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Settlement Announced in Patents Claim

General Satisfaction at Removal of Cloud



WE are glad to be able to make the following authoritative announcement:—An agreement was recently concluded between the Government and the Amalgamated Wireless (Australasia) Limited, relative to the latter's claims for recognition of its patent rights over apparatus used in the Government wireless stations and in broadcasting stations. Although the company notified the Government when the various stations were being established that its patents were being made use of, the actual claim was not investigated until a few months ago, when the company's managing-director, Mr. E. T. Fisk, visited New Zealand. Protracted negotiations took place, and Cabinet authority to conclude the agreement was given on October 25 last. The agreement was signed on the 30th idem, and payment of a sum amounting to £10,852 was made to the company on November 10. This amount covers any liability to the company incurred by the Government in the past.

THE agreement provides for payment for use of the company's patents in broadcasting apparatus on practically the same basis as in Australia, that is, at the rate of 3s. per listener per annum, and the agreement is to expire on October 31, 1932. In recognition of this payment, the Government is free to make use of the Amalgamated Wireless Company's patents for broadcasting purposes. It is not intended that

THE announcement that a settlement has been reached between the Government and the Amalgamated Wireless Company of Australasia, Limited, in respect of the patents held by that company on apparatus being used in connection with radio in New Zealand, was received by the trade with a general expression of relief. Cautious elements of the trade, however, point out that, while they are relieved, they are not yet ready to express complete satisfaction, pending the outcome of a conference to be held between the Post and Telegraph Department and the radio trade. That conference, it is anticipated, will determine the question as to what part (if any) traders will be required

to bear in the restrictive payment which has been made by the Government to the Amalgamated Wireless interests.

From the general point of view of radio, however, it is eminently desirable that finality should have been reached in the position, which unquestionably has been a cloud over the trading activities of all dealers in recent years.

History of the Claims.

AT this juncture a brief statement of the history of the patent position will undoubtedly prove of interest to all concerned in a very involved position. The Amalgamated Wireless (Australasia) Limited was formed in 1913 as the

the annual fee of 30s. now paid by listeners should be increased at present.

As soon as the Government was satisfied with the bona fides of the claim of the company, every effort was made to conclude a satisfactory agreement so that the present use of broadcasting should not be interfered with.

THE Government has also been successful in concluding an arrangement regarding the patent rights in apparatus used in its commercial wireless stations on a basis satisfactory to both the Government and the Amalgamated Wireless Company. Although these commercial stations have been in operation since approximately 1910, no patent fees have so far been paid; but the agreement now reached will provide for a payment for a term up to October, 1932.

THERE has been considerable uneasiness among dealers in radio apparatus for a long time, as the Amalgamated Wireless Company had made clear its intention to claim patent rights on sets which infringed its patents. The agreements concluded provide for the Post and Telegraph Department to grant licenses to dealers to deal in patents held by the Amalgamated Wireless Company—without risk of an action for damages. It is the intention of the Department to confer with the Radio Dealers' Association at the earliest convenient date.

result of an amalgamation between the Australasian Wireless Company Limited and the Marconi interests in Australia and New Zealand.

The Australasia Wireless Company, Limited, represented the Telefunken interests and was formed for the purpose of trading in wireless apparatus and very largely represented the interests of Australische Metallische Gesellschaft who held the rights for the Telefunken system by virtue of an arrangement with the Allgemeine Elektrische Gesellschaft, of Germany, who manufactured Telefunken apparatus.

—Continued on page 2.

The latter company was responsible for the erection of stations VIS and VIP at Sydney and Perth respectively; these stations were identical with those erected at Awarua and Awanui, Southland and Auckland respectively, and were high-powered stations of 35 K.W. capacity.

The Australasian Wireless Company Limited erected stations at Auckland, Wellington and Chatham Islands which were also of Telefunken design.

Pre-war Developments.

AS a result of the erection of these stations the Marconi interests in Australia considered taking legal action over certain rights, but about this time the Australian Government introduced Balsillie and his system of radio telegraphy into Australia and erected about a dozen land stations round the coast. Both the Marconi and Telefunken interests claimed that the Balsillie system used patents common to both, and combined against the Government. However, any patent action was abandoned owing to the outbreak of the war.

When the Amalgamated Wireless (Australasia) Limited was formed out of the companies previously mentioned the Marconi interests obtained control by securing more than 50 per cent. of the stock, and the new company, it is understood, virtually became a section of the Marconi interests in London, with E. T. Fisk as technical superintendent and representative. Hugh Denison (now Sir Hugh Denison, of the Sydney "Sun" newspaper interests) was appointed managing director.

In 1917 Hugh Denison resigned the directorship of the Amalgamated Wireless (Australasia) Limited and E. T. Fisk became managing director, the company thus becoming more definite-

ly representative of the Marconi interests.

A Further Amalgamation.

IN 1918 the Radio Corporation of America was formed, and the Marconi interests in England procured the British Empire rights for this company's (Radio Corporation of America) patents and interests. The Amalgamated Wireless (Australasia) Limited thus became the representative of the Radio Corporation in Australia and New Zealand.

In 1922 Amalgamated Wireless (Australasia) Limited went into partnership with the Federal Government for the purpose of creating a direct radio service between Australia and the other parts of the Empire, but primarily with England. The Amalgamated Wireless (Australasia) Limited also took over the land stations in Australia and obtained concessions for the purpose of erecting stations for inland communication. By virtue of this agreement the company was formed into a £1,000,000 concern, and the Commonwealth Government of Australia took over 500,001 shares, thus obtaining control.

Beginning of Broadcasting Sees Demand for Royalty.

IMMEDIATELY broadcasting was introduced into Australia and New Zealand, Amalgamated Wireless (Australasia) Limited commenced instituting claims regarding royalty payments due to the alleged use of their patents.

Certain Australian companies trading in radio who were allied to the Amalgamated Wireless (Australasia), Limited, through commercial interests existing in other parts of the world, entered into an agreement with the company, and commenced the payment of royalties. The majority of radio companies, however, stood aloof, as it was considered that the payments demanded were unreasonable.

In New Zealand in 1924 a certain position developed as a result of which the continuance of broadcasting was threatened. The Government then took steps to assure the position, and as a result the broadcasting service was continued and developed.

Royal Commission Investigates.

IN view of the very uncertain position existing regarding the development of radio in Australia, the Commonwealth Government appointed on January 28, 1927, a Royal Commission to inquire into:

- (1) Wireless broadcasting within the Commonwealth in all its aspects, making recommendations as to any alterations deemed desirable in the policy and practice at present in force.
- (2) The development and utilisation of wireless services for public requirements within the Commonwealth.

The findings of the commissioner's represented very definite recommendations, and as a direct result the Government took early action, and a new agreement was concluded with the Amalgamated Wireless Company of Australasia, Limited, in November, 1927, whereby the company agreed to abandon its claims against the trader and the broadcaster, and in return the Government agreed to pay to the company 3s. per annum per listener's license fee, on condition that the company at once proceeded, and were successful with the patent actions com-

menced in 1926 against David Jones, Limited, of Sydney, and Myers, Limited, of Melbourne, for alleged infringement of patents.

Cases Before the Court.

IN the case of David Jones, Limited, the point of law was raised as to whether the grant of letters patent to Marconi Wireless Telegraph Company, Limited, were valid or invalid. Judgment was given in June last by Davidson, J., as follows: "I hold that the grant of the patent is invalid, and that the plaintiff is to pay the costs."

With reference to the case of Myers, Limited, of Melbourne, taken also in June last, Myers submitted a spirited defence, but later in the case withdrew.

The agreement further provided that the company should take action in New Zealand within twelve months.

What the Patents Cover.

THE Amalgamated Wireless (Australasia), Limited, claims a large number of patents, but the major portion of them are irrelevant from the Broadcast Traders' viewpoint, although they do undoubtedly affect the Broadcaster. The patent, which has a general effect, is an original Telefunken patent in the name of Von Arco and Meissner; it controls the principle of reaction. This patent is one of those which is described in the opening portion of this statement, and it has passed through a sufficient number of vicissitudes to have a doubt thrown on its validity. However, this patent is registered as the property of Amalgamated Wireless (Australasia), Limited, in New Zealand.

The chief reason for Amalgamated Wireless (Australasia), Limited, delaying taking action in the past, is the fact that it is only of recent date that the company has definitely owned to these patents, the original owner in Australia, Edwin Phillips, having died.

The David Jones case has a distinct bearing on claims made in respect of this patent.

The Position of the Trader.

PENDING the holding of the conference to be arranged at a convenient time in the near future, between the Department and the trade, it is undesirable to discuss the merits or otherwise of the agreement which has been reached. For the information of listeners, however, it may be well to briefly state the point of view of the trade, so that they will be informed of the position.

A section of the trade has throughout been prepared to combat the claims and force determination of the validity of the patents in question, by decision of the Court. Litigation of this scope and character would unquestionably have been most expensive, but it is an open secret that measures had been taken to provide a fighting fund of some weight for that purpose. It may be assumed, however, that the responsible officers of the Post and Telegraph Department, in reaching the decision they did, had full regard to the facts as available to them, and were actuated by a desire to clarify the position in the general interests of all.

Apart from the basic question of the validity of the patents upon which the claims were based, certain minor, although important, considerations concern the dealers. These, it is assumed, will be clarified in the detailed discussions to take place between the Depart-

ment and the trade, as it is announced that the Department is now in a position, by virtue of its agreement, to grant licenses to deal in patents held by the Amalgamated Wireless Company, without risk of an action for damages.

Are Royalties Claimed Twice Over?

ONE of the complicating factors in the position is the sale of imported sets in New Zealand, because the majority of American sets imported into this country have already paid royalties to the Radio Corporation of America, and other interests, prior to export. The claim, therefore, made for a lump sum in respect of all licenses in New Zealand, seems to create the position of a second payment being demanded on a set which already has paid a royalty in America. If American royalties were rebated before export from that country, the New Zealand trade would, no doubt, view royalty payments differently. A similar position existed in England, only twelve months ago, when the Marconi Company arranged with the English manufacturers that receivers should pay a royalty of 15s. per valve socket prior to export, and that 2s. 6d. of this sum should go to the Marconi Company, and 12s. 6d. to Amalgamated Wireless (Australasia), Limited.

On a date following the publication of the Australian Royal Commission's report this position changed, because the Marconi Company refused to collect in England, on behalf of the Amalgamated Wireless (Australasia), Ltd., and thenceforth collected only 2s. 6d. per valve socket from the exporter to cover its own claims. This has left the responsibility upon the Australian company to collect royalties in Australia and New Zealand in respect of all sets used. If a similar position obtained in regard to American sets, dealers would be more satisfied.

The Practice Elsewhere.

IN England local royalty payments are collected by the dealers who sell the sets, the amount being shown as a separate charge on the invoice. For instance, a four-valve set of standard manufacture requires a payment of 50s. to be made on purchasing, in the case of an eight-valve Supersonic-heterodyne receiver the Western Electric Company as well as the Marconi Company demand royalties, and an eight-valve receiver set of this type has royalties to the extent of £6 10s. added to the retail price as a separate item. When broadcasting commenced in 1922 the Marconi Company made this arrangement with large manufacturing firms who were the only parties interested.

The Comptroller-General of Patents has ordered the Marconi Company to grant licenses for the manufacture of sets under reduced royalties, but the matter cannot be regarded as settled, as the Marconi Company will appeal against this decision.

IN France the royalty collected is five francs per valve holder, and in Germany 10 per cent. on the selling price of the set is charged with a minimum of 1s. 6d. per valve holder.

THE foregoing sums up the position as far as it is feasible to go at the present stage. The next move rests with the Government to call the very important conference which must be held with the trade, to inform it of (Concluded on page 23.)

The way to be Sure

Leaving your estate to your heirs is one thing; having your wishes carried out is another.

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"Five Advantages"

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Ready to Raid Listeners' Funds

WE present listeners on this page with a letter now circulating amongst the owners of B class stations. This letter and its proposals very closely affect radio in its future development and improvement. We are therefore glad to be able to present listeners with information of the movement that is on foot, so that they may be aware of where their best interests lie.

BRIEFLY, it is proposed that combination should be effected between the owners of the eight B class broadcasting stations now operating in the Dominion, with a view to squeezing financial support for their stations from the revenue provided by listeners for the maintenance of the broadcasting service in New Zealand. There is only one way to view this question, and that is from the broad view of the best interests of the radio service and those primarily concerned, the listeners themselves. From that point of view it makes no difference whether the Radio Broadcasting Company, as a company, is operating the service, or whether the service is operated by the Government or any other organisation set up to provide listeners with the service they desire. On the system laid down in New Zealand, after world-wide investigation, there must be a central organisation to receive, invest, and operate the funds provided by the listeners to the best advantage. In its wisdom the Government of this country has entrusted the operation to that service under a binding contract to the Radio Broadcasting Company. If, however, at the expiration of that contract the Government wishes to take over the service itself, it would be quite within its rights and capacity to do so, and the principles of objection to the proposal now made by the B class stations would apply then as they do now.

Conditions Obtained Before.

THE proposal practically amounts to a reversal to the conditions which obtained in the Dominion before the inception of broadcasting on its present basis. It will be remembered that at that time a number of traders had established stations in the different centres. With the need for co-ordination and development, however, the Government instituted the present system, and it was arranged that the then existing stations should be taken over by the Radio Broadcasting Company. The apparatus at the stations was accordingly valued, and, although in the changed conditions it was of only limited value to the Broadcasting Company, was purchased, at a figure, however, which necessarily meant the loss of much money to the traders who had invested in those stations.

The position now is that the trade stations in the different centres have been established wholly and solely for the private business reasons of the houses concerned. Their primary objective has been the furthering of their own business in radio and associated activities, such as gramophones, by the publicity available through their transmitting stations. From one point of

view, the very basis of operation of these stations—publicity for the operating house—is opposed to the spirit of the departmental regulations restrictive of advertising over the air. The policy of the country has been fully known to all traders who have undertaken this expenditure. They have gone into the business with their eyes open, and can, we think, make no case for special

have been attained more completely by co-operation than by competition. It is open, and still is open, to the owners of these B class stations, seeking publicity and the furtherance of radio, to purchase "time" from the Radio Broadcasting Company, and invest their money in longer hours of operation and—if they have the talent available—better programmes than

heavy, but having gone into the business with their eyes open, they now have no cause for asking that the community should carry that burden, in whole or part.

Not Familiar with Facts.

THE writer of the letter does not show a very close knowledge of the facts. The Radio Broadcasting Company's contract has *not* got "only about a year to run," it still has some three years before expiry. Further, the Radio Broadcasting Company is *not* after the right to sell advertising time on the air. It already has that right, as its contract provides that, at the will of the Postmaster-General, it can devote five minutes in every hour to advertising. The company, however, has not exercised that right, because of a reluctance to introduce a principle which would be antagonistic to a certain number of listeners, who desire entertainment only to be provided during entertainment hours. An additional factor was that adoption of the principle of advertising would put radio in the position of competing with newspapers and other established advertising mediums, which was never the intention of the Broadcasting Company or the Government. The right was taken and given in the original contract, because of recognition of the possibility that the income from license fees might prove insufficient to maintain the minimum service desirable. The support of listeners, however, has been sufficient to make it inadvisable to utilise advertising as a possible source of revenue. We feel sure that that policy of doing without advertising revenue is the one that will appeal most to listeners who in their evening hours will not wish to be bored with exhortations to use someone's patent pills.

