



Try a
Quick
Heat
LEAK

To Dealers and Manufacturers

We carry in stock a complete Line of Radio Parts
and Accessories, including

Try a
SIGNAL
Fixed
Condenser

UNITED SIGNAL REMLER FRESHMAN

UNITED.....



Transformers

UNITED AUDIO
Type A-1 Ratio 5 to 1

Technically Perfect

UNITED AUDIO
Type A-2 Ratio 3 to 1

Clear Distinct Signals

United Radio Frequency Transformers

USED BY THE LEADING MANUFACTURERS OF AUSTRALIA
IF YOUR DEALER DOES NOT STOCK UNITED GEAR, WRITE TO US

RADIOVOX RECEIVING SETS

ARE SEALED FOR BOTH FARMERS AND BROADCASTERS. SEND FOR CATALOGUE & PARTICULARS

Now ready at any time. Efficient for Country use.

We guarantee to change at any time any Sealed Radiovox Set to an Open Set if Government Regulations permit at a cost to the purchaser of £3 or less.

United Distributing Co. N.S.W. Ltd.

(WHOLESALE ONLY)

28 CLARENCE ST., SYDNEY
BRISBANE

and at 592 BOURKE ST. MELBOURNE
ADELAIDE PERTH

WATCH FOR OUR NEW COVER



OFFICIAL ORGAN OF THE AUSTRALASIAN RADIO RELAY LEAGUE.

Vol. 3.

Friday, April 4, 1924.

No. 26

The King's Speech.

A recent cable item in the daily papers mentions that at the opening of the Empire Exhibition at Wembley, the King will deliver a speech which, with the aid of broadcasting, it is hoped to radiate to all parts of the Empire.

Assuming that at this stage it more possible to overcome unlimited distance by broadcasting wireless, then Australia would be the only part of the Empire upon which the King's message would be wasted, because the present regulations forbid the use by the general public of the open receivers necessary for the reception of the King's speech.

K.G.O., the Broadcasting station at Oakland,

California, which operates on a normal power of 1000 watts, is now being heard by experimenters in N.S.W. The swift advance in the science of wireless points inevitably to the fact that in the near future, the people of Australia will be within easy reach of the broadcasting stations of Europe and America.

To any thinking person an unlimited vista of possibilities is opened up, but they can never be realised by the public while the present unsatisfactory scheme is allowed to go on.

If the public benefit is the main consideration as we have been repeatedly told then an alteration of the Government Regulations as they now stand is of vital importance.

Roster for Week ending 9th April, 1924

	7.30 to 8.0	8.0 to 8.30	8.30 to 9.0	9 to 9.30	9.30 to 10	10 to 10.30
Thur, April 3	2 RA 2 GR	2 IJ 2 JM	2 YI	2 UW	2 YG 2 VM	2 ZG
Friday,	4 2 IJ 2 GR	"	"	2 ZN "	" "	" "
Saturday,	5 2 RA 2 GR	2 IJ "	"	" "	" "	" "
Sunday, ..	6 2 RA 2 GR	"	"	" "	" "	" "
Mon.,	7 2 RA 2 GR	2 IJ "	"	" "	" "	" "
Tues.,	8 2 IJ "	"	"	" "	" "	" "
Wednes., ...	9 2 RA 2 GR	2 IJ "	"	" "	" "	" "

Wireless Weekly

Subscription Rates:

Single Copies 3d. net
12 months (52 issues) . . . 13/- post free
6 months (26 issues) . . . 6/6 post free

All communications to be addressed to The Editor, Wireless Weekly, 33 Regent St., Sydney.

Advertising Rates on application.
Telephone, Rellern 964.

Wireless Weekly Cup Competition

It has been decided to abandon this Competition temporarily. Later on details of another Competition will be announced in this paper.

Croydon Radio School

Lang-st., Croydon

A Special Class

will be held every THURSDAY commencing 27th March, for experimenters who wish to become more proficient in Morse. Pupils will also be specially coached to prepare them for Government Examination for Transmitting and Receiving Licences.

Fee: 2/- per lesson
7.30 p.m. to 9.30 p.m.

A Concrete Suggestion.

By A. F. Jacob

The question of the future of broadcasting is at present creating great interest, and many articles have been published evincing an honest desire to arrive at a solution equitable to all parties concerned; but in none of those which the present writer has seen has there been any serious attempt to propound a constructive policy. The object of this essay is to elicit open discussion of the various points at issue, but there are so few facts available that a groundwork of assumptions must be used, and the writer is fully prepared to find his attempt meeting the fate of a carcass tumbled into the lion's den. The first necessity is to classify the parties to the controversy, their immediate objects, their responsibilities to others, and the probable general results, keeping conspicuously in view the great object of benefit to humanity generally. Being one of them, the writer will first consider those who have become fascinated by the vista of unlimited possibilities revealed by an excursion into this new wonder world; and, with moderate spending capacity, have laid out sums expressed in two figure terms, on experimenters' receiving sets.

It is difficult to see how they are to do what the controlling department intimates is to be expected of them, viz., "to produce evidence to show that they are experimenting, and not merely listening in." They can conscientiously disregard the supercilious after suggestion, for it would be very difficult to find one who is satisfied to "merely listen in," as is evidenced by the total failure of the attempt at compulsion in that direction.

Listen to their conversations. One never hears prominence given to the question, "What did you get?" The invariable formula is, "How did you get it?" to be followed up by a fusillade of "What sort of set have you got? What valves? What circuit? What do you find the best crystal? Series or parallel?" And so on, ad lib. Surely this indicates that the vast majority is actuated by the spirit of enquiry, and "experiment" to their full capacity, and with the object of attaining improvement; and in this lot are included those of both sexes, and of all ages, from the youngster with a crystal loose coupler—who is the hope of the future—to the traveller on the last section, who hopes that he may

have the good fortune—before stepping off—to light on something hitherto overlooked, which will be a material addition to the cause. But he must be very sanguine to expect to be able "to produce evidence" when called on to do so.

Then we have the advanced class, genuine experimenters, with liberal spending capacity, delving deep into the mysteries, burning the midnight oil, trying anything at least once, but possessing definite reasons for doing so. These are comprised in a comparatively small group, and count their expenditure in three figure sums, being both receivers and transmitters. To these we should be granted the free of the air.

Next in the scale come the broadcasters, and in regard to them we have to commence guessing at expenditure, and a pretty safe guess is that they do not get far without talking in five figure terms.

Each of these classes is spending—and emphasis is laid on the spending, because as a whole the pursuit must pay its way—a commensurate sum for continuance. The class of pure listeners in can be passed over with scant consideration, in fact, it can be almost assumed that "there ain't no sich a thing," but there is undoubtedly a very large class on the "waiting list," expectantly waiting; as for instance, the man on the land, hoing a hard row, anything but flush of cash, to whom—and to whose family—the science promises a sense of propinquity to fellow beings, the lack of which is one of the most wearing of the conditions of his daily routine. To this class, a receiving set, backed up by regular broadcasting, would be—to put it mildly—a blessing; but with short range transmission added, a veritable god-send.

By these means the everyday objects of dread, bush fires, floods, sickness, accidents, would be to an enormous extent shorn of their terrors; and it needs no very active imagination to realise the amelioration of social conditions which would be the outcome of facilities for an evening hour or two of interchange of topics, to say nothing of the widespread benefits of broadcast news and entertainment.

The commercial community need not be considered. It possesses, and always did and will possess, a magic

Satisfaction-Efficiency-Col-Mo"

Friday, April 4, 1924.

WIRELESS WEEKLY

3

wand, automatically efficient under every condition, namely, necessity plus 33 per cent.

Interspersed among the classes are those who may be termed the traders. Enthusiasts themselves, they have also the interest of dependence for their incomes on the wants of the users. Now, to bring these interests together is the poser, and here is felt the deficiency of figures, and guessing commences.

It is stated that already approximately 4000 experimental licences are held in this State alone, and that applications are being made at the rate of four or five hundred a month, indicating that within another year there will, if allowed, be 10,000 in existence.

Adopting a conservative estimate of £20 each, this class will in two years—as the epidemic only definitely set in a year ago—have disbursed the sum of £200,000 capital expenditure; and at—don't gasp—two shillings per week each, will continue to spend £50,000 per annum on the various gadgets which the aerial temptation now dangles before its view.

Now, traders, what do you know about that? Is it anywhere near the mark? Does it offer you butter on both sides of your bread; or, if not, will you tell us which side it is buttered on? We have no difficulty in ascertaining the difference between manufacturers' and retailers' charges, and it does make a noise like a reasonably plump pullet.

We also know that you have saddled yourselves with a substantial load of expense to encourage us. Will you take us into your confidence and tell us how the debits and credits compare? Because we are prepared to do the fair thing in response to your efforts, but are more than reluctant to buy a pig in a poke.

And does your salary account figure up to £3000?

Let us take it that trade prospects are satisfactory per se, but the encouragement is an overload. How much will cover the latter? Have you spent £10,000? And would a return of 10 per cent. on that, aided by the advertising, be a fair cover for depreciation and renewal?

If so, we of the 10,000 are called on to find a return to you of £4000; 80,000 shillings, 8 shillings each, per annum.

Now for the big money that fills the air and is not at present a free service, but does sing a song like a crocodile.

The popular guess is £20,000 capit-

al, and assuming a salary account proportionate to the previously guessed capital, viz., £6000 and same with depreciation, etc., we arrive at a debt of 16/- per head per annum.

This, added to the previous 8 shillings, makes—by mental arithmetic, E. and O.E.—24 shillings per annum.

