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A TALK WITH "WIRELESS WEEKLY."
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The Radio Regulations are out, and will come into operation today.

"Wireless Weekly" has fought hard to get them issued, and this journal can fairly claim to have done much towards that end. It was, of course, only the duty of the first and sole radio paper in the Commonwealth, and it is our intention to carry on any such campaign on behalf of the amateurs, should the occasion arise in the future.

As to the regulations, it appears that the experimenter has been liberally and fairly treated. The concessions as to transmitting have been granted, and the high licence fees, long a thorn in the side of amateurs, have been reduced.

The way is now open for the development of the boom which has been threatening for some months past. Everybody interested in the science and its development can congratulate the authorities on the fact that it will not be a boom such as swept America. Here it will be an orderly development, whereas America plunged into radio chaos, which is only just being straightened out.

Those who read the regulations little think of the tremendous amount of work they have given the Controller of Radio Telegraphy, Mr. J. Malone. But he carried out the ticklish task well, and it is up to all who come within the scope of the regulations to help him to carry them out as they should be.

Every Radio Club or Association should secure a copy of the regulations, and make its members thoroughly familiar with the provisions that concern them. They should also impress upon their members the necessity for "playing the game," for it is only by doing so that the privileges won with such difficulty will remain with them.

The Authorities have shown now that they are out to encourage the science from a popular viewpoint, and it is up to the amateur to confess that he has been very well treated, and give them every assistance to keep order in the ether.

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FOR SAFETY.

American Regulations.

Through its bulletin, "Safeguarding America Against Fire," the American National Board of Fire Underwriters has made public the tentative regulations covering radio receiving installations, that disclose considerable modification as compared with the requirements previously issued.

In brief, the tentative regulations applying to receiving installations only cover the following points: Antennae outside of buildings shall not cross over or under any electric light or power wires of any circuit carrying current of more than 690 volts. Antennae shall be constructed and installed in a strong and durable manner. Splices and joints in the antenna span, unless made with approved clamps or splicing devices, shall be soldered. Lead-in wires shall be of copper, approved copper-clad steel or other improved metal which will not corrode excessively, and in no case shall they be smaller than No. 14 B. & S. gauge except that approved copper-clad steel not less than No. 17 B. & S. gauge may be used.

Keep lead-in wires away from power and electric light wires, by air spacing or by a continuous and firmly fixed non-conductor. Lead-in wires shall enter buildings through a non-combustible, non-absorptive insulating bushing. Each lead-in wire shall be provided with an approved protective device properly connected and located (inside or outside the building) as near as practicable to the point where the wire enters the building.

The lead-in wire must not be placed near inflammable material. The use of an antenna grounding switch is desirable, but does not obviate the necessity for the approved protective device. The ground wire may be bare or insulated and shall be of copper or approved copper-clad steel. If of copper the ground wire shall be no smaller than No. 17 B. & S. gauge.

The ground wire shall be run in as straight a line as possible to a good permanent ground. Gas piping shall not be used for grounding protective devices. The ground wire must be protected against any possible injury. Wires inside buildings shall be securely

AN ELECTRIC PILOT.

To lead ships into port a novel device has been elaborated.

An electric cable is laid from the shore out along the channel which the ship should follow terminating in a large metal plate. A heavy alternating current is sent along this cable, with a frequency corresponding to an audible note.

The cable is then surrounded by a varying magnetic force, which produces induced currents in coils arranged one on either side of the ship, current which manifest themselves either as sound or light, according to the apparatus employed. In either case, when the ship is exactly over the cable, the effect is the same from both coils; when it is to one side the coil nearer the cable gives a greater effect than the other.

The ship can thus grope its way along the cable, holding on, as it were, to the invisible lines of the pulsating magnetic force, just as a blind man might guide himself by following a rope with his hand.

fastened in a workman-like manner and shall not come nearer than two inches to any electric light or power wire unless separated therefrom by some continuous and firmly fixed non-conductor making a permanent separation.

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THE REGULATIONS**RADIO LAWS FOR THE AMATEUR.**

The New Wireless Regulations, as they stand, cover fifty-three printed pages, so it would be impossible for us to reproduce them in their entirety. Following, however, are the portions which deal with amateur wireless, and the most important concerning other branches:—

CLASSES OF LICENSES.—The classes of licenses shall be:—Coast Stations, Ship Stations, Land Stations, Broadcasting Stations, Experimental Stations (transmitting and receiving), Experimental Stations (receiving only), Portable Stations, Aircraft Stations.

A declaration of secrecy of wireless communications shall be made in accordance with the form in the schedule by all persons actually operating the licensed installation or having access to wireless communications.

BROADCASTING.—A broadcasting station license may be granted in respect of a station operated for the purpose of disseminating news service or entertainment service. The licensed station shall be operated by a certificated operator, or by a competent person who shall be approved by the Controller. The station shall not be utilised for broadcasting advertising matter or commercial traffic. The station shall be equipped with receiving apparatus. Further Regulations concerning broadcasting are to be added shortly.