The Lesson of Australia.

IN point of actual fact, Australia provides a very good object-lesson why the course proposed by the "B class" owners should *not* be adopted. The tendency there now is, after experiencing the blessings (?) of a multiplicity of stations, to concentrate and reduce their number. Hence we have seen the amalgamation between 2FC and 2BL, and between 3LO and 3AR. The object of these concentrations was greater efficiency for the listener. It would be a fatal step for New Zealand to discard Australian experience and follow the circle of learning the same lesson of the disadvantages of multiplicity. From the transmitting point of view there is, of course, no difficulty in a dozen stations being on the air at any one time in any one centre. The disadvantages arise at the receiving end, and are particularly apparent to crystal users. A crystal receiver is not selective. To make it really selective valves and other apparatus must be added. The position, therefore, is that, with the multiplication of stations in New Zealand cities, the large body of crystal users would be subjected to definite inconvenience and unnecessary expense. They would be compelled to enter the valve stage of ownership.

Interesting Letter Now Circulating

To the Stations Directors of
1ZB, 1ZQ, 2ZM, 2ZK, 3ZC, 4ZL, 4ZM and 4ZO.

Dear Sir,—

There are now eight class "B" broadcasting stations in New Zealand. These stations are owned and operated by various business firms, and in addition, there are two smaller stations owned by radio societies.

Considering the restrictions imposed on them by the Post and Telegraph Department, these stations are giving as good, if not better, service as the four YA stations, and we consider that the time is now ripe when all the eight company-owned stations should form an association and make an effort to get some monetary return for their time and trouble incurred in the running of their stations.

There are several ways in which this could be accomplished:—

- Obtain from the Government a grant to cover working expenses. We understand that this is done in Australia, and all the "B" stations over there are subsidised in this manner.
- Approach the Government and obtain permission to devote, say 10 per cent. (which equals 6 minutes in every hour) of the time that the stations are on the air to paid advertising. N.B.—The R.B. Co., are evidently after this right themselves, as they broached the matter in a leader in the "Radio Record" some few months ago.
- Obtain a combination of a smaller grant and more advertising time.

Here in Dunedin we have not yet had much trouble over the question of hours of operation, and two stations being on the air at once. No doubt, sooner or later the R.B. Co., will endeavour to get a monopoly of all the evening hours. We understand that 3ZC has already had trouble in this direction. In any case, why not combine now and get the question of hours settled before it is too late? The R.B. Co., contract with the Government has only got about a year to run, and no doubt they will try to soft-soap the new House and get the best possible deal for themselves when the time comes for renewal.

It appears that there are six (if not more) comparatively high powered stations on the air at once each evening in Sydney, so why should New Zealand listeners-in be restricted to one local station per evening in each centre?

Besides the above matters there are many other questions, such as the high price of land-lines, etc., that could be overcome if the owners of the eight stations, class "B", get together and pull in harmony, but for one station to attempt to do this is like a flea biting an elephant.

(Sgd.) WILLIAM L. SHIEL, for 4ZL.
(Sgd.) J. D. McKEWEN, for 4ZM.
(Sgd.) T. BARNETT, for 4ZO.

RADIO SERVICE, LTD.,
243 Macandrew Road, Dunedin.

assistance from the general fund of listeners' money.

Why Not Buy "Time."

IF it is represented that the primary objective of such stations has been to render service to listeners and provide either longer hours of radio service or better programmes, then they have taken the wrong course to attain their objective. Money has been wasted by its investment in the transmitting plant and operating expenses for such services, when each of the four centres has had available stations and staffs which could have been utilised. The objective of furthering radio would

have been given. Such programmes could be sponsored by the firm concerned, and full credit given them for their enterprise and initiative. They on their part would be saved the expense of plant and working expenses, they would secure a bigger audience because of the greater power of the YA stations, and the additional revenue available to the central organisation (company or Government) would in itself contribute to better service for listeners. Instead of following this course, the houses concerned, for their own business reasons, chose to erect their individual stations. Naturally, the burden may be proving fairly

Business Reasons are Opposed.

IT is not necessary at this stage to go any more fully into the question than we have done. It will be obvious to listeners that the business reasons against the diffusion of their money are unassailable. In round figures some £50,000 per annum is available on the present basis for the maintenance and operation of the YA stations and the provision of programmes. Experience shows that the provision of the necessary equipment and its operation absorb approximately 75 per cent. to 80 per cent. of all broadcast stations' revenue, leaving 20 per cent. to 25 per cent. for the provision of programmes. The stage is now being reached in New Zealand where practically all additional revenue received can be applied to better programmes. To raid the central fund and divert a few thousands here and a few thousands there in subsidising unnecessary new stations, merely duplicating the plant and equipment of a central station, would throw back the possibility of programme improvement for years. If a beginning is made with subsidising one firm merely because it wishes to achieve publicity on the air through a transmitting station, then there will be no saying where it is to end. If to one business firm, why not to another? The end simply would be diffusion without efficiency.

In fairness to country friends a distinction must be drawn between city and provincial stations. A station such as 2ZF as maintained in Palmerston North by the Manawatu Radio Club commands our sympathy, as it is in a totally different class from a business station erected by a city firm. It undoubtedly renders a service to its district and furthers radio. It is in large measure fulfilling the function of a relay station as contemplated in the original scheme between the Government and the Broadcasting Company. The original scheme contemplated provision being made for suitable expansion in rural centres as time and finance permitted, and that stage is now drawing perceptibly nearer.

Auckland Notes

(By "Listener.")

"IT was not actual vision, but it was the next thing to it." In this way a listener described the account of the wrestling match broadcast last Monday night. The contest teemed with excitement, humour, and situations that are best described as "peculiar." There was not a large body of spectators at the Town Hall, but there were many thousands who appreciated the fact that 1YA stepped into the breach again on its "off" night and gave us a rapid-fire and vivid piece of excitement which roused to excitement even those who understood nothing of the ancient Greek art of wrestling. Probably the Greeks of old did not disport themselves as their representative did on Monday, but Kilonis has the satisfaction of knowing that he contributed much to the gaiety of an Auckland home evening. Mr. Gordon Hutter handled the description excellently; it was easy to recognise that he was as much carried away as the other spectators, and he managed well to dispense his enthusiasm through the ether. It is quite safe to predict that on Monday next, when another bout will be staged, the Town Hall will be packed, for no newspaper account could possibly have the appeal that the spoken one had. Numbers of listeners have assured the writer that they thoroughly enjoyed the relay, and as a result they "intend to be there" at the scene of operations next time.

THE announcement of the forthcoming presentation of "Macbeth" at 1YA is creating quite an amount of discussion here. Lovers of Shakespeare

ALTHOUGH the wavelength of ten metres has only been recently allotted to amateurs, two-way communication upon this has already taken place across the Atlantic, the distinction being shared by an American and a French amateur.

are frankly pleased, for they see in the effort educational as well as entertaining advantages. There are others who declare that it will be a "dry" evening, and that Shakespeare is too highbrow for the generality of listeners. This is a selfish attitude to adopt. Shakespeare will not appeal to all. No type of entertainment can possibly be expected to do so. But the popularity of stage productions of the Bard is in itself sufficient justification for the experiment, which should result in the conversion of jaundiced critics. In the interests of our youth alone, we can do with regular Shakespearean presentations—not extracts, but the full plays.

IT was a real Gilbert and Sullivan night at 1YA on Wednesday. The vocalists were not there in the flesh, for such vocalists as we heard could never be expected in any one company performing in the Dominion. The opera was presented by means of records, and the outstanding feature of the presentation, even considering the calibre of the artists, was the wonderfully faithful reproduction of perfect enunciation. Every word of a solo came as distinctly as if direct from the lips of a thoroughly trained singer. The whole evening was a delight. Give us more of the same kind, and the station will be inundated with letters of congratulation.

LISTENERS seem highly pleased at the action of the late Government in settling amicably the vexed question of royalty claims regarding broadcasting patents. Many have feared that these would result in an increase of license fees, or such a drain upon the finances of the Broadcasting Company that there would be less money for the maintenance of the present good standard of programmes. The fear has passed, and Aucklanders look to their own Minister of Telegraphs to exercise as much care and foresight in the provision of broadcasting services as did his predecessor.

2ZF Palmerston North

THE annual report of the Manawatu Radio Club for the year ending November 30 portrays a very healthy position. The membership of the club has been 407, but progress is still being made, and it is hoped to reach the 500 mark in the coming year.

The service given by this station to this district has been appreciated, and the club has been the subject of a great deal of valuable assistance from all interested in radio. The station was opened on March 7 and has been on the air with three programmes per

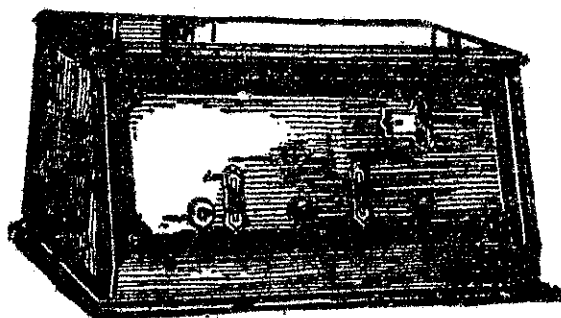
week ever since. The station is situated in the building of Collinson and Cunningham Ltd., whose generosity extended to a donation of £100 towards the cost of the equipment, and also free use of a large room on the first floor of the building for a broadcasting studio, besides alterations to permit of a private entry to same. The thanks of the club are due to this firm for their great assistance. Appreciation is also recorded of the donation of several thousand gramophone records by Messrs. Cole's Music Warehouse. The same firm has also supplied the gramophone and studio piano rent free. A subsidy of £50 was received from the Palmerston North Borough Council, this being the only case in New Zealand where a borough subsidises broadcasting. Record is also made of assistance and service received from a number of firms handling radio equipment.

ON the service side the report outlines the outstanding broadcast events of the year, these including special programmes during Winter Show week, relays from overseas and New Zealand station, and, most outstanding, the service in connection with the Manawatu floods. On this occasion, "Owing to the alarming rapid rise of the Manawatu river, the station was started up and warnings of the flood were broadcast. Although it was not a regular night for our station to be on the air, it has since been ascertained that our broadcasting of the danger was picked up by a large number of listeners in the danger zone of the flood. These listeners promptly spread the news, and all stock was removed to higher ground at once, while many families immediately vacated their homes. The operating of the stations entails a lot of work and requires the services of quite a number of club members to keep it going. Messrs. S. Hansen, R. Tanner and K. Lane are the licensed operators of the club, and have generously given their time for the work. The children's sessions have been conducted by "Uncle Jim" (Mr. I. N. Leet), "Auntie Pat" (Miss Daphne McAlister), and "Auntie Billie" (Miss Gwen Williams), while Messrs. I. N. Neet, A. Roe and H. R. Bell have done the work of announcing. Messrs. Barlow, Grey, Swindell and many others have also been regular attenders at the station and assist in broadcasting."

The balance-sheet of the club shows a credit balance of £75 8s., but it is pointed out in the report that considerable expense will be involved during the coming year in replacement of equipment, etc., so that it is hoped the support upon which the club depends will be maintained on a satisfactory level.

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FADA RADIO



Radio Round the World

THE annual report of the Manawatu Radio Society shows a year of great progress. Besides rendering valuable service, very fine programmes are presented. The club can be congratulated upon its commendable showing and certainly deserves the support if its community.

MR. EDGAR FELIX reports that Rayfoto broadcasting is extending rapidly in the United States, and the number of broadcasting stations going on schedule is increasing week by week. Stations in New York, Detroit, St. Louis, Milwaukee, Wilmington and Peekskill are already on schedule, and eight additional cities will be on the air within the next few weeks. An English transmitting experimenter is sending Rayfoto pictures on short-wave for the benefit of experimenters in Europe.

THE Radio Committee of the American Railway Association has recently requested that the Radio Commission reserve a wave-length band for train communication. This method of linking the engine and the guard's van has been mentioned before. A section approximately 140 k.c. wide is desired in the 2,250-2,750 k.c. region. Since the range of the telephone equipment used on trains is limited, the interference set up by such transmitters will be very slight, and there is probably no reason why such a wave-length band should not be assigned for the purposes requested.

"AN American magnate," states an English magazine, "recently called up from a London hotel, and asked to be put through on the trans-Atlantic 'phone to America. When he established contact he yawned away for over an hour and a half! Communication was perfect. The bill came to £285. And the P.O. accounts people are hoping that this kind of thing is infectious!"

THE largest electro-magnet in the world has recently been installed in Paris, where it is expected it will render considerable assistance in the investigation of some of radio's side problems. Built to the order of the French Academy of Science, it really is quite a Big Pot, weighing 115 tons!

BEGINNING with a single installation in 1925, the lighthouse service in northern U.S.A. now has in operation twenty radio beacons along the shores of the Great Lakes. In fair weather these stations signal four times daily for half an hour, permitting the taking of compass readings. During heavy weather they maintain a continuous compass service.

RADIO is making rapid progress in Austria under a licensing system that would scarcely appeal to a British community. In the last twelve months 46,875 listeners have been added, bringing the total to 293,408. Licenses are required on many receivers, the subscription, which goes to the broadcasting company, being graded according to the income of the head of the household. The minimum fee is 1s. 3d. a month on earnings below £20 a month, and 3s. 6d. if above that figure. On the other hand, a large number of private individuals and institutions are exempt. At present there are 4373 households of deserving unemployed, 922 blind persons, and 186 hospitals and kindred establishments which are not assessed. In deserving cases the cost of installation is borne by the broadcasting company.

THE following is a paragraph from a national daily: "Out of consideration for those people who call themselves wireless fans, and are, and to spite those who think they are, and are not, it is suggested that an examination, on the following lines, be set by some responsible body. Successful candidates to be entitled to the degree of M.I.P.R.F. (Member of the Institute of Perfect Radio Fans). The candidate must:—

- (1) Prove the reception, on at least three occasions, of China, Jamaica, and Daventry.

Education Department to Control JOAK

ESTABLISHMENT of a regular radio school, students of which will receive recognised credit, has virtually been decided upon by the Japanese Ministry of Education. The Tokyo radiocasting station is to be abandoned early this summer with the completion of a 10-kilowatt station near the capital. It is this station, at present known as JOAK, which the Ministry of Education would take over. The present wavelength of 360 metres will be altered to a double wave system by shortening its length. The plan is to conduct regular classes nightly from 7 to 10 o'clock. Some of the most noted educators in Japan will be engaged to give lecture courses. It is estimated that the cost of operation and for salaries will be about 45,000 dollars a year, which will be met by fees charged the students. Not less than 10,000 students are expected to enrol, so that the fees will be little more than nominal. At present there is a regular lesson in the English language radiocast from the Tokyo station, but the new school would be broadened to include practically all of the subjects offered in the colleges and universities of Japan.