And it seems that between that and 40 shillings (did some one say 63?) there is room for a third dispenser on substantial capital and expenses with perhaps a bit over to provide a bonus for those who do not derive any advertising benefits ("evidence to be produced" that such is the case, and that they are merely engaged in philanthropic work).

Thus we arrive at the suggestion of genius. Limit broadcasting for 5 years to 3 stations. Let every receiving set be open, and charge each licensee using one or more valves £2 per annum, crystals, 10/. Dinkum experimenters free, subject to "production of evidence," and in the case of transmitters, a regular roster of transmission "pour encourager les autres"

Proceeds to be allotted to the broadcasting firms on the basis of 10 per cent. on capital and salary costs, same to be checked by the Auditor-General. Surplus to be allotted to hospitals and charitable institutions to provide receiving sets for the benefit of patients and inmates. Country transmitting to be allowed under power of say 50 miles range.

The government to be given the position of honorary referee and allowed to acquire merit by reason of encouraging national benefit.

Inspectors of country outfits to be honorary, appointed from the ranks of transmitters, who can be naturally relied on to enforce discipline in their own interests. Don't think anything has been forgotten! Now then—as the war winners say—"Attaboy." "Go to it." "Tear it up."

But for the love of Mike, get your feet out of the mud, give us something tangible to go on, and do not wait for the opening of the Bridge before constructing something better than the Chimera yolept, "Sealed Set."

Subscribers are asked to notify Wireless Weekly of any change of address. Communications should be addressed to "WIRELESS WEEKLY," 33 Regent Street City.

Co-Operation

THE DANGER BEHIND IT.

(By Alan Burrows.)

From the beginning the experimenter has been regarded as an unnecessary evil by those who owe their jobs to him. Officialdom has looked upon him only as a costly nuisance. Recent events have not altered this outlook of the authorities. He is still a nuisance. The only difference is that he now is regarded as a more or less inevitable nuisance—a necessary, instead of an unnecessary, evil. All the recognition which the amateur has lately been given can scarcely be taken as a sign of grace on the part of those in high places. When it is remembered that for ten years there has been a body of amateurs in Sydney constantly fighting for the amateurs' status as an integral part of the community, it can be seen how tardy the recognition has been.

The Club's Part.

While the Wireless Institute has been in existence for over ten years, doing wonderful work in that period, particularly the early part, it would be unfair to credit it entirely with the more recent developments which have given such an impetus to the amateurs' standing. The credit is due to no one; to no organisation or movement. It has simply been an inevitable process in the march of events—a gradual culmination to the progress of wireless. A Government, in resisting it, would have been fighting, not a body or organisation, but an overwhelming force; an evolutionary point in the world's progress. And not only has the cumulative effect of these years of experimental work impressed itself upon different Governments; but it has earned the experimenter a place in the public's esteem. His standing in the community is assured.

Since about five years ago the outward and visible sign of the forward movement of radio has been the clubs. They have been the indicator by which outsiders have judged the amateurs' progress. How else could it be judged? An experimenter alone can do little in the way of propaganda work. A club, however, can do much. An organisation consisting of ten men will not do ten times the work of one man—it will do a hundred times. And it is the number of clubs, their growth in so many widely separated centres, that has had the effect of strengthen-

True distortionless music is a feature with N. H. M. Crystal Rectification

ing the amateurs' position so materially.

The affiliation.

The doctrine of "union is strength" can sometimes be misapplied. Unity does not always mean a centralisation of forces, a combining of resources. It means, in some cases, an undivided aim and singleness of purpose, but with the attacking forces emanating from a multitude of sources.

The recent affiliation of so many clubs with the Wireless Institute is a step which has been proved absolutely necessary, and the clubs should consider themselves fortunate in having a body at hand and influential enough to make the move. But such co-operation can have a reactionary effect, for its strength will lie only in the strength of the clubs behind it. This is an obvious statement, a platitude in the mouth of every experimenter who has followed the affiliation movement. Yet never before has there been greater need for emphasis.

A number of clubs are finding it

hard to continue—and five years of club experience have taught me that a club goes backwards or forwards, and is never stationary. Many appear to think that the solution of the problem will be found in the affiliation. It is here where the danger lies; a club carries on in its own strength entirely, and to hope for salvation from the affiliation will surely mean disaster. It is this sort of inward dependence on a central body which, unless combated, is going to ruin the club movement.

The clubs have united in their objective. But their strength and their power is as widely spread as it ever was, and the voice of the experimenter and of his club must be heard from every corner of New South Wales before the true object of co-operation is achieved.

HAVE you tried disposing of that old Loose Coupler, or that Transformer through the columns of Wireless Weekly?
3 lines 1/6. 6 lines 2/6.

J. L. SCOTT
Radio Engineers
We are putting on the market an Experimenter's Wavemeter of good quality at a reasonable price.
Experimenter's wants catered for generally.
80 HUNTER ST., SYDNEY

Wireless Receivers for Experimenters

We specialise in the manufacture of Receiving Sets for those working under experimental license. If special arrangements are required we are able to serve you.

Have you heard of the "OMNI Circuit" for experimenters?

This has been described in "Modern Wireless" and is just the thing for those who are more concerned with the trial of various circuits than with the actual construction of parts. We are able to make this set for you.

The world's experts will advise you to use only the best of materials, and we advise you to pay us a visit and see for yourself the class of materials and workmanship put into our "BURGINPHONE" Receivers. These Receivers have some records to their credit, such as picking up AMERICAN BROADCASTING on more than one occasion.

We stock only the best of accessories.

Send for illustrated catalogue and price list.

BURGIN ELECTRIC COMPANY

WIRELESS ENGINEERS AND SUPPLIERS

Show Rooms and Sales Department, 1st Floor, Callaghan House.

391 GEORGE ST., SYDNEY

Friday, April 4, 1924.

WIRELESS WEEKLY

5

USE

Gilfillan Radio Parts

Highest in Quality—Economical in Price



VARIOMETER

Embodiment of the highest electrical efficiency. Moulded brown bakelite split bronze bearings. Obtainable in two sizes.



VARIOCOUPLER

The finest that can be produced. Moulded brown bakelite, split bronze bearings; winding tapped at 15 points for very close tuning. Obtainable in two sizes.



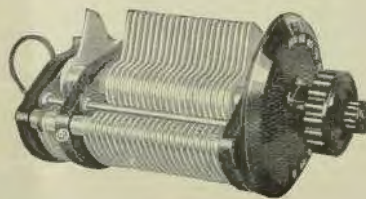
POTENTIOMETER

Moulded of best brown bakelite. Resistance unit machine wound with highest grade resistance wire. Provided with solder lugs for attaching wires.



DETECTOR UNIT.

Combining tube socket, filament rheostat, binding posts, solder lugs, knob and dial. The most compact unit made.



CONDENSER.

With Vernier and pigtail connection. Obtainable in 43 plate, as above, and 23 plate sizes.

Ask your dealer to show you Gilfillan Radio Parts. A few are illustrated on this page. Note their superior workmanship and finish; the precision construction—scientifically correct, which assures absolute accuracy and dependability of operation. Gilfillan Radio Parts, built in accordance with best professional standards, are not expensive; even when their cost is compared with devices of inferior merit.

All Gilfillan Radio Parts are made in their own factory by a highly skilled organisation long noted for the manufacture of high quality automotive ignition parts.

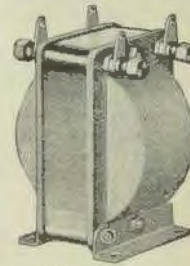
Select "Gilfillan" for best performance. If your dealer does not handle this superior line, write us for name of nearest dealer, descriptive folder and price list.

Dealers: Gilfillan Radio Parts offer you a splendid merchandising opportunity. Write for detailed information, or inquire through your jobber.

Welby Radio Company

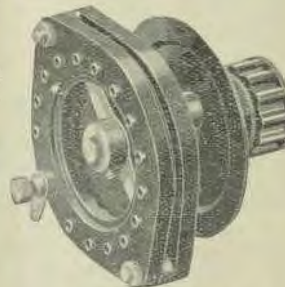
13 Royal Arcade, Sydney

Telephone M3435



AUDIO FREQUENCY TRANSFORMER.

Especially well made and dependable. Completely shielded in aluminium case.



PRIMARY INDUCTANCE SWITCH.

15 point. For mounting on back of panel. Moulded brown bakelite, black knob and dial.



TUBE SOCKETS.

H. 300—any standard amplifier or detector tube. Phosphor bronze positive contact springs. Terminals marked; with binding posts and solder lugs.
R. 925—Adapter for 199 tube, fits any standard type socket.
R. 500—Small tube socket to take 199 tube.

Radio 3BD. Melbourne D.X. Station.

