if you have a transmitter. The reason is obvious.

The "Wireless Weekly" has been asked to act as official organ for the Illawarra, North Sydney, Western Suburbs and Metropolitan Radio Clubs. In all these cases, we have consented and agreed to give the clubs our help.

ILLAWARRA RADIO CLUB.

At the last meeting of the Illawarra Radio Club two interesting lectures were given. Mr. E. G. Bailey spoke on "Aerials and Tuning Circuits." Different types of aerials were referred to, as well as earths, and their uses and advantages explained, also the relative uses of capacity and inductance in tuning in various forms of circuits employed. Mr. F. H. Kirkby dealt with "Crystal Receivers." The function of the crystal detector was explained, also the rectifying properties of the several kinds of crystals, specimens of which were exhibited. Various crystal circuits were also shown. The members carried a vote of thanks for the lectures, which were much appreciated.

The following lectures have been arranged for the next three meetings:—

Sept. 14.—Constructional Details of Receiving Apparatus ..... Mr. Gorman
Sept. 28.—Members' night—Display of Apparatus and General Discussion. In charge ... Mr. Borthwick
Oct. 12.—Elementary Valve Work ..... Mr. Hewett

The Committee has under consideration what is hoped will be a permanent room for the Club, and if the negotiations in this direction are successful, this should prove to be a great advantage to the Club.

The next meeting will be held at Carlton School of Arts on Thursday, 14th September, at 8 p.m., at which all wireless enthusiasts are invited to be present.

The secretary would particularly like to hear from any intending members and others interested. His address is 44 Cameron St., Rockdale.

THE NORTH SYDNEY RADIO CLUB held a meeting on Tuesday night, when the question of apparatus for the club was discussed. It was decided to concentrate on a valve receiver at present, the transmitting apparatus to follow when the receiver has been completed. The next meeting of the Club will be held at the club house (corner High and Alfred Streets), on Tuesday, September 5, to be present.
Members and all interested are asked to be present.

It is rumoured that Electricity House is applying for a broadcasting telephony licence in the near future. This firm is to be commended for the strides it has made in the last few months, in its Radio Department which is in the capable hands of Mr. Shaw, late of the Helen B. Sterling under the management of Mr. J. S. Marks.

ANOTHER TEST.

LOW POWER.

Mr. Maclurcan Again.

Mr. Maclurcan is starting another test to-night (Friday) at 7.30 p.m., and he will continue it on Sunday at noon.

The object is to ascertain the lowest possible power with which he can communicate with Melbourne from his Strathfield station.

At first he will use three transmitting tubes, then two, then one, using power of approximately 8, 5, and 2½ watts. C.W. and buzzer will be sent in a series of dashes for about 10 minutes in each stage of the test.

The object of the second half of the test at noon on Sunday is to get the daylight range.

It is Mr. Maclurcan's request that amateurs listen in and communicate with him by letter, giving the results attained.

It may be necessary to alter the wave length slightly as Mr. Maclurcan reduces his power.

STATION CALLS.

Call Signals, as under, have been issued during the month of August, 1922:—

NEW SOUTH WALES.

No. N735, Cropley, E. W.; N741, Wedgewood, W. G.; N742, Pepper, R. C.; N743, Cousens, H. R.; N744, Stanfield, C. R.; N745, Bongers, G. S.; N746, Grove, H.; N752, Haigh, B. R.; N754, Beames, K.; N758, Smith, W. J.; N760, Gotting, H. E.

VICTORIA.

No. V733, Teece, C. A. S.; V734, Bourke, J.; V736, Forshaw, C. J.; V738, Bertram, W. L.; V739, Stewart, D. R.; V740, Bearup, H. A.; V748, Hancock, C. A.; V750, Closs, A. T.; V751, Jansen, C. H.; V753, Rymill, R. R.; V755, Corney, K. C.; V756, Semmens, G. S. C.; V757, Coates, A. M.; V759, Gutteridge, R. F.; V761, Lunrs, V. A.

QUEENSLAND.

No. Q737, Haworth, Wm.; Q747, Reinhold, E. C.

SOUTH AUSTRALIA.

No. S382, Spurrier, L. C.

WESTERN AUSTRALIA.

No. W732, Wireless Institute of Australia, W. A. Division (A. E. Stevens).

TASMANIA.

No. T749 Morgan, D. M.

SHIPS STATIONS. GREAT BRITAIN

City of Oran, YTB; City of Oxford, GBXR; City of Palermo, GBDW; City of Paris, GFQM; City of Pekin, GDSJ; City of Poona, GBB; City of Rangoon, MTP; City of Shanghai, EMM; City of Simla, GFQN; City of Smyrna, EII; City of Sparta, YUK; City of Sydney, GCSD; City of Tokio, GFMW; City of Valencia, GBDP; City of Versailles, YNO; City of York, GAO; City of Winchester, LUC; Clam, YHZ; Clan Alpine, XJE; Clan Buchanan, YVS; Clan Chattan, ZHS; Clan Chisholm, LSF.