- (2) Show that he has constructed over twenty-three wireless sets, five of which must have functioned.
- (3) Take oath that he has never oscillated.
- (4) Have written not less than 15 letters to the newspapers complaining of the programmes.
- (5) Know the difference between an aerial and a clothes-line.
- (6) Produce his wireless license or, alternatively, a summons for not taking one out.

Then, perhaps, we should find out which of those bumptious know-alls in the train and at the club knew what they were talking about!

THE new airport at Croydon (England) has been equipped with a new wireless station to replace the one which has done duty for the last seven years. This has four 3 kw. transmitters working in conjunction with a radio direction finder. The transmitters can be used both for telephony and for continuous wave and interrupted continuous wave telegraphic transmission between 800 and 2000 metres. Two or more circuits can be operated, if necessary, on different wavelengths for telephony and telegraphy on the same aerials. The wireless masts and transmitters are operated by remote control, being some three miles from the aerodrome.

The following paragraph from a South African writer to an English paper should interest short-wave enthusiasts:—

"HERE in Bloemfontein, as elsewhere in South Africa, there are numerous radio enthusiasts who operate short-wave radio sets. We receive

radio programmes over the ether fairly consistently as regards volume, but we sometimes find it most difficult to follow your American announcers—they speak so very rapidly. In this respect KDKA is not quite so bad, but WGY and several other stations deliver their announcements too quickly. Chelmsford, England, and PCJJ Hilversum, Holland, announce so that every word is distinct."

A MELBOURNE business man recently received a message from London, via the Beam service (reports

"Wireless Weekly"). Desiring the date of origin confirmed, he telephoned the Beam office, and made his request. "Excuse me while I ask London," was the reply. "But I can't hold on here all that time," he said. "Don't hang up, won't keep you long," came the voice again. Within 70 seconds the clerk reported: "The date of your message is correct as shown on the form." In those 70 seconds the Melbourne Beam officials had called up London Beam office direct, the London clerk had looked up the file and confirmed the date to Melbourne, and the business man had received the answer to his request. Twenty-eight thousand miles of space crossed, and a small query answered while he waited.

A RECOMMENDATION that transmitting stations broadcast communications in the Esperanto language within the limits of their possibilities was a feature of a meeting of the International Broadcasting Union at

Lausanne recently. A survey showed that 168 stations in Europe, Asia, and the United States sent out messages in Esperanto. The union discussed the organisation of relays for a wider exchange of programmes. It was decided to arrange relays between Germany, Austria, Poland, and Czechoslovakia. Announcement was made that considerable technical progress had been achieved in relaying musical programmes by employing submarine cables between Great Britain, Belgium, and Germany.

THE yacht Crusader (England) is probably the most elaborately fitted yacht afloat in radio. Whenever she sails, her occupants should seldom be without a wireless programme from somewhere. She is also fitted for the transmission and reception of commercial messages.

THEY say that for the King's visit to Balmoral this year, a new valve set had been installed in the castle there. I'd like to have half an hour with it," says a London writer, "for you can be sure it is a hummer. I wonder what kind of programme His Majesty favours. My belief is that the King likes to explore the ether, and does not bother much about 'items.'"

AS a result of the publicity given to the proposal of the B.B.C. to radiocast a short religious service daily, some 5000 letters were received, asking that this should be continued. It is held that if 5000 took the trouble to write, there are probably many times that number who listen to it.

THE Department of Commerce, U.S.A. report for June, shows a marked increase on the radio exports of that country. The greatest growth was in transmitting sets and parts, which, compared with June, 1927, exports of £1300 rose to just short of £13,000. Receiving sets from £43,000 to £57,000. Radio imports were more than £1000.

SUCH is fame! An American paper says: "Sir Ivan O'Meara, Gisborne, New Zealand, who is probably the only titled holder of an amateur experimental license in the world, certainly the only one of note, achieved everlasting fame last week by transmitting the first 10-metre signals to cross the Equator." Why has our friend kept his knighthood dark?

AT the Berlin radio show, there were 350 exhibitors, including the Army and the Navy, Lufthansa, and the German Postal Administration. The most interesting television device demonstrated, was the invention of one, Mihaly, which gave the shadowy outline of the person spoken to on the telephone.

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N.Z. RADIO PUBLISHING CO., LTD.,
P.O. Box 1032, WELLINGTON.

WELLINGTON, FRIDAY, DECEMBER 21, 1928.

GENERAL satisfaction will be felt amongst all interested in the general advance of radio, at the information now officially available, that settlement has been reached by the Government in respect of the claims for patent royalties presented by Amalgamated Wireless (Australasia), Limited. At the moment of writing, a comparatively bare official statement only is available. This states that agreement was reached in October last, and payment totalling £10,852 made on November 10. The agreement provides that an annual payment of 3s. per head be made to the Company, in respect of each licensed listener, and in recognition of this payment the Government is free to make use of the Company's patents for broadcasting purposes. Further, the right apparently has been granted to the Post and Telegraph Department to grant licenses to dealers to deal in patents held by the Amalgamated Wireless Company without risk of an action for damages.

FROM the listeners' point of view, it is satisfactory to note that it is not intended that the annual license fee of 30s. paid by listeners should be increased. This, to our mind, is a very commendable decision, in that it is undesirable to impose any additional cost which would be likely to hinder the extension of radio.

WHILE there are amongst the traders a number who held that the validity of the patent claims of the Australian Company were open to question and who were even prepared to back up their view by the provision of a substantial fighting fund, the general body of opinion will, we think, agree that if extensive litigation was avoidable, it should be avoided. Doubtless, it was considerations of this nature together with recognition of both the legal and perhaps the moral claim of the Company to payment for the use of its patents, that induced the Government to effect the agreement. An important outcome of the arrangement has yet to eventuate, namely, a conference between the Department and the associated radio dealers. Keen interest will attach to this conference on the part of the trade pending determination of the amount, if any, of the retrospective payment that the trade is to be asked to bear. It may be, of course, that no such sacrifice will be asked of the trade, but that provision may be made through the license to deal in radio goods, which the Department now has power to impose, for recouping the initial outlay made in settlement of the retrospective claims. That, perhaps, would be a very desirable consummation in the circumstances as it would free the trade from a sum which would be in the nature of a penalty, and permit of future payments being based upon turnover.

SO far as the Broadcasting Company is concerned, it would not appear to be affected in the slightest by the arrangement. At the time that the Company was formed, it will be remembered that the Government as a condition of the arrangement entered into, assumed all liability for royalty claims. The Company was therefore

relieved of all legal and moral obligations in respect to these claims because of the bargain then struck. In the comparatively limited knowledge now available to us, we think it will be agreed generally that for the future good of radio, the agreement reached is wholly beneficial. By it, progress may be made with the assurance that there is no cloud hanging overhead.

Judging the Popular Taste

Winner of the £50 Columbia Grafonola

THE winner of the £50 Columbia Grafonola, donated by the N.Z. Distributors of Columbia Products as the prize in the recent radio competition conducted by the Broadcasting Company was:—

MR. JAMES C. PASCELL, Cromwell, Central Otago.

It was after a lengthy sorting-out process that the judges arrived at their decision. It was necessary to take into account not only the actual number of items that competitors had placed correctly, but also the number which had been transposed and which were therefore very near the correct order. In several instances the averages of the items were very close, the difference being only a decimal point, and in the sorting-out of the coupons, transpositions of this nature were taken into account. Eventually, by a process of elimination, only Mr. Pascell's coupon was left.

The winning coupon was taken from the "Radio Record," and the station listened to was 4YA. It is interesting to note that the winner is one of the 216 who heard the competition from 4YA, and that he is one of the 80 who forwarded in "Radio Record" coupons from Otago.

New Plymouth to Have Broadcasting Station

Broadcasting Company Co-operating with Radio Society

A SCHEME for putting New Plymouth "on the air" has been "in the air" for some time, and it seems likely now that another two or three months will see the scheme matured. The proposal advanced considerably last week, when Mr. J. Ball, editor-announcer, and Mr. J. M. Bingham, the company's chief engineer, visited New Plymouth and went further into the question.

AS is well known, reception of 2YA is somewhat spoiled in New Plymouth owing to the screening effect of Mt. Egmont. A scheme for circumventing the mountain obstacle has therefore been hatching in New Plymouth, and overtures were some time ago made by the Radio Society for the use of some of the Company's old plant with which to make a small re-broadcasting station. The suggestion appealed to the Company, which considers that it can adapt some of the old plant which was discarded when the new stations at 1YA and 2YA were erected. The proposed station will have a power of 50 watts, which will be ample to ensure good reception in the town of New Plymouth.

THE studio and transmitting station will be in the heart of the town—the studio is to be in the music warehouse of Messrs. H. Collier and Company—but the receiving station, which will be used for the purpose of re-broadcasting 2YA will be on a flank of Mt. Egmont. The exact location will depend on the quality of reception and whether a good relay line to the studio can be arranged.

THE New Plymouth station will not, of course, be used solely for re-broadcasts. The studio will be adequately fitted up with the necessary microphones, and there is little doubt that the Radio Society will take full advantage of New Plymouth talent for the purpose of providing local programmes.

DURING the recent conference with the company's representatives, the Radio Society's speakers said the intention was that several of their members should qualify for an operator's certificate and take turns in controlling the station.

THE complete scheme has not yet been worked out in detail, but the indications are that in two or three months' time New Plymouth will be able to boast a station of its own, and crystal set users in that town will be able to hear the cream of the programmes sent out by the other New Zealand stations controlled by the Broadcasting Company.

1YA Musical Committee

THE 1YA Musical Committee at its last meeting discussed at length the proposed One Act Play Competition for which some entries had already been received.

It was felt that a short talk should be put over the air by Mr. F. McCullum, explaining the details in connection with the play, and it was decided to recommend the company accordingly.

The university students' delegate advised that arrangements had been completed with the station for the broadcast of a debate, in accordance with the committee's previous resolution, the play having been arranged for January 9, 1929.

The Radio Broadcasting Company submitted an outline of a play which had been broadcast in America with success, and after considerable discussion the committee decided to recommend that the play be broadcast, as it was felt that the particular performance would be of exceptional interest to listeners.

A suggestion was also made that a "Maori Night" be held, and after discussion the suggestion was approved by the committee, and it was decided to recommend the company accordingly.

The committee decided to meet again on February 10, 1929.

Systems of Control**Test Proposed for 2YA**

COMMENCING from New Year's Day a series of tests extending over a month will be conducted at 2YA in regard to the two systems of control. On alternate days the transmissions will be carried out under crystal control and master oscillator tube.

These tests are being arranged for the purpose of enabling the company's official listeners to report on the respective results of the systems. In each issue of the "Radio Record" the days of the coming week, showing the system in force, will be published, commencing on January 1, when the transmission will be controlled by Master Oscillator Tube.

The days will be:—

Tuesday, January 1—Master Oscillator Tube.

Wednesday, January 2—Crystal (if station on air).

Thursday, January 3—Master Oscillator Tube.

Friday, January 4—Crystal.

Saturday, January 5—M.O.T.

Sunday, January 6—Crystal.

Monday, January 7—M.O.T.

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Arrangements for Christmas Week**Special Sporting Service**

THE coming Christmas season brings with it its customary heavy sporting fixtures. Racing, trotting, boating, tennis, and a host of other attractions cover the interests of all. To attend everywhere the inclination takes one is impossible, yet the interest remains.

To cope with these sports 2YA's Special Sporting Service has been alert and extensive arrangements have been made to cater for every interest.

Racing.

THE principal events to be featured are New Zealand racing results, with special reviews of the fields, reviews of the metropolitan (Australian) meetings, with results as soon as they come to hand. During the festive season there will be many fixtures for the same day, and the service has made arrangements to handle them all. Progress reports will be given during the afternoon session, while a resume will be put over the air during the news session.

Boating and Cricket.

IN view of the fact that nearly all New Zealand sportsmen will be interested in the championship sculling fixture between Jackson (New Zealand) and Pearce (Australia) at Sydney on December 22, the result will be put over the air as soon as it comes to hand.

In addition, the many yachting events will receive the attention of the service.

Progress reports of the big cricket in Australia will, as before, be given. Recently listeners have been able to get the position at close of play some three-quarters of an hour later, and there is every indication that this very efficient service will be maintained.

The Plunket Shield interprovincial cricket will be of special interest to listeners, and progress reports of the matches Canterbury v. Auckland and Otago v. Wellington will be put on the air frequently. In addition, a relay has been arranged for in connection with the Otago v. Wellington match, to be played on December 24, 25, 26, 28. Short relays only are to be given, the station passing back to the studio to entertain with musical numbers and to announce the results of other activities to hand.

Other Attractions.

BOXING DAY, a special programme will be given in the nature of a relay of a description of the Caledonian Sports held in the Basin Reserve, Wellington. Mr. Jacobsen, a prominent sporting figure, will be before the microphone.

The New Zealand tennis championships at Auckland will receive attention and reports of their progress will, from time to time, be announced.

Reports of the trotting meeting at Auckland will likewise be broadcast.

The Christmas season promises well and great care has been taken to give the listener everything that is going.

The Wonders of Wireless**Unique Demonstration from 2YA**

LISTENERS to 2YA Sunday last were without warning switched over to station KDKA, United States, to hear them conversing with Commander Byrd and his intrepid crew in the ice-bound Antarctic. The conditions were good and it was possible for the owner of a very modest set to hear the good wishes of the American people being extended to the expedition.

But it is the wonder of the feat that takes the attention of anyone who stops to think of the happening apart from its being part of the programme. Who would have imagined when Scott and his gallant men were fighting to conquer the silent, solitary waste, that in a few years another expedition was to attempt to carry on the work so nobly commenced and that it would be possible for the owner of an apparatus costing a few pence to hear Christmas greetings being extended them by their countrymen?

A 3YA Vaudeville

THE Revellers Comedy Company has been engaged by 3YA for this Saturday evening, when a programme of absolute vaudeville will be presented. There will be no interruptions in the entertainment, which will consist of sketches, cross-talk patter as well as musical numbers. A humorous dialogue will be "Lady Godiva" and a Christmas sketch, "The Stranger," will also be presented. Mr. George Titchener will head the entertainers, the others of the party being Mr. C. W. Collins (humorous elocutionist), Miss Mavis Ritchie (comediienne), Miss Eileen Grennell (soprano), Miss Muriel Johns (at the piano), Miss Edna Johnson (popular songs) and Mr. Clive Hindle (baritone).

Uncle Peter of 3YA

REV. STEPHEN PARR, Uncle Peter of 3YA, has found that his radio duties are proving too severe a task on his time, and he has therefore had to relinquish what has been to him, as it is to all uncles, a very interesting work. Mr. Parr became Uncle Peter nearly eighteen months ago, and he regretfully said "Good-bye" to his radio family on Wednesday evening. Mother Hubbard, however, has promised to carry on her radio work next year.