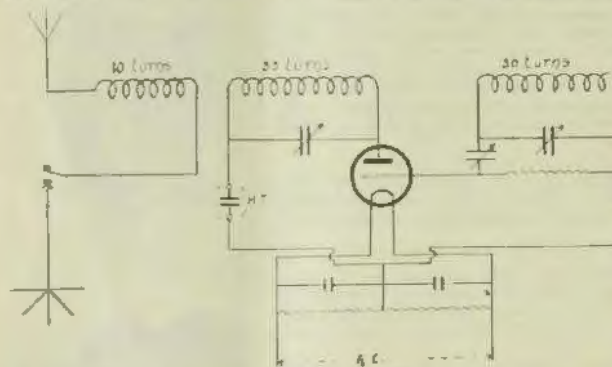
The record for two way long distance transmissions for Australian stations is undoubtedly held by Radio 3BD, the experimental station of Mr. E. H. Cox, of No. 5 Gisborne St., Elsternwick, Melbourne, to date no less than 20 In-

600 volts HT is about 1.2 amps, the plate current to the power tube then being about 14 milliamps. By doubling the H.T. considerably more than 2 amps may be radiated from the set. Two way telephone conversations have

and a maximum radiation of just under 6 amps has been obtained from it, though never more than 2.5 amps radiation has to date been used for Interstate work. The three coil circuit is used and by test has been found the most effective. A maximum of 1700 volts H.T. is available, but owing to rectifier trouble never more than 1200 volts has been used. Three Phillips 22A tubes are used in parallel as oscillators and have been found to be far the best valves available for the set. The plate coil consists of 35 turns of No. 12 gauge D.C.C. wire on a 10 inch spider web and the aerial coil is an old spark helix of 10 turns of 1/2 inch copper ribbon 12 inches in diameter. A 60 cell chemical rectifier is used to provide the D.C. from the H.T. transformer. In experimenting with the set it was found that quite the most effective grid leak which could be used was the secondary of a motor car ignition coil and these coils are now used as leaks and modulation transformers in every part of the station.

The receiver generally used consists of one stage R.F. detector and one stage of L.F. tuned anode coupling being used. In bad static weather the L.F. stage is generally cut out. Occasionally a second stage of H.F. is added. The most effective system of tuned anode coupling has been found to be a variometer, though the system has the disadvantage that the wave band it will cover is limited. For this reason provision is made for the use of a condenser inductance coupling as well.

Continued on page 9, col. 1.



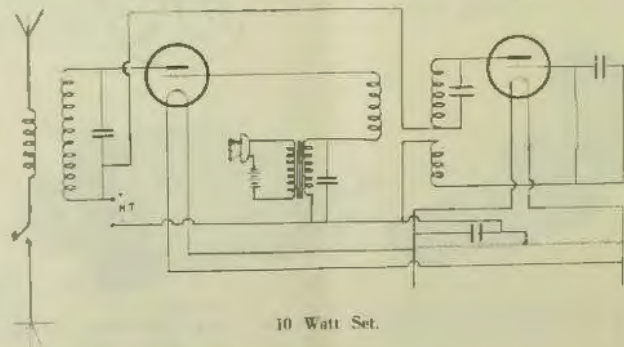
100 WATT C.W. SET AT 3BD.

terstate stations having been worked, the list including 11 New South Wales stations, 2 South Australian, 1 Tasmanian and 6 New Zealand stations.

The apparatus used at 3BD, both for transmitting and receiving is essentially of the "junk" type, the station being so often altered for experimental purposes that it is considered that no good purpose could be served by attempting to "box up" the gear in cabinets. The aerial is a six wire tapering cage, 5 feet in diameter at the open end and 3 feet at the lead-in end with a cage lead tapering from 2 feet to the wall insulator. The aerial conductors are all 3/20 gauge wire. For transmitting a six 7/20 gauge fan counterpoise stretched the whole length of the yard with the free ends carefully "bridged" is used. The aerial is 50 feet high and the top 65 feet long. At present two different transmitters are installed, one a 10 watt set which is used for low powered CW and telephony and the second a 100 watt CW set. In the former set the master oscillator or "driver" system of excitation is used and owing to the extreme steadiness of the wave emitted has been found particularly effective for long distance work. The maximum radiation obtained from this set with

been held with 2Y1 with this set when the radiation was .65 amps and the power about 5 watts. A Phillip type 22A valve is generally used as the power valve and an Ediswan valve as the oscillator. This circuit is particularly recommended to experimenters and was found to be more satisfactory for telephony than the choke control system, though a third valve as a modulator will be added to the set shortly.

The second transmitter can be made to radiate about 4.5 amps regularly.



10 Watt Set.

Get your N. H. M. Galena in the original black and white box price 2s. each

Tuning and Aerial Hints.

By Insulator.

By this time no doubt you have completed the loose coupler and the crystal detector unit. As I promised last week I am going to give you a few hints on tuning. To do this I am going to presume you have the set connected to the aerial and earth and that you have a pair of phones connected correctly to the terminals on the detector unit. Insert a piece of crystal in the crystal cup and allow the catwhisker to rest lightly on the crystal. The crystals I recommend are Argenteite, Magnetite or Hertzite. These three are manufactured crystals and it is noticeable that they are sensitive all over their surfaces. This is a great advantage, as it is easy to find a good sensitive spot which will give a clear note in the receivers.

Now before I go any further, let me advise you to pick up last week's Wireless Weekly and read through the article entitled "Crystal Detectors and their Action," by W. J. Zech. This will be found on pages 5 and 13. Read this because it is a particularly good article and I don't think I can add to it in any way. It will also help you to understand the purpose for which the crystal is intended.

Back again to our set. With the phones on your head push the secondary half way into the primary noting that the secondary switch is on terminal No. 80.

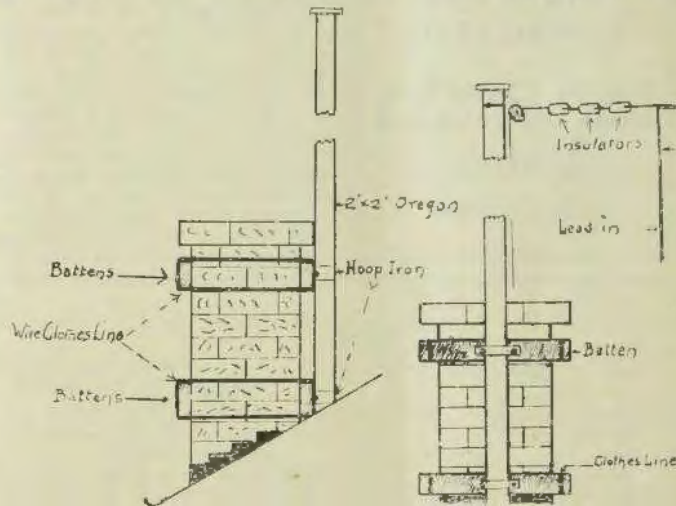
The left hand switch on the panel should be resting on the top contact stud (No. 0). Move the right hand switch (unit switch) across each one of the fifteen contact studs until a signal is heard on the earphones. Move this switch about until the loudest signal is heard and then turn your attention to the secondary switch. Move this switch across the eight studs noting if the signal is getting any louder. When the maximum strength is obtained move the catwhisker across the crystal to obtain a more sensitive spot if possible. Now alter the coupling, that is slowly push the secondary coil into the primary or pull it out until the signal is again at its maximum.

Perhaps the primary tuning has resulted in nothing being obtained on the fifteen studs on the bakelite panel. Very well! Bring this switch back to the No. 0 stud and advance the left hand switch to the first stud (No. 15). Now swing the unit switch across its

studs and tune as above. Nothing heard yet? Well, bring the unit switch back to 0 and advance the left hand switch to the next stud and so on.

It will be seen that the combination of these two switches will allow every single turn of wire to be tuned on, thereby making very selective tuning, much more so than the average sliding rod contact will give. This is an advantage which you will readily perceive. The secondary tuning for crystal purposes is not so critical the

have each two terminals. Correct one terminal of the battery to one terminal of the buzzer. From the other buzzer terminal take a piece of wire and wrap it once around the secondary coil and connect the other end of this wire to the remaining terminal of the battery. The buzzer will buzz now! (Look out for father's boot. He may not like it!) Don the phones and you will hear the sound of the buzzer in the phones. Move the catwhisker across the crystal until the



coupling making up for any deficiency in the contact studs.

Of course when you are trying the set out make sure that some transmission is going, e.g., 2HL on 2FC. I could write a lot more on tuning, but I want you to find out many things for yourself. There is nothing so pleasing as to make a "discovery." You will agree with me on this later on.

The thought has occurred to me that perhaps you are using a natural mineral crystal which may require some adjusting to find a sensitive spot. If continuous transmission is going this will not prove difficult but perhaps a word on how to find the most sensitive spot will not be out of place here.

What is required for this is a buzzer, a dry cell and a short length of wire. The battery and the buzzer

buzz is loudest. This is the most sensitive spot. Disconnect buzzer now and listen in.

The heading of this article says "Aerial Hints." I nearly forgot them but here goes. A good aerial is necessary with every crystal set and a good aerial must be reasonably high and well insulated. A single wire of 3/20 bare copper is quite good; but raise it above the roof of the cottage at least ten feet, more if possible. Make the fullest use of the chimney. The sketches will show you how to do this. All builders seem to make "narks" of themselves by building a coping round the top of a chimney. This means that the mast will stand off from the sides of the chimney which will not make a substantial job unless we make use of wood battens as suggested in the

Col-mo Radio products for efficiency

To South Australian Experimenters.

Wireless Weekly will be very pleased to publish any items of local interest. Mr. Clement E. Ames, the Hon. Secretary, Wireless Institute of Australia (S.A. Division), 20 Grange Rd., Hindmarsh, has very kindly arranged to forward to us any matter which may be forwarded to him.

WIRELESS APPARATUS

New or Second-hand, Bought, Sold or Exchanged

HOWELL'S

19 Barlow Street

sketch. You will note I advocate a batten on each side of the chimney, top and bottom. To one batten top and bottom is attached the mast with ordinary hoop iron. Secure this well, otherwise the whole show will come down with the first gale. Bind several turns of clothes line as shown, grooving the battens for security. Unless the pole is more than 12 feet high it will not be necessary to stay it if you are employing a single wire aerial. Study the drawings carefully and you will have no difficulty in erecting a support of this class.