Clan Colquhoun, YZA; Clan Cumming, YOH; Clan Kennedy, EQI; Clan Kenneth, YES; Clan Lamont, YON; Clan Lindsay, YOO; Clan Macaulay, YJQ; Clan Macbean, KJD; Clan Macbeth, YVV; Clan Macbrayne, YPS; Clan Macbride, ZHT; Clan Macdonald, ZHV; Clan Macfadyen, LSG; Clan Macgillivray, GVS; Clan Macindoe, GDXN; Clan Macinnes, GCTP; Clan Macintosh, ZGE, Clan Macintyre, MOC; Clan Maciver GFPY; Clan Mackay, YTI; Clan Mackellar, GZM; Clan Mackenzie, YXX; Clan Mackinlay, YXC; Clan Mackinnon, YOG; Clan Maclaren, YJO; Clan Macmaster, ZXK; Clan Macmillan, XKV; Clan Macnab, GBYD.

Clan Macnair, GFNK; Clan Macphee, ZCB; Clan Macquarie, GVL; Clan Mactaggart, GDPV; Clan Mactavish, GDPW; Clan Macvicar, XHB; Clan Macwilliam, LTS; Clan Malcolm, ZQK; Clan Matheson, MZQ; Clan Menzies, LSH; Clan Monroe, EIS; Clan Morrison, EIR; Clan Murdock, ZSA; Clan Murray, LSR; Clan Ogilvy, GVV; Clan Ranald, EIT; Clan Robertson, ZHU; Clan Ross, GVU; Clan Stuart, ZPN; Clan Sinclair, YZB; Clan Sutherland, YJP; Clan Urquhart, YZG; Clara Yelck, GDFL.

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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.

H. E. W. (Wyalong) asks:—I see that the set described in "Wireless Weekly" would have a range of 2,000 miles with a good aerial, and as I have not very much idea of what a good aerial is, I would be pleased if you could let me know.

Answer: See this issue. Editor's Note: H.E.W. (West Wyalong) wants a mate to work with at Wyalong.

T. R. (Oatley) asks:—I have 200 ft. over all single wire aerial about 25 ft. high. Will you give me instructions and sizes to make a coil to work with a crystal to receive Mr. Maclurcan's concerts.

Answer: For apparatus for us with your tuner see "Wireless Weekly" of August 25th.

R. T. G. (Leeton) asks:—(1) What height, length, number of wires, what particular wire is necessary for an aerial. (2) The best amateurs' hand book in the construction and instruction of an inexpensive amateurs' wireless receiving plant.

Answer: (1) See this issue. (2) "Wireless Manual."

M. T. (Eastwood) asks:—Please advise me whether the method shown in diagram No. 1 (enclosed) is a practical method of taking of taps for the secondary of a loose-coupler or whether No. 2 (enclosed) is the correct way?

Answer: Your No. 2 diagram is the recognised method, and we would advise you to follow it.

"Wave Length" asks:—(1) Is it possible, using a 1-valve C.W. receiving set, to pick up at Mudgee (150 air-line from Sydney) the messages and concerts broadcasted from Sydney? (2) Can you recommend any publication in which complete instructions are given for the construction of a set to do the work indicated above?

Answer: (1) Yes. (2) "The Experimenter's Manual," by E. E. Bucher.

3706 asks:—"I have a home made crystal set of a range of 600 to 3,500 metres and a set of head phones of 2,000 ohms R. (Murdocks), and would like to know if the set would be benefited by a fixed condenser, of .001 mfds. capacity. If so, where is the most place to put same?"

Answer: If you have no condenser in the set, try it across the 'phones.

G. E. C. (Banksia) asks:—

(1) [a]. Does enamel have to be scraped off the wire where the slider makes contact with it on the tuner? Yes. [b]. Would No. 28 enamelled wire do, as I have some of this gauge? Use 24 gauge enamel.

(2) Would this set receive the concerts sent out by Mr. Maclurcan? Yes.

(3) How could I make a simple condenser to work with this set, and where in the circuit should it be placed? See "Wireless Weekly" No. 6 for condenser, and put it in shunt across the secondary.

(4) I have only a 75 ohm 'phone (single); is it because of this that they do not act? My aerial is about 25ft. high and 60 ft. long. Buy wireless 2,000 ohms 'phones.

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.—Valve Set, Panel Type, 600 to 1600 metres; £8/10/-. Ring Y 1833.

FOR SALE.—Expanse No. 1 Unit Single Slide Inductance, 2 fixed condensers, intervalve transformer. Apply, W. D. W., this paper.

WANTED TO BUY—Valve Panel Set without valves or crystal tuner, also pair phones, cheap. Write particulars to H. Donald, "Armagh," Grosvenor St., Kensington.

FOR SALE:

WIRELESS SET.—Use one or two valves, emergency crystal, mounted panel, Radiophone set if required, all fitted on table. Aerials, masts; everything complete. Ready to erect; absolute bargain. Owner commercial operator. Apply, S. G. White, "Kelso," 63 Bellevue Road, Woollahra.

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