EXPERIMENTAL LICENSES.—These shall be of two classes: transmitting and receiving, and receiving only. They may be granted to technical schools and similar institutions, radio clubs approved by the Controller, and for instructional purposes or for purposes of scientific investigation of wireless telegraphy or telephony phenomena. If an applicant is under twenty-one years of age the application shall be countersigned by a parent or guardian, or other approved person who shall be responsible for the observance of the conditions of the license. The applicant shall (a) indicate the nature and object of the experiments which he desires to conduct; (b) satisfy the Controller of his technical qualifications to conduct experiments scientifically, and to adjust and control the apparatus he proposes to operate; (c) if required, submit himself to such examination as the Controller directs, the fee for such examinations being five shillings; and (d) where the application is for a license to transmit and in such other cases as the Controller may decide be capable of operating at a speed of twelve words (Morse) a minute sending and receiving.

The Controller may authorise the licensee in writing to operate his licensed installation at an address other than that shown in the license. The Controller may grant a temporary permit for a demonstration of wireless telegraphy or telephony in connection with lectures, entertainments, or any such proceedings calculated to assist the development or public appreciation of the art.

FEES.—The following fees shall be payable for each year or portion of a year during which any license is in force:—For a coast station license, £1; ship station, £1; land station, £1; broadcasting station, £5; experimental station (transmitting and receiving), £1; experimental station (receiving only), 10/-; portable station, £1; aircraft station, £1. Provided that the Minister may grant any license free of charge to Amalgamated Wireless, Ltd., pursuant to the agreement made on March 28th, 1922, between the Commonwealth and the Amalgamated Wireless, Ltd. The fees under this regulation must be paid in advance.

SYNTONY CONDITIONS.—Before any license is granted the applicant shall satisfy the Minister or Controller that the wireless telegraphy apparatus or appliances to be worked in pursuance of the license comply with the regulations for the time being in force governing syntony and wave-length.

DECREMENT AND COUPLING.—The waves emitted by any station licensed in Australia must be as little damped as possible, and in no case shall the logarithmic decrement of a complete oscillation exceed two tenths, except when sending distress signals or signals or messages relating thereto. The coupling between the primary and secondary of the oscillation transformer shall not be closer than that which gives a difference of five per cent. between the mean wave-length and either of the two waves emitted by the coupled circuits.

SUPERFLUOUS SIGNALLING.—The transmission of superfluous signals by any station is absolutely prohibited; trials and practices are forbidden except under such circumstances as to preclude the possibility of interference with other stations. No person shall transmit or make a signal containing profane words or language, or transmit improperly the call sign of another station or any signals not necessary for the conduct of experiments or traffic.

INSPECTION.—The Minister, or any person authorised in writing by the Minister or the Controller, may at all reasonable times enter upon any station on which wireless telegraphy appliances are installed, or are being installed, in pursuance of a license, and may examine or test the appliances and the working and user thereof.

If a Justice of the Peace is satisfied by information on oath that there is reasonable ground for supposing that a wireless telegraphy station has been established, or that any apparatus for wireless telegraphy has been installed or worked in any place or on board any ship within his jurisdiction, without a license in that behalf, he may grant a search warrant to any police officer or officer appointed on that behalf by the Minister or the Controller and named in the warrant, and a warrant so granted shall authorise the officer named therein to enter and inspect the station, place, or ship, and to seize any apparatus which appears to him to be used or intended to be used for wireless telegraphy therein.

SALE OF APPARATUS.—No person or firm shall sell or supply wireless telegraphy or telephone apparatus to any person unless and until the person requiring the apparatus produces evidence that he is in possession or is about to obtain a license as prescribed in these regulations. Penalty £10. All purveyors of wireless telegraphy and telephony apparatus shall accordingly keep a register of sales of the apparatus, which register shall be available for inspection by the Controller or officer appointed by him, such register to be in accordance with the form prescribed in the schedule.

The schedule gives in full the license forms of the various stations, also the various forms connected with the sale of apparatus, etc.

Copy of Form to be used by Firms selling Wireless Material.

(COMMONWEALTH OF AUSTRALIA)

Register of Sales of Wireless Apparatus in accordance with Wireless Telegraphy Act 1905-19 and Regulations thereunder.

Particulars of Wireless Apparatus disposed of by

| (1) Date of Sale | (2) Article or Articles. | (3) Obtained by (Name and Address) | (4) Has a license been granted to or applied for by person named in (3). | Signature of Person named in 3 |
|---------------------|-----------------------------|------------------------------------------|-----------------------------------------------------------------------------|--------------------------------|
| | | | | |

Form for Purveyors to Register the Sale of Apparatus.

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Ditto (with Knobs), 6s.