The other end of the aerial must also be elevated. Obtain a good mast if possible failing which improvise a clothes prop on a fence or neighbouring building. Get it as high as you can. It's worth it.

See that you have at least three insulators at each end of the wire and note position of lead in. This is shown as an inverted type, but should the leading in wire be taken from the exact middle we then have a T type. The inverted L is to be preferred in aerials whose total length does not exceed say 100 feet. This will be found a most suitable length. Keep the lead in as far away from buildings, trees, etc., as possible and bring it in-

to the house per medium of a porcelain lead in tube which can be bought for 6d.

The earth plays an important factor in good reception. Solder a length of 7/20 bare copper to the water pipe. If soldering isn't possible, make use of an earth clip which only costs 1d. and attach this to the water pipe and the 7/20 wire.

This earth lead need not be insulated from the building. Another good earth is obtained by driving a length of water pipe into the garden and soldering the 7/20 wire to this. Occasionally water this pipe as you would your best dahlias for a moist earth is best.

When buying phones get a good pair of well known make of the order of 2000 to 4000ohms. With reasonable care they will last for years so it is well worth purchasing good ones at the beginning.

Next week I will show you how to make another crystal set suitable for low wave reception. It will be easier made than the loose coupler and will also work well.

Tell your friends about "Wireless Weekly"

List of N.S.W. Transmitting Licenses Granted up to the End of February, 1924

- 2AA—Radio Inspector, McDonnell House, Sydney.
- 2AJ—Short, W., Queenscliffe Rd., Manly.
- 2AL—Cooper, A. E. C., "Edale," Cecil St., Ashfield.
- 2AR—Hudson, W. R., 1 Terrace Rd., Dulwich Hill.
- 2AS—Grigg, H. E., 370 Military Rd., Mosman.
- 2AT—Swainburne, E. C. R., 39 Parkview St., Manly.
- 2AY—Cureton, J. P., "Maruna," Burwood Rd., Burwood.
- 2BB—Crocker, E. B., 14 Roseby St., Marrickville.
- 2BC—Hurlb, N. J., "Strathcona," Northcote Ave., Killara.
- 2BF—Forsythe, L. E., "Hoylake," Sailor Bay Rd., Northbridge.
- 2BK—Leverrier, F. N., "Lorette," Wentworth Rd., Vaucluse.
- 2BM—Years, E. T., "Pipitea," Grose St., Leura.
- 2BV—Waverley Amateur Radio Club, 42 Evans St., Waverley.

- 2BY—Arnold, E. C., Cathage St., Tamworth.
- 2BZ—Balmain District Radio Society, 29a Ballast Pt. Rd., Balmain.
- 2CA—Bonwill, C. W., Cowra.
- 2CB—Siday, J. K., "Downside," Highfield Rd., Lindfield.
- 2CH—Henry, C. J., Bridge St., Uralla.
- 2CI—Charlesworth, R. D., 173 Parramatta Rd., Haberfield.
- 2C—Sewell, P. L. H., 12 Dillon St., Paddington.
- 2CL—Caletti, G., c/o P. L. Stonwall, 83 King St., Newtown.
- 2CM—Maclurenn, G. D., "Namanula," Agnes St., Strathfield.
- 2CQ—Barlow, G., 269 Beardy St., Armidale.
- 2CR—Todd, I. V. G., Dennison St., West Tamworth.
- 2CS—Swain, L. T., 49 Everton St., Hamilton.
- 2CW—Beer, J., 42 Thomas St., Ashfield.
- 2CX—Stowe, H. A., "Rawene," Royal St., Chatswood.
- 2CY—Parker, P. S., 12 Weldon St., Burwood.
- 2DE—Renshaw, W. P., "Waimea," Lord St., Roseville.

- 2DH—Mawson, E. R., "Daisydale," Wonga St., Campsie.
- 2DJ—David Jones Ltd., 22 York St., Sydney.
- 2DK—Whithurn, T., Hatheron St., Leichhardt.
- 2DN—Blanchard, G. E. H., 60 Bligh St., Newtown.
- 2DS—Davis, R. R., Fisher Ave., Vaucluse, Sydney.
- 2EC—Gorman, C. A., 31 Segenhoe St., Arncliffe.
- 2ED—Gregory, H. R., "Gerrolbar," Walton Crescent, Abbotsford.
- 2EM—Moore, E. J. T., 6 Lower Wycombe Rd., Neutral Bay.
- 2ER—Best, W. G. H., Carlisle St., Rose Bay.
- 2FA—Colville, S. V., "Eskdale," Church St., Drummoyne.
- 2FB—Bishop, F. E., 7 Ellomang Ave., Kirribilli.
- 2FF—Western Suburbs Amateur Wireless Association, 77 Park Rd., Auburn.
- 2FP—Baker, E. J., 62 Estell St., Marysville.
- 2FS—Smith, A. C., 38 Cheltenham Rd., Croydon.

To be continued next week

Distance Reception - N. H. M. Galena Crystal

Catching the Ringleaders

(By Malcolm Perry.)

I had decided to head this article "Organising the Leaders," but having heard a letter from the Commonwealth Government read out at a meeting of delegates to the Wireless Institute Council which I recently attended as a representative of the Waverley Club, I was forced to take the view that the Government looks upon the leaders of the wireless movement, not as leaders, but as "ringleaders."

The letter referred to suggested that the Wireless Institute should examine all applicants for experimental licences. What it really boils down to is this. Your next door neighbour applies for an experimental licence, and you are either a member of the Wireless Institute or one of its affiliated clubs. The applicant is turned down by the Wireless Institute because he has not sufficient technical knowledge. On being told this, he immediately commences to slate you over the front fence. He wants to know how you got a licence, and what you knew about wireless when you started, and what did certain other members of the Wire-

less Institute know about wireless when they first commenced experimenting?

Again, you are invited out to a friend's place for the evening, and there you are introduced to two strangers who applied for experimental licences and were unsuccessful. Do you think that you, wearing the badge of a radio club, will spend a happy evening? The position is this: The experimenter pays into the Federal Treasury the sum of 10/- per annum. This supplies the Government with the necessary funds for the administration of the Wireless Telegraph Act as it concerns experimenters. But the Government is seeking to throw the whole responsibility of granting experimental licences on the shoulders of a small body of men without offering any remuneration whatsoever.

If the Wireless Institute has to carry the burden of examining the whole population of New South Wales for experimental licences (and assuredly the whole population will apply), then it should be handsomely recompensed by the Government for administering regulations which the Government is not willing itself to do. It would be hard to point to one other instance

where a private body of men, self set up, not elected by the people, not appointed by the Government, and yet having the power to meddle with the liberty of the people.

Experimenters must organise, quickly, surely and solidly. The movement is already afoot, and was unanimously carried by a meeting of delegates from all radio clubs, but it is only a start. The first step urgently necessary is to create a fighting fund. Every club should appoint two trustees, who would hold in trust 10/- for every member, the fund to be used only when necessary to defend the amateur movement. With 1000 experimental licences issued in New South Wales, a fund of £500 could be immediately created, and if the occasion arises, the best solicitors and barristers could be briefed to defend our cause.

The amateurs in America and England had to defend their claims, and the time may come in Australia when it will be necessary to follow their lead. Every club should be keen on selecting the very best man as a delegate to the Wireless Institute. Not the man with long distance results, but the man who is longheaded enough to visu-

Continued on page 13

Continued from page 6

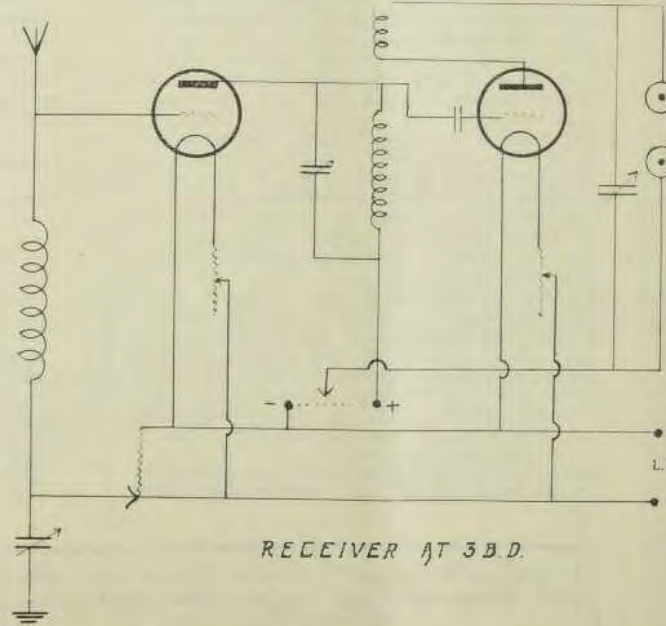
One of the most remarkable stunts achieved with this receiver was the reception of 16KA and several other American amateur stations on a 3 ft. loop under an iron roof during the last trans-Pacific tests, 2 stages of H. F., then being used. In a test conducted recently with 2YG signals were received quite readably from 2YG even when he had received his plate pressure to 20 volts and audibly when he was transmitting with only 10 volts H. T.. Only two valves were then used in the receiver.

Lately a single wire aerial 18 feet high and 20 feet long or else the loop has been used for most of the D.X. work done as when using the longer aerial interference from local stations has drowned D.X. signals.