1YA Children's Committee

THE fifth meeting of the 1YA Children's Committee was held on Tuesday last.

An apology for absence was received from Mrs. Bruce McKenzie, who forwarded a letter in connection with a request for support for the installation of a wireless set at the Waikeria Prison Camp. The committee felt that the request was somewhat outside its province and decided to take no action.

The Radio Broadcasting Company wrote intimating that it had been decided to hold the children's session for Christmas Day in the morning of 9 a.m., in accordance with the committee's previous resolution, and further intimated that they had decided to adopt the committee's resolution regarding the introduction of a gramophone record on occasional children's programmes, the record to be accompanied with a short comment.

The chairman intimated in connection with unsolicited donations which had come to hand that in furtherance of the committee's scheme to install crystal sets in cases where deserving circumstances warranted, a satisfactory quotation had been received from a local radio firm, and it was decided to proceed with the matter immediately.

The committee passed a resolution recommending the company to introduce a series of talks on "Vocational Guidance," to be given by prominent people during the children's session, once a fortnight.

The committee decided to meet again on February 26, 1929.

Change Round!**New Uncle at 1YA**

OWING to the fact that the Rev. G. Coats (Uncle George), Mr. T. T. Garland (Uncle Tom), and Mr. L. S. Abbott (Peter Pan) will be absent from the studio for the month of January, arrangements have been made with the following people to take their places:—

Tuesday Nights.—Mr. G. Warren (Uncle Pat).

Wednesday Nights.—Mr. Julius Hogen (Hobo).

Thursday Nights.—Rev. A. W. McMillan (Uncle Mack).

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Wanganui Relay Greatly Appreciated



As a listener-in I cannot let the opportunity pass without letting you know how much we enjoyed the programme broadcast by Queen Alexandra's Own Band from Wanganui on Friday night list. Everything was so clear and distinct that it sounded as if it was just outside the house instead of being relayed 125 miles by land-line. I feel sure that any listener who heard this broadcast would be only too pleased to send along one shilling to help the champion band obtain a new set of instruments. I hope that some time in the near future we will hear another of these programmes. In conclusion, I would like to state that nine of every ten programmes from 2YA are enjoyed by us. We are not hard to please.—"Satisfied."

I MUST congratulate the artists who took part in the concert at Wanganui, including the champion band, and I must say that it was one of the best concerts that I have ever heard over the air. It is sincerely hoped that we will have the privilege of hearing many more of them, for I

LETTERS received by the Broadcasting Company show how much the relayed concert from Wanganui was appreciated throughout New Zealand. Conditions for reception would seem to have been exceptionally good that evening, and this fact, combined with the first-class quality of the concert, has marked the broadcast as one of the outstanding radio events of the year.

have been disappointed when I have had friends with me listening in, to hear that a certain record has been put off. Now, sir, I should think it would be easy to have all the records close at hand for each evening's programme, and so avoid the announcer having to say the record is not available just now. What has become of Berthold and Bent, mandolin players, Lad Hayward, mandola player, Mr. Temple White, grand organ, Mrs. Kenny's mandolin band, as we miss them from the list.—"R.B.," Wellington.

[In the effort to provide variety some appearances and temporary disappearances must necessarily occur, inevitably to the regret of some listeners.—Ed.]

a fairly old listener-in, as I have been operating a radio set long before 3YA opened, and this splendid achievement crowns everything I've listened to.—"Contentment."

An Opportunity.

LISTENERS in general who appreciated the splendid concert relayed from Wanganui on the evening of December 7 last will, we think, regret to learn that the financial success hoped for from the venture was not attained. The primary purpose of the concert was to raise funds for the provision of new instruments for the Queen Alexandra's Own Band. Although the attendance was excellent, the result was not as large as

Other Extracts

EXCERPTS from a few of the letters received by the Radio Broadcasting Company may be quoted:—

Katakati, Bay of Plenty.—I feel that I must write a line of appreciation of the very fine broadcast you put on last night from Wanganui. It was indeed a treat. We have never at any time got 2YA as clearly as we got it last night, and as for the volume, we could almost imagine the band was playing in the room. I do not know if the other stations were re-broadcasting Wellington last night, as I was too engrossed to try the others.

Hokitika.—The reception of the concert relayed from Wanganui is coming through perfectly; in fact, it is better than the items which come from 2YA studio. I have the power cut back to-night more than usual.

Waitara.—Allow me to express my sincere appreciation of the most excellent concert relayed from Wanganui on Friday evening. I consider it one of the best concerts broadcast yet. There was also the absence of fading and blurring that we are usually accustomed to from your station in this particular part of Taranaki.



The performers and members of the Queen Alexandra's Own Band, Wanganui, whose concert on the evening of December 7 was markedly successful when relayed over a landline of 125 miles to 2YA, Wellington. This photograph was taken by flashlight during the evening. —Photo, Tesla Studio.

have heard nothing but praise from all I have met who were listening in that evening. There is one thing I would suggest, and that is that you will adhere to the programme whenever possible, as published, especially as regards gramophone records, as I

THE spirit has moved many hundreds to-night, and at last I feel compelled to write you expressing our delight with the splendid victory in re-broadcasting the concert from the Queen City of the Southern Hemisphere (Wanganui). I must say I am

was hoped for. In the circumstances, listeners who appreciated the extremely fine music provided by the band and the contributing artists may feel like forwarding donations within their means to the secretary, Mr. A. R. Donaldson, P.O. Box 140, Wanganui. Having regard to the objective and the possibility that future pleasurable programmes may be provided from Wanganui, it is hoped that this appeal will meet with some success.

We are also in a position to advise that a limited number of souvenir programmes remain available for sale. Listeners forwarding contributions will receive one gratuitously, or those requiring a programme specially will be supplied on forwarding 3d. in stamps to the secretary. The souvenir programme contains an exceptionally good photograph of the band, and also one of Mr. Hubert Carter. It is a handsomely-printed booklet of eight pages, and constitutes an artistic souvenir of an outstanding concert.

Get your new batteries now, and save money.



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DIRECT SHIPMENT.—Fresh Stocks just arrived. Tested and Guaranteed Full Voltage before despatch. Limited stocks, so order quickly. Remember!

22½ Volts	8/-	No. 6—1½ Volts	
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45 Volts Standard Size	16/-	3) ...	5/6
45 Volts Heavy Duty	20/-	C—4½ Volts	2/9

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Wellington Radio Society

General Meeting

Instructive Lecture Mr. C. C. K. Fear

HEAVY continuous rain militated against a numerous attendance at the general meeting of the Amateur Radio Society of Wellington at the Congregational Church schoolroom, Cambridge Terrace, on Tuesday evening, December 11. About two dozen were present, and the chair was occupied by Mr. Byron Brown, president.

A general discussion took place on the question of the talent heard from 2YA, Wellington. Various opinions were expressed, and while some urged that better talent would be regularly available if the Broadcasting Company increased its payments for performers.

It speaks well for the engineering abilities which make possible a relay over such a distance.

A telegram from Queenstown said:—Concert came through with wonderful clarity.

Milton.—The relay from Wanganui was a huge success. The concert was a fine performance, every item coming through in fine style. Let's hope for more relays of this nature.

Dunedin.—After last night's wonderful relay I must congratulate you on the splendid way everything came through from Wanganui. The concert was one of the best ever known over the air, and one would not have known it was coming 125 miles by land before entering the transmitter. Many people were heard this morning praising the excellent concert, so I am sure other such concerts would be very welcome. The programmes have reached a high standard at all stations and should be satisfying most, if not all, of the listeners.

Donations to Band Fund.

THE Conductor (Captain G. Buckley) acknowledges with grateful thanks the following donations in response to 2YA's appeal over the air for funds for the purchase of new band instruments:—

	£	s.	d.
Tom and Polly, Te Tuhi ..	10	0	
F. Dwyer, Stratford	5	0	
F. Lomas, Wanganui	7	6	
Three Ladies	5	0	
Family, Castlecliff	10	0	
H. H. Marris	10	0	
A. Harris	1	0	0
"Bridge" School	5	9	
C. H. Burton, Masterton	5	0	
E. Watts, Kawhia	1	0	
Two Residents, Mahoney St.	5	0	
F. and L. Gunn, Whangarei	5	0	
Barac, Wellington	5	0	
E.C.H.L.	2	0	
A Friend Radio	10	0	
Trembone	10	0	
Per H. V. Hazard, Castlecliff	9	0	
Programmes	2	6	
E. Lambert	1	1	0
Jones and Fowler	10	0	
A. R. Farrell, Addington ..	1	0	0

Further donations have been promised which, when they come to hand, will almost double this amount.

others said that they were well satisfied with the programmes from 2YA. Speakers expressed great pleasure in listening to the very fine assortment of gramophone items put on the air by 2YA, in fact, they said, they much preferred them to the usual studio numbers. A trader said that the general-ity of his customers were well pleased with the quality of the programmes by 2YA. One listener advocated the inclusion of more educational items such as lectures on economics, but otherwise he had no fault to find with programmes.

Complaints were made that the transmission by 2YA, Wellington, varied very much in quality and volume. While transmission during one session may be excellent the transmission in the next one would be harsh and inclined to blast. A motion was carried that the general manager of the Radio Broadcasting Company be written to complaining about the quality of the transmission by 2YA, and requesting that the trouble be rectified.

A LECTURE, illustrated by black-board drawings, was then given by Mr. C. C. K. Fear, on the subject of aerials and earths, particularly in connection with their use with crystal sets. Mr. Fear strongly emphasised the advisability of employing long aerials, which should be as high as possible, for crystal sets. He suggested an aerial of about 140 feet in length, including the lead-in, and not less than 30 feet above all obstacles—fences, sheds, trees, etc. The nearest to an ideal aerial was a vertical wire attached to a very high mast, but this was seldom practicable. The next best was an aerial of the inverted "L" type. He advised listeners to use not less than two good insulators at each end of the aerial, and they should be so inserted that the actual aerial is not closer than three or four feet from each mast. He was greatly in favour of glass insulators, as opposed to the small "shell" type porcelain type. In bad weather, owing to the proximity of the wires which pass through the "shell" insulators, there was some leakage. There was also a certain amount of "condenser effect" in the case of "shell" insulators which also meant loss in signal strength. He advocated a good soldered joint where the junction took place between the lead-in and the aerial. The lead-in should also be kept three or four feet away from the side of the house until it entered the lead-in tube. The earth wire should be of heavy gauge wire, and as short and direct as possible. It should not be fastened to a gas-pipe, but to a water-pipe or a sheet of galvanised iron or kerosene tin buried in the ground, which should be kept well moistened. He preferred enamelled wire, as it lasted very much longer than plain wire. Though it used to be believed that aerial wire when corroded set up a resistance to radio-frequency currents it had now been definitely established by laboratory tests in the United States that there was no difference in the strength of reception when using a new wire aerial or an old one which was badly corroded. However, the corrosion had a tendency to render the wire brittle. Mr. Fear warned listeners that it was an infringement of the law to run an aerial over electric wires. There was also a potential danger to the listener in doing this as, in the event of his aerial falling on a live electric wire he may be severely shocked if not killed.

In mentioning risks from lightning, Mr. Fear said that a well-installed aerial was actually a protection against lightning. This had been proved by actual happenings. A lightning-arrestor, however, was essential, being required under the Underwriters' Association regulations. Mr. Fear gave details of how to instal the arrestor, and he said he preferred to see it located on the outside of the house.

Talking on the subject of crystals, Mr. Fear favoured galena in preference to all others, but there were other excellent crystals. He found carborundum splendid up to a limited range, but when the distance was extreme it was less sensitive than galena.

For coils to embody in crystal set he gave preference to silk-covered or enamelled wire, but cotton-covered wire was susceptible to becoming moist in wet weather. The diameter of the wire for these coils should not be less than 20 gauge or more than 24 gauge.

On the conclusion of his lecture Mr. Fear answered several interesting questions. On the motion of the chairman Mr. Fear was accorded a hearty vote of thanks with enthusiastic applause.

AT the request of the chairman, Mr. I. M. Levy, vice-president, on behalf of the society, presented the retiring honorary secretary, Mr. W. H. Taylor, with a handsome solid silver

cigarette case suitably inscribed as a memento of esteem and appreciation of his services. Mr. Levy explained that owing to his promotion in his business Mr. Taylor's duties in future would take him out of Wellington almost continuously, so that it would be quite impossible to continue his duties as honorary secretary of the society. While they warmly congratulated Mr. Taylor on his advancement they greatly regretted his resignation as honorary secretary, a position he had occupied with great ability, discretion and enterprise. It was through his efforts that the society had taken a new lease of life. In thanking the members for their presentation Mr. Taylor expressed appreciation of what Mr. Levy had said, and assured the members that he would continue to take a close interest in the doings of the society. He advised the society to continue its endeavours to secure more members and large attendances at its meetings. The newly-appointed honorary secretary, Mr. A. G. H. Laws, was then introduced to the meeting by Mr. Byron Brown. Mr. Laws said he would do his utmost to carry on the good work of his predecessor.

WHEN a man ceases to criticise the radio conditions in his locality, he has lost interest in radio. Then there is really something the matter with it.—"Radio."

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Systematic Trouble Tracking.

IT very often happens that the set, without any warning, either stops working or the signals fade off, till hardly audible, and all the coaxing will not induce the set to resume its normal functioning. It is then considered a matter for the service man, yet it may be only a very small fault, and one that may be corrected in half an hour or so (perhaps even less), and be such that the average radio listener can adjust without any difficulty.

Following is a list of faults in the order they should be tested for when the set refuses to function in its usual manner.

1. Defective batteries.
2. Defective valves.
3. Broken wiring (open circuits).
4. Defective aeriols.
5. Defective grounds.
6. Defective parts.
7. The use of harmful components.
8. Wrong connections.
9. Short circuits.
10. Defective arresters.

Batteries.

THIS very common cause of trouble is one for which no radio listener has any excuse. A voltmeter suitable for intermittent testing can be obtained for a few shillings, and every owner whose set is battery operated should provide himself with one. If the voltmeter is to remain in the circuit permanently it should be of the best quality, and one that consumes but little current; this type usually costs about £2, but the cheaper variety are equally suitable when not to be permanently installed in the circuit.

When the battery falls lower than 40 per cent. it should be discarded if the set is to perform at its best. However, when the local station only is to be brought in the battery can be allowed to fall lower, but if the quality is to

be maintained a high voltage must be maintained. This is particularly true when it comes to the reproduction of the bass notes which need a high voltage to drive them. This explains why a high voltage on the final valve is necessary if the quality is to be reproduced.

The A battery, of course, should not be allowed to fall below 60 per cent., and even this is rather low if the accumulator is to be made to last.

The batteries should be regularly tested, as a multitude of troubles can arise through defective batteries.

Defective Valves.