SAFETY AT SEA.
NEW METHOD
Preventing Collision.

Professor John Joly has worked out a practical method by which collision can be avoided between two ships equipped with machinery for wireless and submarine signalling, however obscure and stormy the weather.

To understand it, consider first of all two ships, one of which is proceeding due north, while the other is proceeding due south, each at a fixed rate. They will collide only if their courses are in the same straight line, in which case the rate at which they are approaching one another remains the same from minute to minute, and is greater than it would be if their directions and speeds were unaltered, but they were not in the same line. For example, if the ships are passing abeam of one another, they remain at about the same distance for a short time, and the rate of approach is zero, while even before and after the moment when they are abeam the rate of approach, though greater, is always less than the sum of their speeds.

In general, on whatever straight courses the ships are proceeding, if they are heading for collision they approach one another at a perfectly definite rate, easily calculated from their speeds and directions; if they are going to pass safely, the rate at which they draw near is less, and also varies from minute to minute. Hence, to know if collision is likely to occur if the ships hold on their courses, the navigator must know his own course and rate, those of the other ship, and also the rate at which the distance between the ships decreases from minute to minute.

The courses and rates are communicated by wireless. The distance apart at any instant can be fixed by a system of submarine sound signalling. For if the submarine bell on one ship be struck at the same moment as a wireless "dot" be sent out the interval between the arrival of the two signals at the other ship gives

the distance, since the wireless signal travels for all practical purposes instantaneously while the sound travels through water at a fixed speed approaching a mile a second.

Accurate methods are available to measure this interval. The distance apart being determined in this way every minute the navigators can soon decide if the ships are steadily approaching one another at the rate which indicates danger, and, if so, decide on the appropriate change of course.

A routine can easily be mapped out which makes the method of taking and interpreting the signals easy even in emergency conditions, and has, in fact, been indicated by Professor Joly, and simplified still further by Professor Plummer. The near future may see some mechanism for the production and reception of submarine sound as much a matter of ordinary equipment on every ship as is at present the deceptive siren.

A considerable amount of very valuable work has been carried out by the British Admiralty, working in conjunction with the Mullard tube builders. Much progress has been made in the construction of silica tubes which have now been made in 10 kilowatts sizes.

- A. What kind of aerial would you advise me to erect?
- B. Have you a license?
- A. Er,—not yet.
- B. Then you had better have a Star Aerial.
- A. Star Aerial! What kind is that?
- B. Comes out at night.

ON THE PRARIE.
Lifting Isolation.

As an illustration of what has been accomplished by the wireless telephone in Canada, a correspondent of the London "Times" describes how a concert given in Edmonton, Alberta, by the band of the Scots Guards was being broadcast across the rolling prairies to be caught by delighted little groups sitting in farmhouses miles and miles away.

A wonderful achievement, perhaps—and yet one that is being repeated with modifications every day. The people of the cities who look on "radio" as a new toy have little idea how it is entering into the daily life of the people in the distant places of the prairies. The telephone meant mile after mile of expensive wire. Wireless telegraphy meant not only an elaborate installation, but much technical skill.

Now, for the expenditure of a few dollars and the construction of a home-made aerial on a pair of spruce poles above the farmhouse, the settler is hearing the news from the cities, enjoying concerts broadcast from all the cities of Western Canada—his children are dancing to the strains of an orchestra a hundred miles and more to the east. Yet the greatness of the radio is not told solely in terms of amusement. To-day it may be a new toy, and people in the country as well as in the city are playing with it as such. But when they are tired of playing, its true greatness will be seen. It has succeeded, as no other invention has done, in lifting the isolation that is such a heavy burden to the settler and to the settler's wife.

It should be the same in Australia.



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EXPERIMENTAL TRANSMITTER.

Attention, Mr. Amateur, if you are itching to tickle a transmitting key and change over switch, make the apparatus described here and you can have hours of fun sending and receiving real wireless messages, making yourself and your friends expert at reading the code and finding the sensitive spots on a crystal.

You will only need one small buzzer, the smaller the better, two dry cells, a lump of galena,

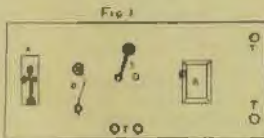


Fig. 1. A. KEY. B. BATTERY. C. SWITCH. D. Buzzer. T. TERMINALS.

four terminals, key, switch and phones to make one of these complete sending and receiving sets. The general design of the outfit appears in fig. 1. The dry cells are in a box, of which fig. 1 is the top. An ordinary two-way will do for a change over switch. If you have not been hoarding some more elaborate form in hopes of more lenient regulations. The wiring may be followed from fig. 2 and is put on the under side of the box lid. Connections are soldered wherever possible.

A water pipe is used for a ground as usual and the aerial consists of ten to fifteen feet of ordinary copper wire strung up on the wall or from the pictures in the operating room.