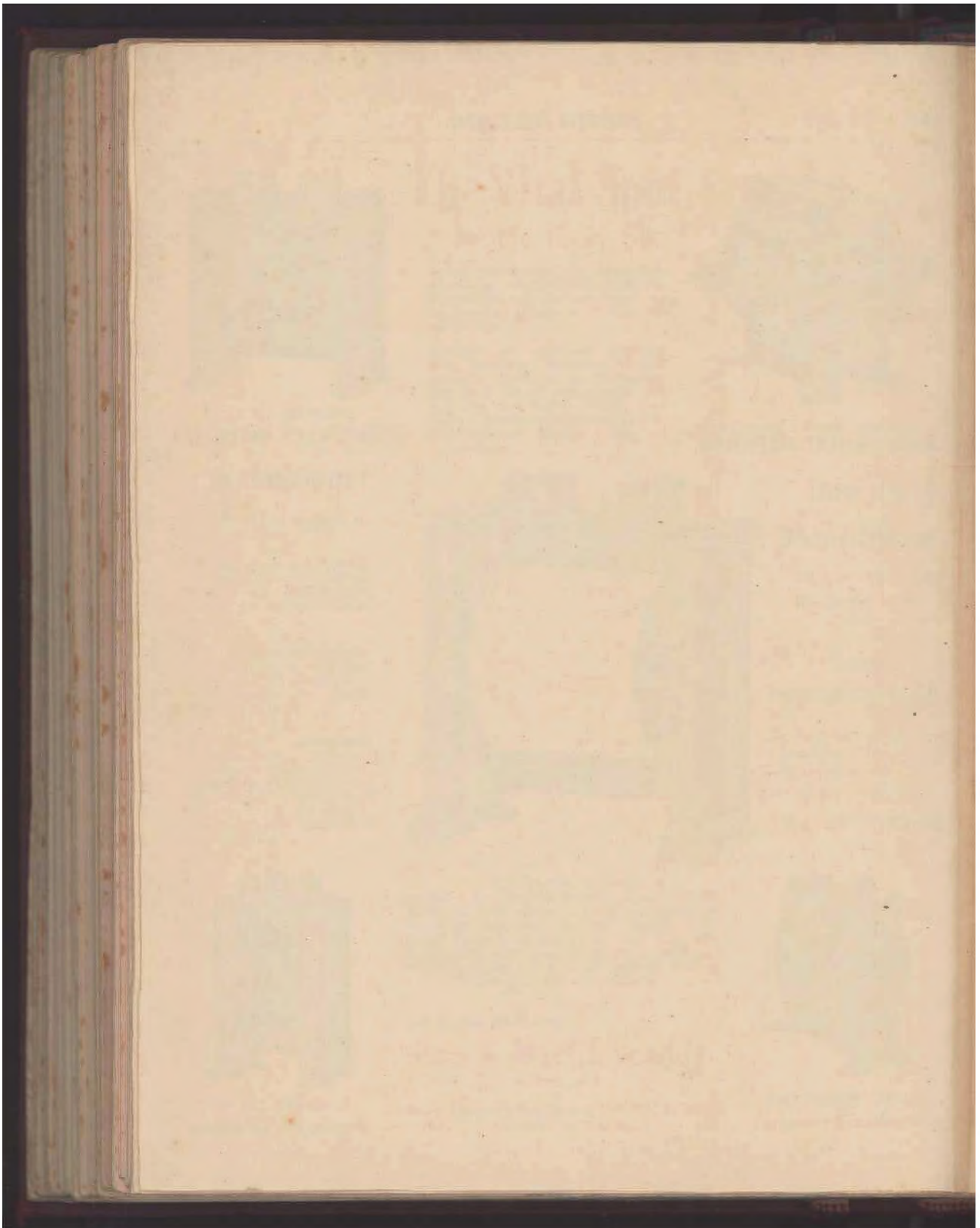
Mr. Cox will be pleased to receive cards and reports from experimenters who receive his signals.

"Wa'al, Chet, how's things up your hollow?"

"Pretty bad. Say, it takes me half an hour a day to shovel a path so the ole woman can get in the wood."—
"Judge."



The most extensive stock of Wireless Sundries is at 10 Rowe Street Sydney



Broadcast Receiving Sets and License Forms

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

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

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

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

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

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

Radio House
619 George Street Sydney
Telephone: City 1487.

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

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

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

Swains Ltd.
119-123 Pitt Street, Sydney.

Friday, April 4, 1924.

WIRELESS WEEKLY

13

News of the Week

K.G.O. Again.

Recently, Dr. Cutler, of Moruya, a customer of David Jones Ltd., was supplied by the firm with a receiver comprising 1 detector and 2 audio. On March 19th, Dr. Cutler was favored with a 45 minutes' extract from the programme of K.G.O., the new station of the General Electric Co., situated at Oakland, California.

The selections were of the jazz variety, each one occupying about 7 minutes. The announcements between each item were plainly heard and the selections came through remarkably clearly.

The transmissions occurred between 6.7 p.m. and 6.43 p.m., Sydney mean time.

Mr. H. Gotting, of Braemar, also reports that on March 23rd at 6.45 p.m. he heard K.G.O. broadcasting orchestral items. Mr. Gotting was using 1 radio, 1 detector and 2 audio, and held K.G.O. until he closed down.

Mr. R. C. Marsden, the well known owner of 2JM, has been appointed assistant manager of the Radio Dept. of David Jones Ltd. For some considerable time, Mr. Marsden has been privately engaged in the manufacture of sets, but as the volume of work got quite beyond control, and he had no desire to enter into the business on a large scale, the offer made to him by David Jones Ltd. was accepted. Mr. Marsden's activities will in future be confined exclusively to that firm, and Wireless Weekly wishes him every success.

BOOKS ON WIRELESS

- Twenty-Four Radio Diagrams and Hook Ups, of Crystal and Audion Receiving Sets.* Price, 3/3 posted.
- A Reinartz Receiver. How to Make.* Price, 3/3 posted.
- Radio 'Phone Crystal Set. How to Make.* Price, 3/3 posted.
- Reflex Receiver. How to Make.* Price, 3/3 posted.
- Radio Frequency Amplifiers and How to Make Them.* By J. Avery. Price, 1/8 posted.

N.S.W. Bookstall Co. Ltd
476 George Street, City

2IJ's LITTLE QUOTA.

Using 1 RF and detector, 2IJ has logged the following:

Australia: 3BD, 3BY, 3BG, 3BQ, 3BC, 3BL, 3JH, 3BH, 3ER, 3HH, 3JU, 3EF, 3BM, 3DD, 3UX; 5AH, 5AG, 5BG; 7AA; 4CM; 7AG.

New Zealand: 1YA, 1AA; 2AC, 2AD, 2AQ, 2AK, 2AE, 2AM, 2AP, 2XA; 3AC, 3AA, 3AF; 4YA, 4AA.

America: 6KA, 6BBC, 6PL, 6CGW, 6ALG, 6BH, 6CHW; 3ACY, 3HS, 3ADP; 8BA, 8ES, 8CJ; 9TR.

Two way work has been carried on with 2AP and 4AA in N.Z. and 3BH and 3BD in Victoria. 3BH seems to be the loudest Victorian station next to 3BD, and 4AA easily the loudest New Zealander.

ZZZ AGAIN.

Here is a further list of U.S.A. amateur calls logged recently by C. P. Smith, Cremorne. (March 15): 0710 6AAO calls CQ, 0714 6AHP calls 1 BOM, 0724 9MC calls CQ (March 17) 0650 6BBC calls 2BN, 0655 4FO calls 9MC (March 20) 0601 9MC calls CQ 0612 1AAP calls CQ.

The stations logged on the 15th were heard on detector alone, and since then a stage of audio has been added. A peculiar thing noticed about 9MC is that he is nearly always heard working between 6 p.m. and 8 p.m., and is apparently the only one using R.A.C. on the plates.

Newcastle Leads the Way.

2SO (Newcastle Radio Club) transmits regularly at 7.30 p.m. on Tuesdays and Thursdays and at 7 p.m. every Sunday. The wave length is 245 metres, and the radiation is 0.75 ampe from one U.V. 202 oscillator with an input of 13.5 watts. 2SO has been reported QSA with perfect modulation, from Melbourne, Hay, Bega, Blayney, Sydney, Armidale, Tamworth, Toowoomba, Brisbane and Clifton (Q.) Details of 2SO will be published in this paper at a later date.

Kyneston (Vic.) is shortly to have a radio club, and to that end a meeting has been convened by Messrs. Rupert J. H. Crocker, M.A., and W. T. Doran. Truly the epidemic is spreading!

COASTAL RADIO SERVICE. STAFF CHANGES.

Mr. Geo. Foot, radio telegraphist in charge, Port Moresby, has been transferred to King Island Radio, on completion of his term of tropical service.

Mr. H. Selge, radio telegraphist, Perth, has been transferred to Brisbane Radio.

Mr. J. Leslie, officer in charge, Brisbane Radio, has been temporarily transferred to Townsville Radio for relief duties.

Mr. J. J. W. Lamb, officer in charge, Townsville Radio, has been transferred to Sydney Radio as officer in charge on completion of his tropical service.

Correspondence

14 Queen St., Croydon,
27th March, 1924.

The Editor,
"Wireless Weekly."

Dear Sir,—Is it possible that the executive of the "Wireless Institute" has gone to sleep over the matter of issuing certificates to exhibitors of wireless experimental apparatus at the recent wireless and electrical exhibition, held in the Sydney Town Hall?

On the night the exhibition closed, I asked Mr. Renshaw whether or not some sort of recognition would be issued by the Institute to successful exhibitors, and although he replied in the affirmative nothing has yet come along in the form of a certificate or letter that could be preserved as a memento.

Now, Mr. Renshaw, what about it?
Yours faithfully,
C. LUCKMAN.