FROM time to time tests for valves have been given through the columns of the "Radio Record," but the following method is one of the surest to detect an offending valve. A milliammeter is necessary, and those who can spare a few shillings will find that its use will enable the set owner to trace many and varied troubles. A milliammeter which ranges from 0 to 50 should be placed in series with the minus B lead. First take the total reading, then remove the valves one at a time and note the current drop at each removal. The valve, not counting the detector, whose removal gives the smallest drop

in current is the weak valve, assuming, of course, that all the valves are supplied with the same B and C voltage.

As most valves are supplied with different tapings, it is easy to attach all the leads to the same tap for the test. A check can be made in replacing the valves, noting the gain per valve.

Broken Wirings.

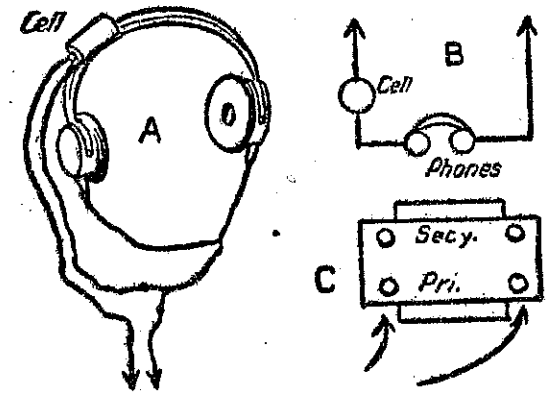
THERE are numerous ways of hunting for these troubles, and following are a few methods which can be applied without the necessity of constructing or purchasing checking devices.

The usual symptoms of an open circuit is a loss of volume or a total loss of signal. In most instances of sets having three dials, the trouble, if it is in the radio stages, will isolate itself by the fact that one of the dials will have little or no effect in the tuning. Again, it may show itself by a zero reading of the voltmeter connected between the plate terminal of the valve socket and the B minus, which means that there is a break in the primary in a radio frequency coil. A simple test in such a case is to place the fingers on a 2 megohm gridleak across the primary terminals of the suspected transformer or coil.

If the set is inoperative because of an open circuit, the fingers of the gridleak will cause the set to function, though not up to its usual standard. The fingers may also be used to determine whether or not the break is in the audio side by touching the grid lead to the detector valve. If the audio amplifier is O.K., a howl will be produced in the speaker. Don't be too anxious to make the tests with phones.

A Simple Tester.

WITH the aid of a pair of phones and a small battery, a small testing apparatus can be improvised which will reveal a broken circuit very easily. Below is a diagram of how this is constructed, the small diagram B clearing up any doubtful point. In A, a torch or other small battery is used, but the writer has found that the use of a larger voltage, say, 22½ volts, gives a surer indication. Take two pieces of wire and attach them to the positive and negative of the battery. Fasten one of these to one of the tips of the phone cord, leaving the other phone tip and the other lead from the battery free. These



are represented by the arrow heads in diagram B. The tester is now ready for operation.

The use of this little instrument in testing transformers has often been described, but for any who are still in doubt the following remarks will probably be of use. Place the arrow heads on the terminals of the suspected transformer, after having removed the connections and disconnected the batteries.

Test the primary first, that is, across the terminals marked OP IP, or HT (B) and P. When the tops of the wires touch a decided click should be heard in the phones. Try touching the wires together and the resulting click should be the same, or nearly so. This indicates that the winding is intact. If on the other hand there is a series of weak clicks or an absence of them, the winding is broken and no doubt the cause of the trouble. Likewise test the secondary, and the result should be almost the same, though the resulting click is usually weaker.

By this means the wiring of the set can be tested, and the position of the break located. Soldered and non-soldered joints, if they exist, should likewise be tested.

This piece of apparatus can be used for a multiplicity of operations that will be described in future numbers in the series of trouble tracking paragraphs under the scheme indicated at the beginning of this series.

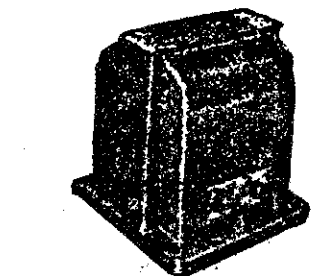
A 2-volt accumulator should never be allowed to run down below 1.8 volts per cell. A 4-volter below 3.6, and a 6-volter below 5.4 volts.

If you cannot afford a voltmeter for testing your accumulator ask your dealer about a hydrometer, which is much cheaper and very useful.

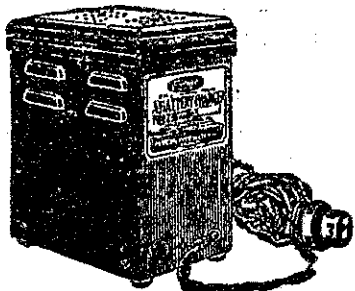
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3251, 3253, 3255, 325

Set Deneutralised.

I AM having some little difficulty with my set. I am using a four-valve set, which I built myself, and the general results are splendid. However, I recently purchased a different valve and used it as a detector. The set has developed a whine. Sometimes it will go well for days, then suddenly start off again. The whine starts low, swells until it almost drowns out the station, and then fades away.

I have completely overhauled the set. There are no bad joins, the pins of the valve fits firmly in the socket, A, B, and C batteries are in good order and up to strength. The aerial is 100 feet stranded copper wire, 35ft. above the ground, well insulated, and clear of stays, etc., and the earth is a copper bucket buried about 2ft. 6in., to which I recently added six feet of water pipe, driven straight down, the joins in all cases being soldered, and the whole plate kept moist. I might state that the valve used in the first L.F. stage is quite all right, and a different make in the detector is all right. I forgot to state that I have put a rubber cushion under the detector socket.

Question 2: My loudspeaker, a good cone, has developed a rattle on certain notes. I attached an output filter, but it made no difference. The other day I built the indoor aerial which you described in a recent issue, and found the reception not at all bad, considerably less, of course, than the outdoor aerial. I am waiting now for a "static" night to see if it cuts down interference.

Question 3: By the way, could you give me some information about a station, or rather two stations, on the same wavelength, about 3 degrees below KFON? I get them every night about 7.30-8 p.m., but cannot get the call sign.—C.C.T., North Auckland.

Answer 1: The correspondent here has voiced a common trouble—quite recently a number of correspondents have written making a similar complaint. In each case they complain of a whine and add, usually quite casually, that they have added a new valve of a different type from that they were previously using. This is probably the cause of the trouble. Sets are neutralised for a definite valve combination and to alter the detector or the radio frequency valve is usually sufficient to deneutralise. This would cause the whine which is so annoying to the unfortunate owner and his neighbours within a large radius. The set will have to be re-neutralized. Pentode describes a method of how this might be done in his article on the portable.

Answer 2: Without being unduly discouraging, the writer is of the opinion that the speaker magnet has been partly demagnetised through being connected the wrong way round or through being dropped. This would bring about unsatisfactory reception. However, something may have worked loose and be setting up vibrations when excited by a strong note. The speaker may be being worked with the diaphragm too tightly adjusted, try loosening the controlling screw. The trouble may be located in another part of the set so that it would be well to try another speaker or earphones to conclusively decide whether the trouble is in the speaker or not.

Answer 3: From the information given it is a little difficult to give a fair idea of the identity of the station. If the wavelength and some idea of what was coming from them were given the correspondent could be given

a more decided answer. The only station reported as being heard near KFON's new wavelength 239.9 is 3RL, Melbourne, on 230 metres. There are, however, several Americans, but it would be difficult to distinguish between them.

Dead Spots.

I HAVE an aerial about 150ft. high and 120ft. long, and use it with a two-valve regenerative set. I have noticed if I raise the aerial about 10ft. it forms a dead spot. What would be the cause of this? I have a good earth: it runs parallel with the aerial under the ground, and into a small spring coming out of a hill.

Answer: A very big aerial is being used and is made even bigger by increasing the height. Such an aerial requires a short aerial coil and unless this is provided reception below a certain wavelength cannot take place. To get over this difficulty take a few turns off the aerial coil.

Pentode's Crystal and Valve.

"COULD you oblige me with answers to the following questions re crystal and valve with three-valve performance?" writes C.O.D., Lower Hutt.

Q. 1: What does this really mean: Distance or volume and would the volume of the local station 2YA be more or less than an ordinary one-valve amplifier, and would local station reception be free from static as with a one-valve amplifier?

A.: The title of the article indicates that for both distance and volume the set is superior to the usual one-valve amplifier. It compares more favourably with a three-valve set than to a crystal and amplifier. If carefully constructed the set should give 2YA at far greater volume than the ordinary amplifier. The reason is the use of reaction. The crystal would render the static inaudible.

Q.2: Would a Mullard PM, HF 1.5-volt valve do, and would the set work successfully with a 45-volt B battery?

A.: The agents of these valves advise that PM, HF requiring 1.8 volts filament is suitable, but PM2LF is more suitable. This valve requires 2 volts and will be the better if there is a great volume to be handled as there would be if this amplifier were to be used on the local station. PM, LF should work from 50 volts fairly satisfactorily.

Q. 3: Could the coil aerial, secondary and tickler be shown more fully as I do not fully understand, and if possible more clearly?

A.: The secondary coil and tickler are somewhat similar in operation to those described for the Browning Drake. This will be found on p. 115 of the "Listeners' Guide," and in the issue of the "Radio Record" of September 9, 1927. The general constructional details were given there. If they were looked up, together with the details given last week, no trouble should be experienced.

Our correspondent asks what stations he might be able to receive. This cannot be said, so much depends on the construction and operation of the set.

Questions and Answers

Oscillation.

A CORRESPONDENT, F.M., asked last week, "Why should my set go on to oscillation after it has been going for ten minutes.

Oscillation is probably caused through too much reaction (volume) being used. In other words, the set is working at the point of oscillation. When a note (vibration) more powerful than the rest, is passed through the little extra is sufficient to set the set oscillating.

"I should like to increase the strength of the set for the summer months. What would be the most economical method."

Several methods suggest themselves.

1. Better aerial and earth systems (see article).

2. Use a power valve in the last stage, preferably a pentode. In this case, the B battery could well be brought up another 45 volts.

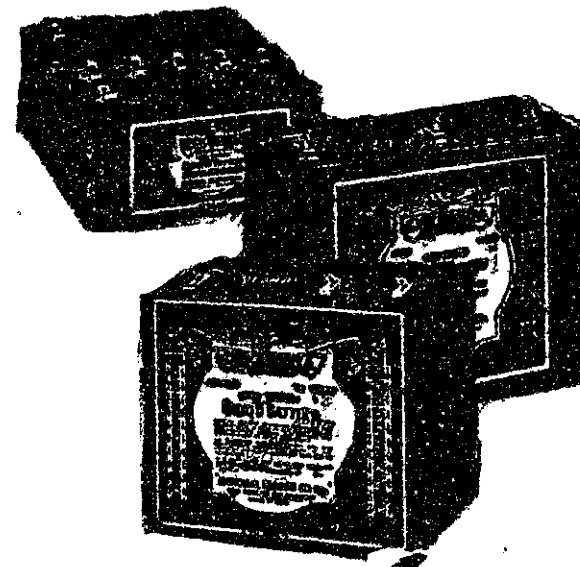
3. Add a stage of radio frequency.

An Unusual Aerial.

WHEN listening to 4YA, Dunedin, on my set, which is a three-valve regenerative, the reception keeps coming in loud and fading out at regular intervals, just as if I was touching the aerial terminal and taking my finger off again. The other New Zealand stations come in all right. Could you please explain what causes this.—"Puzzled" (Oamaru).

A somewhat similar case was recently related in this corner. Regular readers will remember the paragraph.

It appears as though the body is acting as an auxiliary aerial, and when the terminal is touched the signal is received. (Continued on page 23.)



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THE WOMAN'S POINT OF VIEW

By "VERITY"

Hairdressing for the Nursery Folk

Children's hair, like that of grown-ups, should be carefully cut and dressed to suit the little owner's face. Fashions in children's hairdressing have changed as completely as our own, and should receive the same careful thought and attention. A curly-haired lassie is indeed blessed of the gods, but many a head which in infancy gives such promise produces lank, unmanageable locks as the child grows older. The formation of the brow is a great consideration. A wide forehead is beautiful in a child and should not be hidden. A high forehead is often better covered with a fairly thick fringe reaching almost to the eyebrows. The Botticelli cut is very becoming to small, round faces, with either a side or middle parting.

Little peculiarities need to be considered. A "double crown" yields best to a long side parting, and a "cow lick" can look quite distinguished if the hair is brushed straight back from the face.

paste buckles at the instep, and black satin "Court" shoes may again bear crystal or paste ornaments on the vamp, or at one side.

It is no longer sufficient to wear the buckle bought with the hat or gown, for the wise woman has a series of these accessories, and varies them according to the mood of the moment.

Dry Cleaning at Home

THE coloured silks, patterned chiffons and velvets that are so fashionable mean an expensive cleaning bill when they are soiled, as these dainty fabrics cannot usually be washed successfully, and each time they are cleaned there is very little change left from ten shillings.

The girl with a small income will find it is quite a simple matter to clean them at home by substituting petrol for water. This is a very economical method, and you can rest assured that the garment will not suffer in any way. Petrol only takes out the dirt and does not affect colours in any way.

The main point to remember is that petrol is inflammable and should never be used in a room with a fire or a naked light of any kind.

The wisest plan is to do your dry-cleaning in the open air.

To clean one dress half a gallon of spirit is required, which should be poured into two bowls. These must be perfectly clean without any suspicion of grease. If the dress has any bad stains, remove them first by dabbing a little petrol on them, but do not rub it in. Place it loosely in one bowl and cover with petrol, dipping and squeezing it for a few minutes until the dirt is removed. Rinse it in the other bowl, and if the petrol is still dirty, repeat the process. When quite clean squeeze the dress as dry as possible, shake it well and hang on a coat-hanger to dry. Do not dry near a fire, but hang it in the garden. Petrol evaporates quickly, and the garment will be dry in a few minutes, although the smell will take longer to go off.

Wear rubber gloves, as this saves the hands.

Hats, gloves, satin shoes, coats, cushion covers, etc., can all be dealt with in this way, and woollies rarely shrink when "washed" with petrol.

Do not waste the petrol when you have finished, but allow it to stand a short time. The dirt will sink and it can be poured into a bottle for use on another occasion.

Tomato Time

THIS is the best season for tomatoes, and plentiful and cheap supplies will soon be on the market. They are a valuable item in the menu, and can be treated in a number of ways.

Tomatoes stuffed and baked are a tasty savoury. You need six medium sized tomatoes, 1oz. butter, $\frac{1}{2}$ -teacupful breadcrumb, 1oz. grated cheese, $\frac{1}{2}$ -teaspoonful chopped onion, 1oz. finely-

He tells me that he's eighty,
This dear old man of mine,
But how can I believe it,
When I see his bright eyes shine;
Maybe his hair is whiter,
And the wrinkles deeper grow
But I don't believe he's eighty,
I can't believe he's eighty,
When he talks to me and tells me
What he told me long ago!