The set works as follows:—

When the switch is on the buzzer and battery side, and the key

is pressed, wireless waves will be radiated, and may be detected at a short distance. When the switch is on the phone side, and the crystal adjusted, any wireless disturbance in the neighbourhood if strong enough, will be detected and heard in the phones.

Thus the idea is to set up two such outfits in different rooms in the same house, and though the buzzers cannot then be heard between them directly, yet they will radiate wireless waves which will reproduce the sound of the buzzer in the phones of the receiving station.

So you may exchange real wireless messages with each other. Static will not trouble you on the wildest night, and you can demonstrate the wonders of wireless to your friends. You can also have as much code practice as you please without ever having to wait for VIS or anybody else to start up.

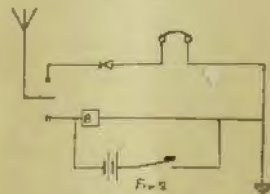


Fig. 2

The apparatus described has, of course, been actually made and is guaranteed to work. It may always be used as a test buzzer when you are operating your tuned set.

WARNING.—Do not use an aerial more than 15 feet long, and keep it entirely indoors.

T. B. STEPHENS.

REMOTE CONTROL

AT ARLINGTON.

Situated in the coastal radio room of the Navy Department Building, at Washington, are two small booths from which the transmitting apparatus of the famous Arlington radio plant, four miles away, is manipulated by remote control. An ordinary telegraph circuit is used between the control station and the sending station, and pressing a key in one of the control booths automatically sends the dots and dashes from the Arlington antenna.

Each of the control booths resembles, in general appearance, a refrigerator, and the construction is, in many respects, quite similar. The booth has double walls, with a copper screen between them, and completely surrounding the booth. The screening is grounded and serves to absorb any stray induction from outside electric wires and motors (says "Popular Mechanics"). The booths are of soundproof construction and are ventilated by fresh air drawn through large pipes from outside the building.

The batteries for the receiving apparatus are placed above the booths. There are two sets of batteries for each, and they are so connected that, while one set is in use, the other is being recharged.

Above the transmitting station at Arlington there are several antennae that radiate from a central tower, like the spokes of a wheel. The switches that make the connection with these antennae are located in the remote-control office. They are so arranged that when an operator wishes to tune in for any distant station, he selects the antenna that most nearly points toward that station, and throws in the proper switch. It is possible to work with any one of the antennae in either booth.

LOOKING
BACK

RADIO RECOLLECTIONS

BY
A.Z.

When I look back a few short years to the time when I was first stricken with this wireless mania, it seems but yesterday. Yet these thoughts do not cross my mind without feelings of pleasure and triumphs at overcoming the many difficulties and trials encountered; the gratification of the achievements of my early experiments, and the many little humorous incidents that I can recall.

I think it was in 1911 that I built my first receiver, and I must admit that I really didn't expect it to work, at least at first, so that when I hooked it on to the backyard clothesline, to say that I was merely surprised when signals did come in, was putting it mildly.

The first station I heard was, I think, H.M.S. Cambrian, which was at anchor in the harbour (Sydney), and later the Pennant Hills (then P.O.P.), and the Hotel Australia station of the Australasian Wireless (A.A.A.).

From this I appeared to have a receiving range of about five miles, but after all what can a beginner expect to do with a badly-made single-inductance tuner, two bits of arc lamp carbon, and a sewing needle for a detector, an old "Bell" telephone receiver, and, last but not least, the clothesline aerial, which was galvanised iron wire, and only eight feet high. †

Nevertheless, these are results, and although they may seem paltry at the present time, they at least served to fire me into enthusiasm, and to greater efforts.

I next set to work and built an aerial, a real one this time.

I had to build a transmitter, but, of course, there was no trouble over licences in those days. It was a one inch coil set, with a condenser made from photographic plates and tinfoil, and fixed spark gap. The spark coil worked best on 12 volts, and consumed over one ampere, so that when I found I could communicate up to fifteen miles, I considered I was great guns! Twelve watts! It

looks ridiculous now, but there were no valves then.

I sent my first call one Saturday afternoon, the general call to all amateurs, then (XQ). An answer came almost immediately, and completely took my breath away. It was from Mr.—, who sent me a message of congratulation, and after giving me the usual dope, he switched off, saying, "Am going to the races, will call you after tea."

Then there was my old friend H—. I remember one evening going over to see some new gear he had made. He was listening in on 600, when he heard a stray amateur whose wavelength appeared to have strayed also. "Listen to this," he said, handing me the phones, and, sure enough, it was some outside 250 meter wave. Next moment H— was hammering away at the keys, "Do you know your wavelength is a bit out O.M.?" A few seconds' silence, then the answer came: "Get a new tuner and try again." H— stared, his eyes flashed, his hair stood on end; he made one tremendous grab at the key, and what he sent was wonderful!