The Haron Electric Co.
1 Spit Road, Spit Junction
Mosman
... FOR ...
SUPPLIES
ADVICE BY EXPERTS
FRIDAY NIGHTS
Enquire for particulars Wireless Competition
NTH. 1931

There's only one best Crystal and it's N. H. M.

Continued from page 9

alise, what a blessing wireless can be to people in every nook and corner of Australia. I well remember the time when several of to-day's leading experimenters did not know the difference between a positive and a negative sign. They made a start, as we all have to do, and they succeeded. But what of the coming generation?

The lad of to-day is the citizen of to-morrow, and it is the young generation, especially lads between 12 and 16 years of age that we should look after. I cannot help writing with a great amount of feeling when I reflect that for nineteen years I have been helping to foster a movement which has given hours and hours of pleasure at home to hundreds, and will give even more enjoyment to thousands yet to come. A Prime Minister of Canada, visiting Sydney years ago, said that a boy without a hobby was no good to himself or to any one else, and here in radio we have a wonderful hobby that unites father and son, brother and brother. Can you tell me any other home pleasure which could appeal alike to all the members of a family?

Yes, it is the duty of every radio

club to see that the experimenters' rights are defended to the last ditch. Australia badly needs a man to come forth and lead the experimenters to victory. Whoever he is, his name will go down to posterity as the man who made wireless free for the people. His name will be on the lips of every cottage dweller, and in years to come, people will look back and feel thankful that the man existed who had sufficient foresight to see things from a national point of view. We do not want unnecessary rules and regulations that will only hinder the development of wireless; it is yet in its infancy and has a long way to go.

Strict regulations may be necessary in a country where there is a population of 60 millions living in an area smaller than New South Wales. But even England, the most conservative country in the world, has seen fit to relax regulations which we are burdened with in this country. If England, with her millions of receiving stations considers strict regulations unnecessary, it can be argued that Australia with only five millions scattered over an area ten times as great as England, needs no regulations at all; at any rate, so far as the receiving side

of wireless is concerned. The Sydney public would not put up with vehicular traffic regulations that were designed for controlling traffic on the London streets.

The time has not yet come in Australia when strict regulations, so far as amateur work is concerned, are necessary, and it is the duty of every experimenter to immediately link himself up with some radio club with a view to strengthening the amateur movement so that the general public might be educated up to what wireless can do at present, and what it can do in the future for them if properly controlled. The amateur movement has received its first S.O.S. signal—"sink or swim!"

Our New Cover

The block which was being made for the design on our new cover unfortunately was damaged when nearing completion, necessitating the making of a new one.

We expect to put the change into effect with the issue after next.



Radio Company

Limited
15 LOFTUS STREET
Circular Quay
SYDNEY



EVERY WEEK will be exhibited in our windows

A Special Line

off which a Cash Discount of 20% will be allowed to every purchaser.

Our Speciality this week (from Monday, April 7th to Saturday, April 12th)

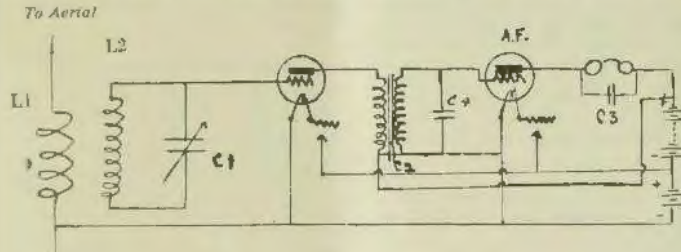
Valves

The Amateur Special.

By 2C.W.

Since beginning to develop a good amateur receiver, I have after much experimenting and tinkering, finally hit upon one that I recommend to all experimenters. It is by far the most selective and easily controlled of the

from 2 volts to 20 volts. There being no valve noises, the speech and signals are received very clearly, and by merely turning the filaments a little brighter, signals may be made so loud as to be uncomfortable in the phones.



To Aerial
To Earth
many circuits I have patiently tried out. The circuit is shown below, and it will be noticed that it has only one control.
This receiver will function admirably using a plate voltage of anything

The range of the set is from 180 to 600 metres.
L1 is the primary and L2 the secondary of a special transformer, which was built by the writer and was constructed as follows: An ebonite tube,

3½ in. long and 2½ in. diameter was obtained and on this was wound the primary winding of 16 turns of No. 24 S.C.C. wire. The turns were so placed as to be right on the centre of the tube. 3 or 4 turns of Empire cloth were then wrapped around the primary. Next 60 turns of No. 24 S.C.C. were wound on (in the same direction as the primary) and so arranged that each end of the winding was spaced the same distance from the end of the tube.

The condenser C1 shown in the diagram shunted across L2 is of .001 M.F. capacity and is fitted with a vernier.

The fixed condensers C2, C3 and C4 are .002 M.F. Results are found to be more satisfactory with hard valves than with soft valves. The tuning of the circuit is extremely simple. Turn C1 until speech or signals are heard and then complete the adjustment with the Vernier. The circuit has been found to work best on an aerial 50 or 60 feet long.

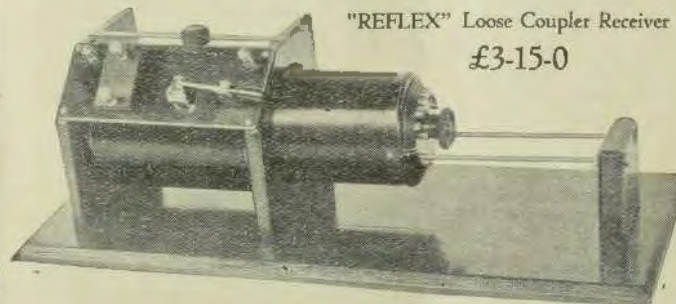
"Don't you think we'd better get some mistletoe while we're here?"
"No, thanks, dear. I don't think I'll need any."—"Judge."

An illustration of our
'REFLEX'
Loose Coupler
Receiver

as Quoted in our Price List

Special Features

Bakelite Panel with Aerial and Earth Terminals; Detector; Phone Condenser and Phone Terminals mounted over Primary Coil; Secondary Coil Selector Switch and Studs mounted on Circular Ebonite on end of coil; Nickelled Terminals; Slider and Running Rods; Polished Maple Woodwork.



"REFLEX" Loose Coupler Receiver
£3-15-0

Complete Set of Parts to make the above Set 36/6

Postage 1/6

RADIO HOUSE
619 George Street, Sydney





THE LEICHHARDT AND DISTRICT RADIO SOCIETY.

Members of the Leichhardt and District Radio Society held their 73rd general meeting, at the club room, 176 Johnston Street, Annandale, on Tuesday, March 25th. The attendance was again excellent, and, after formal business had been disposed of, Mr. F. Thompson was called upon to deliver his lecture on "Telephones and Their Construction." This he did in an excellent manner, and members were made conversant with the construction and action of the different types of telephone receivers. Loud speakers were also dealt with by the lecturer, and at the conclusion of his talk he was called upon to reply to many

questions relative to his subject. The usual vote of thanks was tendered Mr. Thompson, who responded briefly.

On Tuesday next, the fifth lecture of the new syllabus will be delivered by Mr. F. Roseoe, who will deal with "Crystal Circuits and Their Construction."

Unfortunately, the Society was not represented at the special meeting of the Wireless Institute of Australia, held on March 19th. This was due to the appointed delegate being prevented from attending on account of unforeseen circumstances arising at the last moment, but the society is keenly interested in the move made by the Institute, and is following developments closely.

Inquiries regarding the activities of the Society should be addressed to the Hon. Secretary, Mr. W. J. Zech, 145 Booth Street, Annandale, who will be pleased to supply all information desired.

MARRICKVILLE AND DISTRICT RADIO CLUB.

The usual weekly meeting of the above club was held in the School of

Arts, Illawarra Road, Marrickville, on Monday, 24th March, Mr. W. L. Hamilton presiding.

The meeting was purely a business one, but Mr. W. F. Allworth handed the president two letters from 3BD and one from 4CK, congratulating him on his excellent reception on a single valve. Mr. Allworth certainly deserved congratulations for his good work.

Applications for membership to this club should be made to Secretary A. W. Hemmings, 23 Central Avenue, Marrickville.

ILLAWARRA RADIO CLUB.

The 44th meeting of the Club was held on the 25th March, with a fairly large attendance. It was good to see again many of those who had unfortunately been infrequent visitors of late, and the presence of old supporters and the keen discussion of the important business on hand lent a lively atmosphere to the proceedings throughout.

Mr. Cuthbert, Mr. Atkinson, Mr. Mann and Mr. Sellenger apologised for enforced absence on their part from recent meetings, which had been due to pressure of business or indisposi-

DAVID JONES' RADIO SECTION

REMARKABLE RECEPTION ON 3 VALVES.
CALIFORNIAN STATION K.G.O. HEARD.

The following is a portion of a letter received by us from one of our customers residing on the South Coast:

"On the 19th March, at 6.7 p.m., I heard the following announcement: Pacific Coast Station K.G.O., Oakland California, transmitting from St. Francis' Hotel—Conductor. There were selections for forty-five minutes, and the transmission was very clear and plain. Each item lasted from 7 to 8 minutes. The programme was heard by three people, who can testify to the genuineness of the reception."

The outstanding feature of this record is that it was accomplished on a Three Valve set, using—1 Detector, and 2 Audio Frequency Valves. This set was designed and built by the Radio Engineer at David Jones'. We believe that taking into account the Set used and the continuity of the programme received, this is a world's record.

DAVID JONES'
Radio Section, 252 York Street, Sydney

Friday, April 4, 1924.