Still he vows that he's eighty,
But I say it cannot be,
When I see him striding gaily
Along the streets with me;
When I hear him talk and argue,
Telling stories by the score,
Oh, I don't believe he's eighty,
I can't believe he's eighty,
When he makes us laugh and chuckle,
Though we've heard them all before!

But when at eve we wander
In our garden on the hill,
When the noises of the busy world
Are growing hushed and still;
When he puts his arm around me,
And we watch the setting sun,
Oh, I can't believe he's eighty,
I won't believe he's eighty,
When he kisses me and loves me
Like a boy of twenty-one!

FRED E. WEATHERLY.

[Mr. Fred E. Weatherly, the famous song writer, recently celebrated his eightieth birthday. To commemorate the occasion and to prove that he is "still alive" and working he wrote these verses.]

chopped bacon or ham, 1 egg, brown sauce, a pinch of sweet herbs, chopped parsley, and salt and pepper.

Remove stalks of the tomatoes, and cut a small slice off the top of each. Scoop out a little of the pulp, taking care not to break the skin. Place all the ingredients, except the brown sauce, in a pan, and cook slowly, adding a little sauce gradually.

Season well, fill the tomatoes with the mixture, and sprinkle a few crumbs over. Bake in a moderate oven for about 20 minutes, and serve on little round croutons of fried bread.

One of the nicest soups is that made with tomatoes. To two pounds of tomatoes, allow 1½oz. butter, 2oz. ham, 1 onion, 1 carrot, 1 quart stock, 1 dessertspoonful cornflour, stick of celery, 3 cloves, mixed herbs, 5 peppercorns, parsley, a teaspoonful of salt, $\frac{1}{2}$ pint milk. Wipe and peel the onion and tomatoes, and cut into slices. Cut the bacon, celery, and carrot into small pieces.

Place all the vegetables in a pan with the butter, and cook for a few minutes. Add the stock, ham, and herbs, and simmer gently for about 1½ hours. Remove the herbs, and rub the mixture through a sieve. Pour it back into the pan, and milk, and boil. Mix the cornflour with a little milk into a thin paste, and stir into the soup until boiling, then simmer for about 10 minutes, and serve.

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Annotations of Annabel

Books.

FAREWELL TO YOUTH. (Storm Jameson.)

DEAREST:

Edward, the Prince, proving irresistible target for eyes of Empire and beyond, carried us all with him in headlong race across the surface of the world. To adapt Mr. Davies' poem—

In midst of life, though full of care,
We've all found time to stand and stare,

as with mind's eye and heart's hope each of us followed the son of the Royal house in his high endeavour to reach the mecca of his father's bedside. Greatly appreciative are British people of magnificent assistance on that mighty trek prompted by love and duty, and noble courtesy from differing nationalities and all sorts and conditions of men. Now we rejoice with them that do rejoice, inside and outside of Buckingham Palace, that the King, who has never failed his people in war or in peace, is emerging from the dark valley of "twilight and evening bell."

TRUE to type, during weeks of anxiety the Queen carried on the day's work with undaunted courage and in accordance with the traditions of our race. So it happened that last week thousands were thrilled to hear her voice for the first time over the wireless. The occasion was the unveiling at Tower Hill of a Memorial to men of Marine and Fishing Fleets who, during the Great War, gave up their lives, finding vanished sepulchre in the "unplumbed, salt, estranging sea." The noble words spoken by Queen Mary were, "To the glory of God and in honour of brave men." Peace to their memory, heroes of fishing smacks and game small vessels,

that have been immortalised in most moving verse by Mr. Rudyard Kipling.

MR. Philip Guedella, in "Bonnet and Shawl"—assuredly as inspired title—makes witty and ruthless commentary on characteristics and code of the Victorian female, as unpleasantly sometimes she was designated in the dear old days. Apparently wives of great men all remind him they can make the lives sublime of their beloved partners by deliberately repressing feminine individuality, and exhibiting a sweet subservience that in theory throughout the ages has been beloved by man.

THE alertly brilliant Jane Welsh Carlyle, one of Mr. Guedella's ladies, rather kicked against the pricks of holy yoke of matrimony with the great and tempestuous Sage of Chelsea, finding him vastly unentertaining, in spite of his being so grandly conscious of "this vast Universe that storms in upon us, infinite, vague-menacing...", and oblivious to little homely happening and happiness strewn along the path, that go far to make that universe worth while. Hard to live in the rarified mental ether of so gigantic a genius, his attractive spouse discovered; nor was she first or last so to make conclusion.

In the Gospel, according to this vivacious English journalist, who uses his lightness of literary touch to such amusing purpose, the Victorian woman escaped marital misunderstanding by moulding herself according to prejudice and predilection of her lord. Which method, by traitors to the great cause of feminism, is still practised as the better way of matrimony. 'Tis one, be it said, not to be despised, if the man be worth it. And quite often he is!

IN passing, occasional wonder arises as to why children of this day and generation are permitted to go on shouting themselves hoarse, thereby ruining timbre of voice and nerves of their pastors and masters. In my abode dwells a youth, a handsome child, the only son of his mother, and she a widow and my landlady. At times I admire sturdy grace of this young barbarian at play, sun-bleached shock of hair and ruddy countenance. When, however, lingering long just outside my window at front gate, fumbling lovingly and noisily with iron latch, opening it violently and immediately slamming it for sweet pleasure's sake, the while he shouts to boon companion Gordy (presumably contraction of name unknown)—which, shrieked explosively, makes admirable expletive—then! abjure him and his gang, and peace on earth, goodwill to men, fades into the mirage of a lost illusion.

MEANTIME Beauty, adorned and unadorned, crowds pavement and emporium, sweetly intent on doing her darndest to get the right things for the right people and pay her debts of heart and head. Amid profuseness of choice 'tis not difficult to find suitable trifles. Pink perfection of be-ribboned sachet, puflet of posy make pleasant standby; while novel and lovely are tiny mirrors, small slight stems supporting gilt frame, oval glass flanked by miniature presentment of powdered, rose-fichued Watteau-like mayde of old.

And, so stifling that long look back on past days diffused with light that never was on land or sea, we welcome linking up of friendship and recurrence of the happy Christmas-tide.

Your

ANNABEL LEE.

Stooping and "Slumping"

REDUCING exercises, dancing, swimming, tennis, golf—all these things are taught by experts and studied by enthusiasts; but deportment has taken a back seat.

It would be sad to see unfortunate young girls spending a whole hour on a sunny afternoon learning how to get in and out of a car with grace and decorum. Sad, because the young girl of to-day has many more interesting ways of spending her afternoons, whereas her grandmother at a finishing school did truly spend many hours learning how to get in and out of a

landau or a barouche, and for her it was a normal occupation.

But is equally sad to see so many lovely people in so many lovely frocks spoiling themselves and their frocks because they do not know the first rule of deportment, which is an easy graceful carriage.

Yet good carriage not only increases the charm of a good figure and preserves its beauty, but has also power to make the indifferent figure far less obvious.

It is not difficult to acquire. In fact, at the salons where they teach reducing exercises and exercises for general physical fitness, they are always ready to teach their clients how to hold themselves and walk correctly. The difficulty lies in the fact that so few women

seem to realise the importance of this knowledge.

This importance is easily tested, both from the point of view of its effect upon the appearance and upon the physical health of the individual.


Watch the woman who stoops and pokes her chin out and "slumps" when she sits down.

You will notice that her back gets rounder every day, her chest flatter, her chin and jaw muscles flaccid, and her waist and hips large and ungainly. Isn't it obvious that when you poke your chin out your jaw line becomes blurred, that when you stoop you are not giving your lungs a chance to work properly, and that when you slump in your chair your spine is allowed to do everything it ought not to do, and your waist and hips are bound to thicken?

AT the recent French General Election, the election boards in the Paris boulevards were used by women to appeal for the vote. They emphasized the fact that in 28 countries in the world 150,000,000 women have obtained the vote, and that French women are among the last in Europe to be without it.

Tonking's Linseed Emulsion
is a Certain Cure for Coughs and Colds

When your throat pricks
take—
Pulmonas
FOR COUGHS AND COLDS



Features of Next Week's Programmes

1YA Notes

THE Christmas Eve programme has been specially augmented, and will run from 8 p.m. until midnight, the whole of the four hours' programme including a wide and varied number of items. The first half of the programme will be in the hands of Madame Irene Ainsley and her party, the chief feature being the presentation of "Rose Marie" (Friml). Madame Ainsley has previously performed this musical comedy on the air, and it was received so well by listeners that the repetition performance will be welcomed. A special item of interest will be a duet by Miss Marjorie Fair and Madame Ainsley, "The Barcarolle" from "Tales of Hoffmann" (Offenbach). Madame also includes in her party Mr. Arthur Friar Raisher, who is well known as an active member of all the university play and comedy productions arranged locally. Mr. Raisher has appeared only once before at 1YA, when he assisted Mrs. Bartley-Baxter with her Play Club. Mr. Raisher on this occasion will sing a baritone solo.

CHRISTMAS Eve programme will also include a relay of selections by the Majestic Theatre orchestra under Mr. Whiteford Waugh, who is at present conducting an extended tour of the Dominion. Commencing at 10.40 p.m., a programme of special Christmas music arranged by Madame Towsey, assisted by members of the Savoy Octette, and a specially augmented chorus, will be presented. The programme will include carols, Christmas hymns, and sacred Christmas solos. The carols will be continued until 12 midnight, at which hour listeners will be extended the compliments of the season. Barry Ingall's Hawaiians will dispense popular music on the stringed instruments.

An item of note on the early part of Christmas Eve programme will be the reappearance of Mr. Dan Flood, who has been absent in Australia for some considerable time, and his return will doubtless be eagerly looked forward to by listeners.

At 9 a.m. a special Christmas morning service for the children will be presented, and at 11 a.m. the Christmas Day morning service will be broadcast from St. Mary's Cathedral, the preacher being the Rev. Canon Percival James. The Anglican authorities are arranging for this service to be picked up and amplified throughout other churches in the province.

THE Boxing Day programme will find ready favour with those listeners who are fond of the popular type of music, the programme in the main being jointly in the hands of The Lyric Trio and the Asquiths. Mr. Alan McElwain will present humorous numbers, and has included his ever-popular "The Rich Man Drives By." A humorous trio will be presented, entitled "Woman," and a further similar item which should form an effective novelty is timed for 8.36 and entitled "A Kiss." The Asquiths will present a thirty-minute vaudeville entertainment, and although the Asquiths are always in-

corporating novel items in their half hour, Mr. Asquith promises this time something well out of the ordinary. A performer new to radio will appear in the person of Miss Joan Bryan, who is a soprano who will be coupled with the Lyric Trio in their concerted items and will also sing two solos. The programme will continue until 11 p.m., with specially selected dance and novelty records.

ON Thursday, the 27th, the programme will open with Madame Mary Towsey's Quartet, singing a Sullivan number, "Brightly Dawns Our Wedding Day." Mr. John Bree, the popular baritone, has selected "The Kashmiri Song" and "On the Road to Mandalay." Mr. Eric Maxwell, a talented young pianist who has performed with continued success at the various competition festivals, will play a Mendelssohn-Liszt arrangement of "On Wings of Song." The Auckland Trio will include two items of a difficult nature, the better known of the two probably being "The First Movement of Beethoven's Kreutzer Sonata."

ORGAN selections will be rendered by Mr. Arthur E. Dilon, who is to be assisted by Miss Dorothy Blomfield singing contralto solos. Mr. Wilson's re-appearance with his tabernacle organ has been enthusiastically welcomed by listeners, and he has chosen items which should please all tastes. Mr. Wilson will play an arrangement of "Love's Old Sweet Song," which is particularly effective, and a bell voluntary. On the occasion of the first mystery night held at 1YA, Mr. Wilson played an item which mystified nearly all those who heard it, this being "The Doll Dance," with variety effects. On that occasion most listeners guessed this item as a gramophone number, but on the 27th Mr. Wilson will let listeners into the secret of how his grand organ can be made to resemble very closely the recorded item.

THE programme on Friday will feature the appearance of Messrs. D. Black and J. Simpson as "The Clarion Duo." These gentlemen are well known to listeners as the bass and tenor respectively of "The Clarion Quartet," but owing to the absence of the remaining members, Misses Beryl Smith and Alma McGruer, on holiday, they will complete a duo role this evening. Mr. J. F. Montague presents two elocutionary numbers at 9.43 p.m., which will be particularly appropriate, the first being "Good-bye, Little Room," and the second Tennyson's "Death of the Old Year." This latter number is a particularly fine poetical composition, and Mr. Montague can be trusted to deal with it effectively. Miss Phyllis Gribben, the well-known contralto, will sing solos, the chief of which will be "The Enchantress," by Hatton.

Mr. A. B. Chappell, M.A., will deal with another interesting phase of his lectures on "Maori Life," "Maori Games."

THE orchestra, which will be heard in attractive numbers on Friday evening, is now under the control of

Mrs. Evelyn Prime, during the absence of Mrs. Dorothy Singer in Suva. Mrs. Singer has been for some time in indifferent health, and hopes to return greatly benefited by her holiday. In the meantime, Mrs. Prime can be depended upon to carry on the orchestra and maintain the high standard which this body has earned under Mrs. Singer's conductorship.

Saturday evening's programme will be of interest owing to the first appearance of Mr. Will Harris, a singer of popular tenor songs. Mr. Harris is well known at the various Orphans' Clubs and similar bodies throughout practically the whole of the Auckland Province.

THE Auckland Trio will present light trio numbers, and will play the popular "Cavalleria Rusticana" selection of Mascagni. Mr. F. W. Barker presents humorous numbers, and should score a popular "hit" with his item entitled "A Frenchman on 'Macbeth.'" Miss Molly Wright will play 'cello solos, and Len Keven, who acquitted himself so excellently at the recent production of the Auckland Amateur Operatic Society's "Belle of New York," will sing baritone solos. The programme will continue until 11 p.m., with specially-selected dance and novelty items.

The evening services will be relayed from St. Andrews Presbyterian Church, the preacher being the Rev. George Budd, and the organiser, Dr. Neill McDougall. Following the church service, a programme of studio items given by prominent artists, in addition to electrically-recorded gramophone numbers, will be presented.

Items from 2YA

THE Christmas programmes to be presented from 2YA will naturally be full of the atmosphere of the festive season. Many of the numbers will tell of Christmas and others will take listeners back to their old Home days. The programmes will not be without the lighter side and so will include humour and comedy.

CHRISTMAS EVE'S programme will include a novelty for orchestra and vocalists—"A Dream of Christmas," a trombone solo "Nazareth," and the "Hallelujah Chorus" to be played by the orchestra. The two Boiled Owls will again appear in several humorous and novelty numbers and Mr. Lad Haywood will make his re-appearance playing on the mandolin "Christmas Medley," "Where is Now the Merry Party" and "Home, Sweet, Home." Three artists new to 2YA will also appear. Mr. James Fardie, tenor, of Auckland, Miss Mona Carrick, one of Wellington's leading contraltos, and Miss Dorothy Newman, soprano, whose singing as "The Gypsy Queen" was one of the features of the recent performance of "The Bohemian Girl" by the Orpheus Musical Society. Miss Hilda Chudley is already well known for her artistic singing, and she will sing

among other songs "The Virgin's Cradle Song."