Interference? There was interference in the old days just as now, but I remember one incident which, though irritating at the time, certainly had its touch of humour. A chap whose call was XA—well, it doesn't matter now, had installed a nice powerful 10 inch coil with hammer break; you know the kind. The break has a lump of iron on the end, which, usually, weighs about half a pound, and has a frequency of about 10.

I am sure this coil could be heard throughout the length and breadth of New South Wales; it was some Xs.

Now, XA—had a receiver also, but, judging by results, its range was extremely limited for poor old XA—would fill the aether with XQ's night after night,

and, although replies came by the score, XA— never heard them.

Now, it so happened that one evening XA—, after sending his usual programme of XQs, etc., to the extinction of all other 250 meter traffic, decided at the respectable hour of 11 p.m., to retire to bed, and he said so. This is something like what he tapped out:—

"Good-night, good-night, good-night, am going to bed now. G.N. G.N. G.N. Good-night (for 15 minutes). Good-night all, good-night everybody; see you later, good-night, good-night, good-night (for another 10 minutes), then silence for a minute, then G.N. G.N. G.N. Good-night all."

Never was there such a farewell. It took longer than the proverbial lovers' farewell.

There was dead silence. He had gone! I couldn't believe it, in fact, we all couldn't, but none dared to break the silence lest he should come to life again.

Five more minutes passed in absolute silence, then from out the darkness of the aether came the solemn words, "T-H-A-N-K G-O-D."

(It was from the sole survivor).

THIS IS TO BE A WIRELESS
CHRISTMAS.

Book your order now for a wireless set, for your boy, or for the home. Do not leave it to the last minute, because WE KNOW that hundreds of people are buying sets for Christmas presents, and there will be a shortage.

Prices, from £2.

MISS F. V. WALLACE,
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Tel.: City 8543.

POWER THROUGH SPACE.

NOT PRACTICABLE YET.

With the advent and development of radio the question arises whether super-transmission lines in years to come will disappear as the ether lanes carry the electrical power to its destination.

Each radio transmitting station sends forth electromagnetic waves, some actuated by several hundred kilowatts of power. In the present use of radio the power scatters in all directions and only a fraction of the original strength is received, but by means of amplification the energy is sufficient to render a message in intelligible form (says the New York "Times"). Dr. Charles P. Steinmetz points out that the energy in one pound of coal is sufficient to operate a radio receiver for a thousand years, so minute are the incoming impulses of the air. He further shows that for radio power transmission the waves must be so directed that a large part of their power remains together so as to be picked up by the receiving station.

In a talk before the Radio Congress in Chicago Steinmetz compared the limits of impossibility of concentrating a beam of radio waves with a beam of light. The wave lengths of light differ from radio waves in that they are millions of times shorter. Light as produced by an electric bulb scatters in all directions similar to wireless waves; however, it is possible to form a concentrated beam by a searchlight. But there is also a scattering of light in a searchlight beam. At a distance of ten miles from the reflector the light will spread to a diameter of 2,000 feet, and at 100 miles the beams cover an area of sixteen square miles. No matter how perfect the reflector, the slight imperfections count seriously over a 100-mile stretch.

From the present knowledge of radio and the mysterious ether channels in comparison with the waves of light, the transmission of power by radio cannot economically be foreseen to-day. Losses by absorption in radio transmission would be tremendous. To have a certain wave length of the

SOUTH AFRICA'S DOUBTS.

The possibility of utilizing radio telephony in remote and difficult parts of South Africa has been engaging the attention of the Post Office authorities. Two suitable Marconi sets were purchased in England and various trials and tests were made by the local representative of the Marconi Company in Swaziland and other remote regions, as well as between Cape Town and Touws River in the Cape Province, a distance of 160 miles.

While these trials proved very satisfactory so far as the range and efficiency of operation under favourable atmospheric conditions were concerned, the Post Office authorities express some doubt as to the commercial practicability of the method, particularly in a sparsely settled country like South Africa where the amount of traffic between the outlying districts would not be sufficient to guarantee the cost of the installations.

ether carrying millions of kilowatts would create a maximum of interference and would practically make radio communication impossible. Perhaps as the future unwinds the art of radio new discoveries will make power transmission economically feasible, but until more is known of the invisible ether there is not likely to be any lofty steel towers etched against Niagara's sky to hurl power through space without the aid of transmission lines.

PRAISE FOR THE ARC.

The Imperial Wireless Telegraphy Committee of 1920 described the arc as "pre-eminent at the present moment among methods of long-range wireless transmission." Leafield, the first station of the Imperial chain, has now been equipped with the Elwell-Poulsen arcs similar to those at Lyons, Rome, Nantes, and so on.

Transmitting press dispatches at low power preparatory to the opening of the similar station in Egypt, Leafield's signals were regularly received in Australia and India, and by British shipping throughout the routes to America, South Africa, and Australia. Arcs handle traffic with certainty and at low cost. They are particularly suited for use in districts remote from the great industrial centers. Arcs are recommended by the Wireless Telegraphy Committee of 1921 for installation in East Africa, Hong Kong, and Singapore.