WIRELESS WEEKLY

17

tion, and these gentlemen gave an assurance that they would endeavour to be with the club more often in the future; and members were glad to have the pleasure of their company again.

Mr. Graham (club delegate to the recent inter-club conference with the Wireless Institute) reported proceedings of the meeting of delegates, and detailed the scheme which had been put forward by the Wireless Institute for the co-operation of all experimental interests in N.S.W., whereby all clubs would affiliate with the Institute, the delegates constituting a supreme central council representative of the whole State. Mr. Graham stated that he considered the proposal a sound and practical one, and one which would well fill the present need for united representation. The proposal had met with the unanimous approbation of the delegates, and he had no hesitation in recommending its acceptance by the club.

The delegate's report was received, and Mr. Graham was thanked for his work in the matter.

Mr. A. Atkinson (Hon. Sec. of Radio Association) also spoke on the subject, and touched on the Radio Association's activities up to date, and the developments which had led up to the present proposed affiliation. He also agreed that the scheme was a good one, and worthy of adoption.

The question of the Club's affiliation with the Institute under this scheme was then opened for discussion. Many and varied views were expressed on the subject, and a number of points were the subject of much debate and argument. Unfortunately there was some misconception on the part of some as to the motives underlying these proposals, and mistaken viewpoints as to the effect of same if adopted, which turned the discussion into many irrelevant side issues. As a result, final acceptance of the scheme was deferred pending further enquiry on certain points, and some assurance that the proposed method of executive control would not prove detrimental to, or impose undue liabilities on the club.

However, it is felt that the points at issue can quickly be cleared up to the satisfaction of all concerned, so that the delay in co-operating is only temporary.

It is refreshing to note that attendances have taken a turn for the better, and it is hoped that future developments will keep them ever on the increase. Decided improvements and attractions may be expected in the

near future, as the committee have matters well in hand, and are working hard to popularise the club and make its meetings worth while. A comprehensive syllabus of instructive lectures from elementary to advanced subjects will shortly be in full swing, and it is proposed to intersperse these with visits and addresses by gentlemen prominent in wireless circles. It is also proposed to make open visitors' nights and demonstrations a feature from time to time.

Arrangements are also under way for a club benefit show and demonstration, to be held in May, and it is anticipated by proper organising work to make a big success of this. That it is expected will put the club on its feet financially, and then steps will be taken for the erection and equipment of permanent quarters for the club. The club will then come into its own.

The next meeting will be held at the club room, 75 Montgomery Street, Kogarah, on Tuesday, April 8th, at 8 p.m. This meeting will take the form of a display and exhibition of members' apparatus. Members are therefore asked to kindly bring along some of their gear. Bring along anything at all. Don't be backward in coming forward, and don't leave it to the other fellow to bring his. Let each man get into the spirit of the thing, and bring something, and the result will be an interesting evening.

The Secretary (Mr. W. D. Graham, 44 Cameron Street, Rockdale) would be pleased to hear from any prospective members, and to supply any information concerning the club on application.

WIRELESS INSTITUTE OF AUSTRALIA.

N.S.W. DIVISION.

The general meeting took place on Thursday, March 20, 1924.

In the unavoidable absence of Mr. J. W. Robinson, his lecture on Modern Broadcasting had to be postponed.

In its place a most interesting general discussion, on the Status of Amateurs in N.S.W. took place, and much enlightening information was contributed by members.

Methods of research and lines of experiment were suggested and a plea was made for more definite quantitative work.

The annual general meeting of this Division will be held at the Royal Society's Hall, 5 Elizabeth Street, Sydney, on Thursday, April 17th, 1924. ?

KATOOMBA SCHOOL OF ARTS RADIO CLUB.

This club, which is in a very flourishing condition, holds its meeting every Thursday night, at the School of Arts and a cordial welcome is extended to any visiting experimenters.

The School of Arts Committee has recently supplemented its first grant of £5 with a further one of £25. A neodyne 3 valve set which is being built by the club will soon be in action.

A syllabus of lectures given by various members and covering the whole field of wireless has been arranged, and half an hour's Morse practise is given every night.

SCOT'S COLLEGE RADIO CLUB.

With a membership of 36, and steadily growing, the Club has been re-organised and has made a fresh start this year.

The new office bearers elected this term are: President, Mr. Henderson; Secretary, Mr. Gillespie; Chairman, Mr. Cox; Treasurer, Mr. Bee.

The apparatus at present used by the club is a double slider crystal set and a pair of Trimm's phones. The aerial is a single wire, 100 feet long and 50 feet high. Lectures are being arranged, and a buzzer set is being installed for Morse instruction. The Club meets every second Tuesday.

NORTHERN SUBURBS RADIO SOCIETY.

The above Society held its weekly meeting at Gordon Public School on Thursday, 27th March, when a very interesting evening was spent. The attendance was also good. The President, Mr. McIntyre, gave a short talk on electrical components and this opened up a discussion between a number of members. The chalk and blackboard were very fully taken advantage of to drive home certain points and theories held by different members and a committee meeting was held previously to the general meeting and an agreement was come to in respect to working the club on one definite line. All members of the Society are requested to attend the next meeting as an announcement will be made in respect to this working arrangement. R. Primmer, Hon. Sec., Gordon Rd., Gordon.

NEWCASTLE DIS. RADIO CLUB.

The usual fortnightly meeting of the above club was held at the club-room, 25 Wisship Street, Hamilton, on Wednesday, 26th inst.

Continued on page 20

Atlas Speakers for purity of tone Colville-Moore Wireless Supplies Sydney

The Moore Fund

SEND US ONE SHILLING.

During the months of January and February, something like 450 experimental licences were granted at Sydney, which brings the N.S.W. total up to over three thousand. This big brotherhood of experimenters we are all proud of is out for the development of wireless and the progress of the experimental movement. Between each and every one of us there is a fine spirit of comradeship and a cheery desire to help each other over the stones that crop up in the path of our experiments.

Naturally, we were all shocked and grieved over the untimely death of our brother-experimenter, F. L. Moore. "Wireless Weekly" started a fund for the relief of the widow and two little kiddies left stranded and helpless—practically alone in the world.

To date we are able to show a credit balance of over £80, and this is

entirely due to the generosity (outside the business firms and radio clubs) of less than fifty experimenters.

Now, experimenters, it's up to you. If every one of those experimenters in N.S.W. who have not yet subscribed sent us only one shilling, over £100 would be added to the fund.

Don't turn this page and forget all about it. Remember, that even while you are experimenting, that little woman and the two children are waiting and hoping for the best that you can do for them. They have no other means of immediate support.

Send that shilling to-day to "Wireless Weekly," 33 Regent Street, Sydney, or to Mr. Phil. Renshaw, Box 3120, G.P.O., Sydney.

The funds will be handled by a Board of Trustees, consisting of Messrs. F. Basil Cooke, Phil. Renshaw and J. W. Robinson. Those gentlemen will see that the money is properly disbursed.

Contributions to date:

Proprietors Wireless Weekly £5 0 0
 United Distributing ... 10 10 0

Mr. Quaife	0 10 0
Wireless Weekly Staff ..	1 3 6
P. Renshaw	3 3 0
Mr. Jones	0 10 6
G. Taylor	1 1 0
J. W. Robinson	1 1 0
F. Basil Cooke	1 1 0
O. Sandel	1 1 0
Mr. Alisop	0 10 6
Mr. Saunders	0 10 6
Robert H. Doyle	1 1 0
Miss Day	0 10 6
A. F. Price	0 10 6
R. C. Marsden	1 1 0
A. Dare	0 10 6
M. McIntosh	0 10 6
Colville Moore	1 1 0
— Herker	0 5 0
— Sanders	0 1 0
Concord Radio Club	0 10 6
V. J. M. Darby	0 12 6
Wireless Institute	5 5 0
J. Usher	0 5 0
D. T. Hinchen	5 0 0
R. W. Faulkes	0 2 6
A. Dixon	1 1 0
J. Lendlaw	1 1 0
C. Storm	0 15 0
H. Carter	0 5 0

ANNOUNCEMENT

American Radio Apparatus

Wholesale Only

PACIFIC ELECTRIC CO.

SECOND FLOOR, KINCOPPAL CHAMBERS

No. 38, MARTIN PLACE - SYDNEY

Friday, April 4, 1924.

WIRELESS WEEKLY

19

A. Larkin	1 0 0	Croydon Radio Club	1 1 0
E. Mason	0 5 0	Leichhardt District Radio	
N. Ambrose	0 3 0	Society	1 1 0
J. C. Prichard	1 0 0	Newcastle Radio Club	1 10 0
Keith Davis	0 5 0	N. P. Olsen	1 1 0
C. Leaver	0 5 0	L. P. R. Bean and Co., Ltd.	2 2 0
R. Seach	0 2 6	John Danks and Son, Pty.,	
Campsie and District Radio		Ltd.	1 1 0
Club	0 15 0	F. Hoffnung and Co., Ltd.	2 2 0
A. E. Henry	0 5 0	Western Electric Co. (Aus.)	
Charles Tripp	0 5 0	Ltd.	2 2 0
Wireless Branch (P.M.C. De-		Western Suburbs Amateur	
partment, Melbourne) ..	1 8 0	Wireless Association ..	1 1 0
Illawarra Radio Club	0 10 0	G. R. Challenger	0 10 6
T. E. Dickenson	0 5 0	Northern Suburbs Radio	
Aust. Radio Relay League ..	£1 1 0	Association	3 3 0
Goulburn & District Radio			
Club (Member)	4 0 0		
Edison Swan Electric Co. ..	1 1 0		
W. Harry Wiles	1 1 0		
Farmer and Co., Ltd.	5 5 0		
F. T. S. O'Donnell and			
Griffin Ltd.	0 10 6		
O. F. Mingay	0 10 0		
G. E. H. Blanchard	0 10 0		
F. Lucas	0 2 6		
Mr. Howell	0 10 6		
Marrickville and District			
Radio Club	0 10 6		

Total £84 15 6

PROGRESSIVE FIRM.