Following the above programme, the Orpheus Quartet will sing a number of Christmas carols, and at midnight there will be a relay of the Midnight Mass from St. Gerard's Redemptorist Church, Hawker Street.

DETAILS of the programmes for Christmas Day will be found on page 14.

WEDNESDAY, Boxing Night, will introduce the Peripatetic Pair, who will wander through the programme and also do two exceedingly funny sketches. These two comedians were corner men in the Minstrel Show which was relayed from the Town Hall on November 6. An old favourite will be heard on Boxing Night, Mr. R. T. ("Rolly") Robertson, who has not performed in Wellington since 1912. Since that time he has been in vaudeville in America, where he scored a great success; afterwards he performed in France during the Great War. His specialty is humorous songs at the piano.

Other well-known artists who will appear on Wednesday evening, and whose numbers are sure to be appreciated, are Mr. E. W. Robbins (tenor) and Mr. R. Hampton Bennett (baritone), who has had considerable stage experience abroad.

THE Wellington City Salvation Army Band will provide the instrumental music on Thursday evening. Assisting them will be Miss E. Rogers (soprano). The band items will include several numbers with the spirit of Christmas, Mrs. Daisy Basham, of Ngatea, Hauraki Plains, will sing "O, Foolish Fay," from "Iolanthe," and "When Maiden Loves," from "The Yeoman of the Guard," and other numbers. Mr. Ray Kemp (baritone), and Miss Rita Arnold (contralto) will be heard in solos and duets, and Miss Violet Wilson will supply elocutionary items.

ON Friday, December 28, the orchestra will provide some very fine numbers, including "Fingal's Cave," by Mendelssohn. In this number, one may hear the waves dashing on the rocks, and also the eerie effects that are encountered in caves. An interesting item will be the "Slavonic Rhapsody," by Friedman, a clarinet solo, with orchestral accompaniment. The Philharmonic Trio, led by Mr. Edwin Dennis, will give many fine vocal numbers, while Madame Eugenie Dennis will be heard in elocutionary items.

The popular Melodie Four are giving of their best on Saturday, December 29, including "Johnny Schmoker," by request. This combination is probably the best known male quartet in the Dominion, and they include four very fine soloists. Mr. E. A. Sargent is repeating by request, "A Fine, Old English Gentleman," and will also give "Under the Circumstances," by Mel. B. Spurr. On the instrumental side, will be heard a xylophone solo, an orchestral novelty, "In a Clock Store," and other light numbers.

AFTER the evening service from St. Andrew's Presbyterian Church, on Sunday, December 30, there will be the usual studio concert, appearing at which will be Miss Florence Stevens (soprano), and Mr. Chas. Williams (tenor), in duets and solos.

3YA Features

ON Christmas Eve, 3YA will broadcast four hours of entertainment. It is the usual band night, when Derry's Military Band will occupy the studio, and the instrumentalists will provide a programme of wide and pleasing variety. The opening number will be "Dance of the Clowns," a fine march. Christmas music will be heard in "Hark, the Herald Angels Sing" and "Adeste Fideles." Other numbers will be a waltz, a fox-trot, a march, also "Ramona" and "Auld Scotia." Further instrumental items will be contributed by the Studio Trio.

THE vocal programme for this evening will make a very strong appeal. Mrs. D. W. Stallard, always a very popular radio artist, is singing. Her numbers will be "My Old Kentucky Home," "My Ain Folk" and "The Old Folks at Home." Mr. Charles Lawrence has been engaged for the evening and his ability to entertain is well known. Mr. L. T. J. Ryan will also be welcomed. He will give "My Friend Brown" and also the burlesque speech "Bertram on Babies." Of Mr. Jock Lochart, with his Harry Lauder songs, and his original and topical patter, no listener has had enough. His items this evening will be "It's a fine thing to sing" and "When I was Twenty-one."

HAVING provided the foregoing two hours' solid enjoyment 3YA will switch over to 2YA to rebroadcast the final items of the programme there. After a brief interval the rebroadcast will resume at 10.45 when a Christmas programme of carols will be presented by the Orpheus Quartet. At midnight there will be a relay of the service in St. Gerard's Redemptorist Church.

On Christmas Day there will be a special session at 9 a.m. for the children.

At 7 p.m. the evening service in Christchurch Anglican Cathedral will be relayed. Dr. J. C. Bradshaw is the organist and choir-master. The service will be full evensong, with Christmas Carols.

Following the church service on Christmas evening there will be a studio concert till 9.30. The vocalists will be Miss Nellie Lowe and Mr. A. G. Thompson, who will sing duets as well as solos.

ON Wednesday 3YA will observe a late night. Much dance music will be played that evening by the Bailey-Marston Orchestra. The remainder of the programme will also be kept in keeping with the jolly nature of Boxing Day. The vocal numbers will be provided by the Melodious Four, who will sing solos, duets and choruses. Many of these melodies will be from popular light operas. Featured on the programme will be Mr. E. J. Peek and Mr. Franklyn Brown. The former will give two sketches and the latter will sing songs at the piano.

A MISCELLANEOUS programme, including numerous classical but all well-known and popular songs, will be presented on Thursday evening. The vocalists will be Madame Gower Burns, Miss A. Innes (mezzo-soprano), Miss Harvey (contralto), Miss N. Boardman (contralto), and Mr. Ernest Rogers. Among the songs which are to be sung are "Annie Laurie," "Coming Thro' the Rye," "The Last March," "I Hear You Calling Me," "Oh Vision Entrancing," "Il Bacio," and "The Last Rose of Summer." Instrumental numbers will be rendered by the Studio Trio.

There will be two fine elocutionary numbers on Thursday evening to be given by Mr. R. R. Wills. These will be extracts from Browning's famous "Pied Piper of Hamelyn" and Lord Curzon's "Captain Scott and His Comrades."

On Friday evening a trio of the popular Radiolians will appear. The songs to be sung comprise a number of old favourites, and the evening's entertainment will conclude with a New Year carol. The members of the party will be Mrs. Claris Shaw, Miss Mildred Russell and Mr. W. J. Rogers. On this programme will also be Mr. George Titchener, whose humour will be purveyed in two items, "Different Languages" and the "Yorkshire Idiot."

On Saturday evening 3YA will rebroadcast 2YA.

In a studio after-church concert on Sunday evening items will be given by Mr. H. Blakeley and Mr. E. J. Johnson.

4YA Notes

TUESDAY being Christmas Day, a service is being held in the evening in St. Paul's Cathedral, and this will be relayed by 4YA. Commencing at 8 p.m. a unique lecture will be broadcast from the studio. The title of this is "Yuletide Music," and will be delivered by Mr. T. J. Kirk-Burnand, who will be assisted by the 4YA Harmonists. The address will deal with Christmas music of various decades, each being illustrated with solo and concerted numbers, in the course of which oratorio and well-known carols will be dealt with.

THE programme for Wednesday (Boxing Day) will be of a bright nature in keeping with the holiday season. The Serenaders' Quartet will provide a series of negro plantation songs, and each member of the party will contribute solo items. Mr. W. Harrison will sing two of Hermann Lohr's lighter songs, "Little Irish Girl" and "Two Little Irish Songs," Miss Mae Matheson will contribute two light numbers from musical comedies, "Two Little Blue Birds," from "Sunny," and "Tie a String," from "Mercenary Mary." Miss Rona Scott will recite some humorous elocutionary numbers. Bright music will be played by the 4YA Broadcasting Trio.

FRIDAY night's programme will include some of Dunedin's best talent. Miss Mary Pratt (contralto), whose work in the recent competitions was so outstanding, will sing three songs by Dr. Jarman, who acted as adjudicator for the competition festival. They are "Rhapsody," "There's

New Organisation for the B.B.C. Studios

GREAT advance has been made during the past year or two in ensuring the smooth working of broadcasting, and the B.B.C. has just put into operation a scheme which is calculated to cause the great machine to work still more smoothly.

This takes the form of the appointment of an official who will act as a sort of central announcer. He will sit in a room which will be in communication with all the studios and the engineers' control department, and with a knowledge of what is going on everywhere he will issue swift instructions which will prevent gaps, or any of the numerous other accidents that are liable to happen in the course of an evening's broadcasting.

In the past the announcers have the scenes, so to speak, in addition to actual announcing. An orchestral programme may be occupying too much time, or a dramatic item too little, or again, there may be queries from provincial stations whose programmes are liable to be upset by a slight time variation at 2LO. In future the central announcer (to give him a merely temporary name) will keep a constant watch on all these details, and thus ensure that the time schedule is strictly adhered to.

He has various means of making the quick alterations necessary. He always has an accompanist at hand ready to be moved into any studio to fill a gap, or he can "cut" items out if there is no time for them. had to do a good deal of work behind

a Spring," and "Cradle Song." Miss Agnes Guy will sing "A Japanese Love Song" and Alfred Hill's "Pokarekare." Elocutionary items will be contributed by Miss Roberta Williams, and a piano-forte solo, "Andante con Variazione" (Beethoven) will be played by Miss Aileen Young.

AN excellent vaudeville programme will be heard on Saturday night. Miss Mona Melville will sing the popular song hits "Riviera Rose," "Leonora," and "Close in Your Arms." A group of humorous songs at the piano will be rendered by Miss Eileen Cooper, "These Men" and "Ellen." Mr. J. B. McConnell will present popular song hits, "The Music in Mother's Eyes" and "When You Play the Organ and I Sing the Rosary." The Scottish comedian, Mr. Buster Brown, will entertain with three of Lauder's numbers. Major F. H. Lampen and Mrs. Lampen will combine in humorous sketches. During the evening orchestral music under the baton of M. de Rose, Mus. Bach., will be relayed from the Octagon Theatre.

Christmas Day at 2YA

ON Tuesday, Christmas Day, there will be a special studio concert, distinctly in keeping with the occa-

sion. Interspersing exceptional gramophone records will be items by some of the most popular local artists—Miss Evelyn Robinson, Mr. John Prouse and Mr. Stanley Warwick. The elocutionary items by Mr. Warwick will be "Scrooge" (from "A Christmas Carol" by Dickens) and "The Waits." Mr. Prouse will sing selections from "The Messiah," also Henschel's "Morning Hymn" and "The Star of Bethlehem." The gramophone records cover a very wide selection.

Special Dance Programmes

LOVERS of the dance will be interested to note that 2YA has made special provision for their delectation on the evenings of December 26 and January 1. Dalton's Band has been specially engaged for the occasion, and will play dance music from 8 o'clock throughout the evening till 11. This special provision will unquestionably prove popular with listeners and lovers of the light fantastic.

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Mr. K. B. Warner, Editor Q-S-T.

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Full Programmes for Next

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Sunday, December 23

1YA, AUCKLAND (333 METRES)—SUNDAY, DECEMBER 23.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Studio items.
 4.30: Close down.
 6.0: Children's session conducted by Uncle Leo.
 7.0: Relay of service from the Baptist Tabernacle (preacher, Rev. Joseph W. Kemp; organist and choirmaster, Mr. A. E. Wilson).
 9.0: Orchestral—Ketelbey's Concert Orchestra, "In a Fairy Realm" (Ketelbey) (Columbia Record 02694).
 9.8: Duet—Hazell-Sutherland Duo, "Hold Thou My Hand" (Briggs).
 9.12: Violin solo—Albert Sammons, "Elegie" (Massenet) (Columbia Record 02687).
 9.16: Contralto solos—Miss Phyllis Hazell, (a) "He Shall Feed His Flock" ("Messiah"—Handel); (b) "O Thou That Tellest."
 9.24: Pianoforte solos—Percy Grainger, (a) "Sheep and Goat Walking to the Pastures" (Gulon); (b) "Gigue" (Bach) (Columbia Record 04097).
 9.28: Baritone solos—Mr. Frank Sutherland, (a) "But Who May Abide" (Handel); (b) "The People That Walked In Darkness."
 9.36: 'Cello solo—W. H. Squire, "Angels Guard Thee" (Godard) (Columbia Record 04179).
 9.40: Duet—Hazell-Sutherland Duo, "Break, Diviner Light" (Allitsen).
 9.44: Close down.

2YA, WELLINGTON (420 METRES)—SUNDAY, DECEMBER 23.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 6.0: Children's Sunday service conducted by Uncle George.
 7.0: Relay of service from St. Thomas's Anglican Church (preacher, Rev. C. V. Rooke, M.A.; organist and choirmaster, Mr. Wenzel Collie, L.L.C.M.).
 8.30 (approx.): Sacred concert by the Choir of St. Mary's of the Angels, under the conductorship of Signor A. P. Truda.
 Choral—Choir of St. Mary's of the Angels, "Messe Solennelle," from "St. Cecilia" (Gounod). Soloists:
 Soprano Mrs. A. P. Truda
 Tenor Mr. Samuel Duncan
 Baritones Messrs. Len Barnes and Staunton
 Organist Mrs. G. P. Aldridge
 Pianist Signor Cattaneo

- Kyrie and Gloria from "Messe Solennelle" ("St. Cecilia"—Gounod).
 Duet—Mrs. A. P. Truda and Mr. L. Staap, "The Crucifix" (Faure).
 Credo, Benedictus, Sanctus, and Agnus Dei from "Messe Solennelle" ("St. Cecilia"—Gounod).
 Contralto solo—Mrs. T. Treacey, "Ave Maria" (Luzzi).
 "Adeste Fideles" (arr. Vincent).
 Close down.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 23.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 5.30: Children's song service, conducted by Uncle David.
 6.15: Hymn and carol chimes.
 6.30: Selected gramophone items.
 7.0: Relay of service from the Christchurch Anglican Cathedral. Preacher, Very Rev. Dean Julius. Organist and choirmaster, Dr. J. C. Bradshaw, Mus.Doc.
 8.15 (approx.): Studio concert.
 Soprano solo—Madame Gower-Burns, "Hear ye, Israel" (Handel).
 8.20: Orchestral—Berlin Philharmonic Orchestra "Carnaval Romain" (Berlioz) (H.M.V. Record D1365).
 8.28: Tenor solo—Mr. Harold Prescott, "How Vain is Man" (from "Judas Maccabaeus") (Handel).
 8.32: 'Cello solo—Pablo Casals, "O Star of Eve" (from "Tannhauser") (Wagner) (H.M.V. Record DB1012).
 8.36: Contralto solos—Mrs. Ross Brodie, (a) "Largo" (Handel); (b) "He Shall Feed His Flock" (Handel).
 8.43: Suite—Philadelphia Symphony Orchestra, "Casse-Noisette" (Nutmacker Suite) (Tchaikowsky), (a) "Arab Dance"; (b) "Chinese Dance"; (c) "Dance of the Flutes" (H.M.V. Record D1215).
 8.51: Soprano solos—Madame Gower-Burns, (a) "Oh, for the Wings of a Dove" (Mendelssohn); (b) "Hear My Prayer."
 8.59: Wurlitzer organ solos—Reginald Foort, (a) "Schon Rosmarin" (Kreisler); (b) "A Brown Bird Singing" (Haydn-Wood) (H.M.V. Record B2664).
 9.7: Tenor solo—Mr. Harold Prescott, "Sound an Alarm" (from "Judas Maccabaeus") (Handel).
 9.12: Flute quartet—London Flute Quartet, "Carnival de Venice" (with variations) (Benedict) (Parlophone Record A4023).
 9.16: Contralto solo—Mrs. Ross Brodie, "Abide with Me" (Liddle).
 9.20: Choir—British Broadcasting Company's Choir, "A Few More Years Shall Roll" (Bonner) (Columbia Record 01211).
 9.24: Soprano and tenor duet—Madame Gower-Burns and Mr. Harold Prescott—"My Song Shall Always Be Thy Mercy" (from "Hymn of Praise") (Mendelssohn).
 9.28: Military Band—H.M. Coldstream Guards, "Der Freischutz" (Weber) (H.M.V. Record C1335).
 Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 23.