From Toronto comes word that the radio fever has spread from the United States to Canada, and all the electrical firms and even other organizations not closely associated with electrical apparatus are experiencing an extraordinary inflation of trade. Factories are running under pressure, with three shifts every twenty-four hours, under conditions similar to those prevailing in munition works in the urgent days of the war.

Burgin Radio College.

Learn sufficient to pass the Examination for a Valve Set. Twelve words per minute Morse.

This course is to meet those requirements. Class held on 2nd Floor, Rawson Chambers (near Railway), on Monday, Wednesday and Friday evenings, 7.30 p.m. to 10 p.m.

Instructor, late R.A.N., 20 years' experience.

- FEES**—3 months, full course, £5/5/-.
- 3 months, full course (lecture only), £2/10/-.
- 3 months, full course (Morse practice only), £3/3/-.

Private Tuition day or night.

Send for particulars, Principal, 352 Kent Street, Sydney.

**AMATEUR CALLS
NEW SOUTH WALES.**

The following is a list of Licences issued to amateurs in the State of New South Wales to the end of October, 1922.—

| Call | Name. | Address. | Nature of Licence. |
|------|-------------------------------------|------------------------------------------|--------------------|
| 2 BE | C. Wells | "Beachmount," Kirkoswald Ave., Mosman | R. |
| 2 BF | L. E. Forsythe | "Hoylake," Sallor Bay Rd., Northbridge | R. |
| 2 BG | H. A. Warden | Public School, Mungindi | R. |
| 2 BH | J. H. Dawson | "Edgecliff," Pearce St., Coogee | R. |
| 2 BI | A. L. B. Nairn | "Braemar," 67 Prince St., Mosman | R. |
| 2 BJ | I. W. Archibald | "Hereverest," Tingha | R. |
| 2 BK | F. N. Leverrier | "Lorette," Macpherson Rd., Waverley | R. |
| 2 BL | J. Saban | 237 Cowper St., Waverley | R. |
| 2 BM | E. T. Vears | "Pipitea," Grose St., Leura | T. |
| 2 BN | F. W. Kimpton | C/o Mrs. E. Brown, Swift St., Ballina | R. |
| 2 BO | H. D. Channon | High St., Ross Hill, Inverell | R. |
| 2 BP | A. M. Elyard | Osborne St., Nowra | R. |
| 2 BQ | A. J. Reed | 75 Evans St., Rozelle | R. |
| 2 BR | T. R. Willmott | Coramba Rd., South Grafton | R. |
| 2 BS | A. L. Dixon | "Broilga," Belgrave St., Burwood | R. |
| 2 BT | W. J. Trickett | "Lincolntonville," Forest Rd., Arncliffe | R. |
| 2 BU | J. W. Rodwell | 26 Wilson St., North Sydney | R. |
| 2 BV | Waverley Amateur Radio Club | 42 Evans St., Waverley | T. |
| 2 BW | Newington College Radio Club | Newington College, Stanmore | R. |
| 2 BX | L. C. Murray | "Mulwara," Milner Cres., Wollstonecraft | R. |
| 2 BY | E. C. Arnold | Carthage St., Tamworth | R. |
| 2 BZ | R. E. Mann | Upper Orara, via Coff's Harbour | R. |
| 2 CA | E. W. Bonwill | Cowra | R. |
| 2 CB | S. J. K. Sladey | "Doonside," Highfield Rd., Lindfield | R. |
| 2 CC | A. Hordern & Sons (J. K. Greenwood) | Brickfield Hill, Sydney | R. |
| 2 CD | A. T. Morgan | 61 Kareela Rd., Cremorne | R. |
| 2 CE | J. W. Peell | 3 Chapman St., Summer Hill | R. |
| 2 CF | A. W. H. McDonald | Arcon Farm, Sunny Corner | R. |
| 2 CG | A. G. Renwick | 182 Queen St., Woollahra | R. |
| 2 CH | J. L. Young | "Box Vale," Corowa | R. |

(To be Continued next week).



METROPOLITAN CLUB.

The Metropolitan Radio Club (Sydney) gave the first of its popular lecture nights at the Laurel Cafe, Royal Arcade, when there was a good attendance. Mr. Best, in the place of Mr. Swinburne, gave a most interesting discourse on wireless and wireless stations, and illustrated it with lantern slides. A splendid who spoke on valves and radio technical lecture was given by Mr. Veitch, a well-known authority, who spoke on valves and radio frequency amplification. The next general meeting will be at the Laurel Cafe, on Wednesday next, when visitors or members of other clubs are cordially invited to be present. Visitors' tickets may be obtained from the Treasurer or Secretary, 6 Royal Arcade, City.