Messrs. W. Harry Wiles, the well-known electrical and radio supply firm are busy constructing a new building at the Agricultural Show Grounds, Sydney, for the forthcoming Royal Easter Show. Besides their large range of electri-

cal appliances, they are devoting one section exclusively to wireless. In addition to complete transmitting and receiving sets, a full range of accessories and parts for amateur construction will be shown and visitors to the Show will have an opportunity of examining the interesting apparatus used in modern wireless. Expert assistants will be in attendance to give free advice to visitors. The building being erected will be located at No. 74 Desmond St., directly opposite the blood stock pavilion.

A victim of chronic bronchitis called on a doctor to be examined. The doctor, after careful questioning, assured the patient that the ailment would respond readily to treatment. "I suppose you must have had a great deal of experience with this disease?" said the sufferer.

The doctor smiled wisely, and replied: "Why, my dear sir, I've had bronchitis myself for over fifteen years."—"The Christian Evangelist" (St. Louis).

Our Service to "Wireless Weekly" Subscribers.

ARE YOU

just beginning to get interested in the fascinating science of wireless?

or

tinkering about with your first crystal set?

or

puzzling over ways and means of improving your present outfit?

or

worried about the poor modulation of your 10 watter?

or

annoyed at finding that the issue you want is sold out?

or

in need of some authoritative business advice concerning wireless?

This Paper Can Help You!

Our service to subscribers is gladly given, and it's free. Wireless Weekly will be mailed to your address every Thursday for 12 months (52 issues), for 13/., post free. Six months' supply (26 issues) 6/6, post free.

Just Fill in this Form, and Mail it To-day.

Wireless Weekly Newspaper,
33 Regent Street, Sydney.

Kindly forward a copy of Wireless Weekly every week for a period of months,

Enclosed is my postal note for shillings.

Name

Address

**Before you
Expend
Money on
Radio
Equipment
Consult
Anthony
Hordern's
Wireless
Experts.**

Your inspection of the big display of everything that is new in the world of Wireless, is invited.

(Wireless -- Second Floor)

Anthony Hordern & Sons Limited,

Brickfield Hill, Sydney

Phone City 9440. Box 2712 G.P.O.

Continued from page 17

Mr. Seward, the President, occupied the chair, and there was a good attendance of members.

The Secretary read a report by the Club's delegate of the recent conference of clubs in Sydney. After discussion it was unanimously decided to affiliate with the new Council. The Secretary was also instructed to convey the Club's most grateful thanks to Mr. N. S. Gilmour, the popular President of the Neutral Bay Radio Club for having represented it at the conference.

The club is in receipt of a report from a Woomona (South Coast) experimenter stating that he recently logged in on a "single tooth" non-regenerative receiver. 250 was radiating 0.5 amp. at the time from 10 watts. Can any "ten watter" beat that?

Three new members were elected. Two experimenters from the Maitland district attended the meeting and said that they contemplated forming a Club at Maitland. In extending them a welcome, the President assured them that they could depend on our Club for any advice or assistance they required.

At the conclusion of the business, Mr. Seward gave a most instructing lecture on a chemical rectifier he had constructed for the purpose of charging his filament accumulator. The lecturer gave complete details of the transformer and rectifier jars (all of which are home made) and the actual cost of charging his 6v. 60 I.A.H. accumulator, allowing for deterioration of electrolyte and waste of aluminium plates, worked out at 3/d.

The club would appreciate reports from experimenters hearing their station 250—wave length 245 metres—radiation 1 amp. from 13.5 watts. L. T. Swain, Hon. Secretary, 49 Everton St., Hamilton.

STRATHFIELD AND DISTRICT CLUB

The second general meeting of the club was held at the residence of the Secretary, Mr. W. Wrasall, "Almor," Long St., South Strathfield, on Thursday, 27th March, 12 members being present.

Although this club has only been in existence a fortnight, it already has 16 members, and is receiving enquiries from every direction from experiment-

Published by A. W. Watt, "Strathfield," East Crescent St., McMahon's Point, for the proprietors and printers, Publicity Press Ltd., 33/37 Regent St., Sydney.

ers who are anxious to join the club.

The meeting was a very successful one, and a good deal of business was put through; after discussion it was decided that at an early date the club affiliate with the Wireless Institute.

As soon as a suitable club room can be obtained it is intended to raise sufficient funds by concerts, etc., to put in a 4 valve receiving set, and it is hoped that before the end of the year the club will have its own transmitter.

From the enquiries received there is every reason to believe that the club will be one of the strongest in the State.

Vice-President Mr. Macintosh intends within a week or so to deliver an address to members from his station 22G. The details of transmission will be published in next issue of the Wireless Weekly.

The club will be pleased to welcome any genuine experimenters next Thursday, the 3rd of April at 8 p.m. at "Almor," Long St., South Strathfield, or any enquiries will be gladly answered by the Secretary, Mr. M. Wrasall, at the above address.

WAVERLEY RADIO CLUB

Mr. Perry occupied the chair at the meeting of the Waverley Club, held on the 25th March. A communication was received from the "Daily Telegraph," inviting club reports. These, it was decided, would be sent. It was then moved and seconded that the club subscription to the Moore Fund close next week, and the amount forwarded to "Wireless Weekly." This was carried. The delegates to the meeting convened by the Wireless Institute, Messrs. Perry and Burrows, presented their report. It was afterwards decided that the delegates' action in participating in the affiliation be endorsed.

The matter of a "Fighting Fund" was then mentioned. Mr. Bowman moved: "That the club instruct its delegate to put forward at the next meeting of delegates to the Institute, the immediate necessity of creating a reserve fighting fund." Carried unanimously. The question of the club's delegate was then discussed. Mr. G. Thompson and Mr. A. Burrows were proposed. Mr. Burrows was finally elected.

Mr. J. Marsland suggested a junior, or associate membership for the club, consisting of members under 16 years of age. Eventually Mr. R. Stewart moved that, in the place of an associate membership, a series of weekly lectures and buzzer practice be held at a nominal fee. This was seconded by Mr. D. Graham and carried.

March 28, 1924.

WIRELESS WEEKLY

COL-MO RECEIVING SETS

**BROADCAST AND EXPERIMENTAL
RECEIVING RANGE UP TO 1,000 MILES**

1 Valve from £16 to £20
3 Valves from £37 to £45

2 Valves from £25 to £30
4 Valves from £42 to £50

The above sets complete with Batteries, Insulators, Aerial Wire, etc.

Loud Speakers from £3 15s. to £17 10s.

*Broadcast Sets will respond to both Broadcasters (Sydney) Ltd.
and Farmers' wave length.*

For further information call or write to

The Colville-Moore Wireless Supplies

**Specialists in Radio Receiving Set Parts
10 ROWE STREET - - - SYDNEY**

WRITE US FOR PRICE LIST OF OTHER RADIO APPARATUS

ANNOUNCEMENT

We are pleased to notify our customers, both Wholesale and Retail, that we are now ready to quote for the erection of aerial masts from 30ft. to 200ft. in either Wood or Iron, also for flags of any design.

E. H. BRETT & SONS LTD
LITTLE AVENUE, BALMAIN EAST

Phone W 1205



"No. 41" JEFFERSON
AMPLIFYING TRANSFORMER

4 REASONS WHY !

- 1st.
A Jefferson is scientifically designed.
- 2nd.
The windings are carefully calculated to produce 100 per cent. amplification — they are not built up to a ratio.
- 3rd.
The Jefferson line embraces a variety of amplifiers to meet every demand — six Audio and two Radio Frequency types.
- 4th.
As pioneer transformer manufacturers, Jefferson Engineers designed audio amplifiers long before Radio reached its present popularity. You will appreciate Jefferson's extra years of experience.

**The Vital Spot
In the Radio Set**

is the transformer. The advantages of using JEFFERSON TRANSFORMERS are acknowledged by hundreds of thousands of users the world over.

Stability of operation; Freedom from Distortion; Maximum Amplification! Those are the characteristics demanded of transformers, and they are the qualities which have made JEFFERSON TRANSFORMERS the most popular among experimenters!



Introducing Jefferson "STAR"
AMPLIFYING TRANSFORMER



**Buy an
Amplifier**

For what it will do—
The Service it will
render—
The tone and volume
it will produce—

Results Count!

You introduce 100 per cent
scientific efficiency into your
set when you install

**JEFFERSON
TRANSFORMERS.**



"No. 45" JEFFERSON
Amplifying Transformer

World's Leading Transformers
stocked by Colville-Moore, Radio House,
Radio Co., A. Hordern and Sons, Ramsay Sharp,
Universal Electric, Wireless Supplies Ltd.,
Harry Wiles, David Jones Ltd., Mark Foy's Ltd.,
Homecrafts, Melbourne; J. C. Price, Brisbane;
Adelaide Radio Co., and all Leading Wireless
Stores throughout Australia.

Sole Agents for Australia:

**Fox & MacGillycuddy
Limited**

Daily Telegraph Buildings, KING ST., SYDNEY
Phone: CITY 3062.



JEFFERSON RADIO
Frequency Transformers