THE NORTH SYDNEY RADIO CLUB.

At the North Sydney Radio Club's last general meeting, held on Tuesday the 21st instant, the half-yearly election of officers was held and resulted as follows:—

President, Mr. J. O'Brien; vice-president, Mr. Raymond McIntosh; hon. vice-president, Mr. H. Buick; secretary, Mr. R. H. Evans; treasurer, Mr. E. Kruckow; committee, Messrs. O'Brien, McIntosh, Evans, Planner, and McClure; auditor, Mr. H. M. Palmer; delegate to the Radio Association of Australia, Mr. J. O'Brien.

A very attractive syllabus is being arranged for the ensuing half-year, and a great deal of ground is expected to be covered during that period.

The next meeting will be held on Tuesday, the 28th instant, when details of the new syllabus will be made available.

BUILD YOUR OWN CONDENSER

HERE IS A NEW IDEA.

No technical experience necessary. Part supplied in knock-down or assembled, as desired.

Best quality heavy gauge aluminium plates; turned brass spindles, rods, bushes, and Coned Adjustable bearings, Ebonite ends.

Full instructions for assembling furnished with each outfit.

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Sydney

Plates Cap- Knock- As- acity down s'mbld.

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|--------|--------|------|------|
| 3 ... | .00014 | 7/6 | 10/- |
| 5 ... | .00021 | 8/3 | 11/- |
| 9 ... | .00033 | 10/- | 14/- |
| 17 ... | .00061 | 12/3 | 17/- |
| 25 ... | .0008 | 15/6 | 21/- |
| 35 ... | .0012 | 18/6 | 25/- |
| 67 ... | .0022 | 30/- | 45/- |

December 1st, 19

WIRELESS WEEKLY

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ILLAWARRA RADIO CLUB.

The Illawarra Radio Club had a very busy evening at its last meeting, held at the club room, 75 Montgomery Street, Kogarah, on 23rd instant. Several important club matters were discussed, but the main business of the evening was devoted to finalising arrangements for the club's benefit entertainment. This will take the form of a combined picture show and wireless entertainment to be held at Tolley's Subway Pictures, Kogarah, on Tuesday, 5th December, at 8 p.m. By permission of the Controller of Wireless, a programme of wireless music will be rendered (from 8.30 to 9 p.m.). Special arrangements have been made with Mr. C. D. MacIntosh, Strathfield, for the transmission of the musical programme. The set to be used in the reception of the music has been constructed and will be operated by Mr. C. A. Gorman (of the club), and will employ one stage of radio, detector, and three stages of audio-frequency amplification. A magnavox will be used in conjunction with this set, which will make the music easily audible throughout the theatre. All arrangements are now well in hand, and (with good weather) the club is confident of complete success for the show. The proceeds will go towards providing apparatus and equipment for club room.

The next meeting of the club will be held at the above address on Thursday, 7th December, at 8 p.m. to which all persons interested are invited.

WAVERLEY AMATEUR RADIO CLUB.

The last meeting of the W.A.R.C. was held on Thursday last, and a good number were present.

It was decided to hold a conference of delegates from all clubs, and persons interested in the coming Trans-Pacific Radio Tests, to meet our club in the Christ Church Hall at 8 p.m. on Wednesday, 6th December, when we will put the propositions before them, and ask them to co-operate with us.

We would like everyone interested to attend this conference, and

are writing to all prominent wireless persons whose address we have. We hope to reach all others by publicity in "Wireless Weekly," and trust there will be a good attendance.

Mr. Perry, of the Australolectric Co., has generously lent the club an 11 valve amplifier to receive these tests.

All correspondence re this matter should be addressed to the secretary, Mr. F. H. Harvey, "Lourdes," Nelson Bay Road, Bronte.

LEICHHARDT AND DISTRICT RADIO SOCIETY.

The Society's seventh General Meeting, held at the Club Room, 3 Annesley Street, Leichhardt, on Tuesday, November 21st, was spent by members in carrying on with Morse practice, and steady progress is being made in this direction. Both existing and prospective members will be interested to learn that a syllabus of elementary lectures has been drafted by the Council, and the first of these will be delivered by Mr. W. J. Zech at the next meeting, to be held on Tuesday, December 5th,

at 8 p.m. The subject to be dealt with will be "Electricity," and the lecturer's time will be limited to one hour, thus allowing the members another hour for the purpose of carrying on with Morse practice, or any other business decided upon.

Any inquiries with reference to the Society should be addressed to the Hon. Secretary, Mr. W. J. Zech, 145 Booth St., Annandale, who will be pleased to reply to same as they come along.

REGULATIONS.

Wireless Regulations may be obtained from Government Printing Office in each of capital cities of the Commonwealth.

It is also anticipated that the W/T Act Regulations, and Instructions regarding application for Licenses, in Book Form, will be soon obtainable at the cost of 2/6.

Controller of Wireless and Radio Inspectors are the only persons authorised to deal with Wireless Licenses.

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STATION CALLS.

SHIPS STATIONS. GREAT BRITAIN

Sittang GRT, Skeeryoore GF-MK, Skegness EXU, Skipton Castle ETJ, Slav YHY, Slavic Prince XIV, Sliève Bawn YWC, Sliève Gallion YWE, Slièvevore, YWF, Smolensk ODS, Snaefel EZL, Snowdon YWG, Sobo GDQZ, Socrates ZHZ, Sofala GOH, Soldier Prince ZFW, Solen GFLC, Solfels GBKY, Solingen GBQF, Somah MIW, Somersby ZYP, Somerset EPL, Somersetshire GDZP, Somme GBQV, Somerton GCNP, Songster GXF, Sonnenfels GBDF, Sorata MIJ, Soroka ZUD, Sorrento EXJ, Sotero ODC, Soudan MNB, Southern XEV, Southern Coast BDP, Southern Isles YJH, Southgate ZCZ, Southlea BCT, Southmead GOG, South Pacific YCR, Southport EKH, South Stack YWH, Spaniel GDTZ, South Western Miller MTY, Spanker GDYB, Speaker LTG, Spartan Prince BFD, Specialist BFK, Spectator YGV, Speedonia GDCJ, Spermina EYH, Spero GDWZ, Spezia GBLR, Spillsby EKD, Spirilla GFLB, Springburn EYB, Stagpool, ETM, St. Alban's MGG, St. Alban's Abbey GBFY, St. Andrew GYJ, Stambul GBZY, St. Andrew GCBV, St. Andrews GBNL, Stanmore EVU, Stanley Hall EOR, Starlight GBZC, Statesman EPU, Staveley EQQ, St. Augustine's Abbey GBLQ, St. Bede GCBT, St. Clair, GBMS, St. David, GYL, St. Denis ZCK, Stellina YGC, Stentor YOJ, Stephan GBWL, Stephan MDJ, St. George GIB, St. Margaret GRPD, St. Michael YZ, St. Margaret of Scotland YPM, St. Ninian GBTP, Stockport ODZ, Stockwell GZJ, Stolberg GDKM, Stork YKK, St. Patrick GYM, St. Patrick YKT, Strabo YOS, Strathearn BEC, Strathfillan ZRK, Strathmore BNI, Stroma BEN, St. Rognvald GCDS, Strombus MYQ, St. Stephen EVZ, St. Sunniva GCLQ, St. Ludno GNR, Stuartstar MYP, Student ZXC, Sudbury EJV, Suevic MJC, Suffolk GRV, Sumatra XUF, Sunbank GCYN, Suncliff GCYM, Sunfield GCYL, Sunik YEA, Sunland ZET, Sunningdale OPO, Sunpath GCMZ, Sunray BAN, Surada GDNR, Surat GCPQ, Surrey GCBJ, Susquehanna ERG, Sussex MVS.

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. E. B. Crocker, 14 Roseby Street, Marrickville (Undercliff tram to Cary St.)

FOR SALE.—Loose coupler set, complete, perfect order, £3/10/. Sherry, "Esdale," 3 Holborrow St., Croydon.

Sutton Hall ZJC, Sutherland Grange GMM, Suttlej GWL, Suveric GMO, Swanee MIY, Swainby ZYQ, Swazi MAV, Sweethope XHZ, Swinburne BDR, Sydney GCXF, Sydney Reid XJL, Syria GMP, Syrian Prince GBRJ, St. Dunstan YEL.

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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.

INVENTIONS NEEDED.

Nobody can read about the success of such men as Armstrong, without wondering whether fate and fortune can still be won for the radio field. Are there other big problems that we can specifically enumerate to-day, but must wait for the future inventor to solve?

Yes, there are. There is increasing opportunity, right now, for the young inventor to achieve fame (says Jack Binns, in "Popular Science Monthly").

Radio frequency amplification would eliminate the need of outdoor aerials. It will be successful only if we have a perfect high frequency transformer. There's one opportunity.

Another opportunity is bound up in the development of a filter system that will successfully retard all extraneous currents, and permit only the signals from the station we desire to hear to pass through the receivers.

Still another is a successful choke that will hold back oscillations from the receiving set, and prevent them from being radiated from the receiving aerial, thus interrupting other near-by receiving sets.

We can do with electromagnetic waves just what we can do with light waves—reflect them and refract them. Now, one of the most urgent needs in these days of congested ether is a perfect system of reflection, that will send out a train of waves straight to the receiving station. Just think what such a system would mean in the way of secret communication! Moreover, it would reduce the amount of power needed in transmission. This will be the prize invention of all. Who is going to be the genius to produce it?

Published by W. J. MacLardy, "Truro," Powell Street, Neutral Bay at the Offices of W. M. MacLardy, 144 Castlereagh Street, Sydney.