- 5.30 p.m.: Children's song service conducted by Big Brother Bill.
 6.30: Relay of service from Knox Church (preacher, Rev. Tulloch Yuille, B.D., M.A.).
 7.45: Organ voluntaries by Mr. Roy Spackman, relayed from Knox Church.
 8.5: Relay of concert by the St. Kilda Band from St. Kilda Band Rotunda.
 9.15: Close down.

Monday, December 24

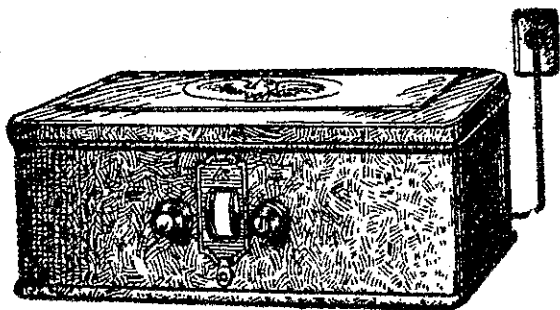
1YA, AUCKLAND (333 METRES)—MONDAY, DECEMBER 24.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Further studio items.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Children's hour, conducted by Cinderella.
 7.15: News and market reports.
 8.0: Chimes.
 8.1: Overture—The Orchestra, "Jolly Robbers" (Suppe).
 8.9: Vocal duet—Miss Marjorie Fair and Madame Irene Ainsley, "Barcarolle," from "Tales of Hoffman" (Offenbach).
 8.13: Hawaiian Instrumental—Ingall's Hawaiian Trio, (a) "Aloha-oe" (Lilikoi); (b) "Wailulululi."
 8.20: Baritone solo—Mr. Arthur Friar-Raisher, "Billy Boy."
 8.24: Dance suite—The Orchestra, "Three Dale Dances" (Wood).
 8.30: Contralto solo—Madame Irene Ainsley, "The Stars that Light My Garden" (Kennedy-Russell).
 8.34: Humour—Mr. Dan Flood, "The Sizzle of the Sausage."

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- 8.40: Hawaiian—Ingall's Hawaiian Trio, (a) "Wreath for Princess" (Hopkins); (b) "Coral Songs of My Hawaii" (Heagney).
 8.47: Soprano solo—Miss Marjorie Fair, "The Carnival" (Molloy).
 8.51: Overture—The Orchestra, "Potted Overture" (Engleman).
 9.0: Weather report and announcements.
 9.2: Baritone solo—Mr. Arthur Friar-Raisher, "In Love" (Lohr).
 9.6: Medley foxtrot—the Orchestra, "Christmas" (Aston).
 9.16: Contralto solo—Madame Irene Ainsley, "Love's Old Sweet Song" (Molloy).
 9.20: Hawaiian—Ingall's Hawaiian Trio, (a) "The Rosary" (Nevin); (b) "Three O'Clock in the Morning" (Robledo).
 9.27: Humour—Mr. Dan Flood, "I Need Love"; "There's No Fun in a Cemetery, so Give Me Flowers Now."
 9.34: Relay from Majestic Theatre Orchestra, under the direction of Mr. Whiteford Waugh.
 9.44: Excerpts from "Rose Marie," by Friml, produced under the direction of Madame Irene Ainsley.

Cast.

- Miss Marjorie Fair, Mr. Arthur Ripley, Mr. Arthur Friar-Raisher.
 10.30: Selection—The Orchestra, "Rose Marie" (Friml).
 10.40: Special programme of Christmas music arranged by Madame Mary Towsey, assisted by members of Savoy Octette and Chorus.
 Carols, "Away in a Manger" (Spillman); "Hark the Herald Angels Sing" (Trad.).
 10.48: Grand organ—Marcel Dupre, "Prelude and Fugue in G Major" (Bach) (H.M.V. Record D1402).
 10.56: Soprano solo—Madame Mary Towsey, "The Star of Bethlehem" (Adams).
 Chorus—"Good King Wenceslas" (Trad.).
 Solo and Chorus—Mr. Peter Davies, "Nazareth" (Gounod).
 11.15: Selection—Black Diamonds Band, "Christmas Carols" (Zonophone Record 951).
 11.19: Carol—Miss Mollie Atkinson, "O Come All Ye Faithful" (Trad.).
 11.23: Soprano solo—Miss Mollie Atkinson, "St. Nicholas Day in the Morning" (Easthope-Martin).
 11.27: Carol, "The Silent Night" (Novello).
 11.31: Mezzo-soprano—Miss Beryl Baker, "Christmas Eve" (Liza Lehmann).
 11.35: "The First Nowell" (Trad.).
 11.39: Soprano solo—Madame Mary Towsey, "A Legend" (Tschaikowsky).
 11.45: Christmas carols.
 12.0: Close down.

2YA, WELLINGTON (420 METRES)—MONDAY, DECEMBER 24.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.45: Sporting results to hand.
 5.0: Close down.
 6.0: Children's hour, conducted by Uncle Jeff and Aunt Gwen.
 7.0: News session, market reports and sports results.
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—The Orchestra, "Ruy Blas" (Mendelssohn).
 8.11: Contralto solo—Miss Mona Carrick, "My Ain Folk" (Lemon).
 8.15: Mandolin solo—Mr. Lad Haywood, "Christmas Medley" (Arr. Haywood).
 8.20: Tenor solo—Mr. James Fordie, "McGregor's Gathering" (Lee).
 8.24: Soprano solos—Miss Dorothy Newman, (a) "The Piper of Love" (Carew); (b) "Wake Up" (Phillips).
 8.30: Novelty—The Orchestra and vocalists, "9 Dream of Christmas" (Ketelby).
 A child falls asleep and dreams of Christmas. The melodies of carols become mixed up in the dream with dancing fairies, the waits and the wolf in the pantomime. The child is awakened by the joyous ringing of church bells and the carol, "Christians, Awake!" sung by the carol singers. The carols employed are: "Good King Wenceslas," "When Shepherds Watched," portion of "God Rest Ye, Merry Gentlemen," "The First Nowell" and "Christians, Awake!"
 8.40: Humour—The Two Boiled Owls, "X.M.A.S., Wellington" (Original).
 8.45: Contralto solos—Miss Hilda Chudley, (a) "The Star" (Rogers); (b) "Sweet and Low" (Barnby).
 8.50: Medley—Savoy Orpheans, "Round the World Medley" (Arr. Somers) (H.M.V. Record C1223).
 8.58: Weather report and announcements.
 8.59: Novelty—The Two Boiled Owls, (a) "Piano Capers"; (b) "Monty on Health" (Hayes) (by request).
 9.7: Contralto solo—Miss Mona Carrick, "Love's Old Sweet Song" (Molloy).
 9.11: Trombone solo with orchestral accompaniment—Mr. H. Oakes "Nazareth" (Gounod).

- 9.16: Tenor solo—Mr. James Fordie, "Thank God for a Garden" (Del Riego).
 (a) "Golden Dancing Days" (Clarke).
 9.20: Mandolin solos—Mr. Lad Haywood, (a) "Where is now the Merry Party" (Bliss); (b) "Home, Sweet Home" (Bishop).
 9.27: Instrumental—The Orchestra, repeat item.
 9.32: Soprano solos—Miss Dorothy Newman, (a) "Butterfly Wings" (Phil-Carols—"God Rest Ye, Merry Gentlemen"
 "Good Christian Men, Rejoice" (Columbia Record 2613).
 Quartet—"Christmas, Awake" (Trad.).
 Close down until midnight.
 9.38: Piano novelty—The Two Boiled Owls, selected.
 9.42: Orchestral—The Orchestra, "Hallelujah Chorus" (Handel).
 9.47: Contralto solo—Miss Hilda Chudley, "The Virgin's Cradle Song" (Regen).
 9.51: Instrumental—The Orchestra, (a) "Marche Pontificale" (Gounod); (b) "Ave Maria" (cornet solo with orchestral accompaniment) (Mas-cagni); (c) "Priest March" (Mozart); (d) "Gloria" (Haydn).
 10.3: Humour—The Two Boiled Owls, "Corporal John Bartholomey" (Weatherley).
 10.8: Medley foxtrot—The Orchestra, "Christmas" (Aston).
 10.14: Close down until 10.45 p.m.
 10.45: Orpheus Quartet in special Christmas music.
 Quartet—(a) "Hark the Herald Angels Sing" (b) "Good King Wenceslas" (Trad.).
 "Adeste Fideles" (Columbia Record 9048).
 Soprano solo—Mrs. Alice Harris, "The Star of Bethlehem" (Adams).
 Quartet—"The Three Ships" (Taylor).
 "For Unto Us a Child is Born" (Columbia Record 02533).
 Baritone and quartet—Mr. Len Barnes and Orpheus Quartet, "Caroling at Toon" (Oliver).
 Quartet—"The First Nowell" (Trad.).
 Quartet—"See Amid the Winter's Snow" (Trad.).
 12.0: Relay of Midnight Mass from St. Gerard's Redemptorist Church Hawker Street. Musical director, Mr. F. Oakes: Organist, Mr. H. Mount.

3YA, CHRISTCHURCH (306 METRES), MONDAY, DECEMBER 24.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session, conducted by Scatterjoy.
 7.15: News session.
 8.0: Chimes.
 Concert by Derry's Military Band, under the conductorship of Mr. J. Scott, and assisting artists.
 8.1: March—Band, "Marcelaine" (Dance of the Clowns), (Trinkhaus).
 8.6: Humorous song—Mr. Jock Lockhart, "When I Was Twenty-One" (with patter), (Lauder).

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- 8.10: Xylophone solo—Billy Whitlock, "Xylophonitis" (Whitlock), (Parlophone record A2502).
- 8.18: Contralto solos—Mrs. D. W. Stallard, (a) "My Old Kentucky Home" (Foster); (b) "My Ain Folk" (Lemon).
- 8.24: Instrumental trios—Christchurch Broadcasting Trio, (a) "Nocturne" (Widor); (b) "Serenata" (Moszkowski).
- 8.32: Christmas carols—Band, (a) "Hark, the Herald Angels Sing" (Wesley); (b) "Adeste Fideles" (Latin).
- 8.39: Recital—Mr. L. T. J. Ryan, "My Friend, Brown" (MS.).
- 8.45: Bell solo—Billy Whitlock, "The Joker" (Whitlock), (Parlophone record A2503).
- 8.49: Entertainer—Mr. Chas. Lawrence.
- 8.54: Waltz—Band, "Ramona" (Wayne).
- 9.0: Weather forecast.
- 9.1: Baritone and male quartet—John Goss and Cathedral Male Voice Quartet, (a) "Rio Grande"; (b) "Billy Boy" (H.M.V. record B2646).
- 9.5: Contralto solo—Mrs. D. W. Stallard, "The Old Folks at Home" (Foster).
- 9.10: Instrumental trios—Christchurch Broadcasting Trio, (a) "Graesk Fesdans" (Hartman); (b) "Lullaby" (Ilynski); (c) "Polacca" (Thomas).
- 9.18: Humorous song—Mr. Jock Lockhart, "It's a Fine Thing to Sing" (Lauder).
- 9.22: Selection—Band, "Auld Scotia" (Latin).
- 9.31: Burlesque speech—Mr. L. T. J. Ryan, "Bertram on Babies" (Rutherford).
- 9.37: Entertainer—Mr. Charles Lawrence.
- 9.44: Hawaiian orchestra—"Song of Hawaii" (Bories), (H.M.V. record EA276).
Vocal with steel guitar, ukulele and piano, "Hawaiian Love Song" (Parlophone record A2507).
- 9.52: Fox-trot—Band, "Highways Are Happy Ways" (Harris).
March—Band, "Palace of Peace" (Losey).
- 10.0: Relay of 2YA, Wellington (conditions permitting).
Close down.

4YA, DUNEDIN (463 METRES), MONDAY, DECEMBER 24.

- 3 to 4.30 p.m.: Studio items.
8 p.m. to 10 p.m.: Studio concert.
10.45 to 12.0: Carols and special Christmas music.

Tuesday, December 25

1YA, AUCKLAND (333 METRES)—TUESDAY, DECEMBER 25.

- 9.0 a.m.: Children's Christmas morning session, conducted by Cinderella.
10.0: Close down.
11.0: Relay from St. Mary's Cathedral of special Christmas Day service.
Preacher—Canon Percival James. Organist—Mr. Edgar Randall.

2YA, WELLINGTON (420 METRES)—TUESDAY, DECEMBER 25.

- 8.0 p.m.: Chimes of the General Post Office Clock, Wellington.
- 8.1: Chorus B.B.C. Choir, "And the Glory of the Lord," from "The Messiah" (Handel) (Columbia L2019).
- 8.5: Baritone, Mr. John Prouse (a) Recit. "Thus Saith the Lord," from "The Messiah" (Handel); (b) Aria "But Who May Abide," from "The Messiah" (Handel) (Novello).
- 8.12: Orchestra B.B. Wireless Symphony Orchestra, "A Christmas Overture," (Coleridge-Taylor) (Columbia 9137).
- 8.20: Elocution, Mr. A. Stanley Warwick, "The Waits" (Thomas).
- 8.28: Cont. and Chorus, with Orchestra and Organ, Muriel Brunskill and B.B.C. Choir, Recit. "Behold a Virgin Shall Conceive"; aria "O Thou That Tellest," from "The Messiah" (Handel) (Columbia L2021-2).
- 8.36: Organ, Clarence Raybould, "Organ Medley of Christmas Carols and Hymns" (Columbia 9139).
- 8.44: Cont., Miss Evelyn Robinson (a) "Tired Hands" (Sanderson); (b) "Keep on Hopin'" (Maxwell).
- 8.50: Instrumental, Columbia Artists Ensemble, "Silver Threads Among the Gold" (Danks) (Columbia 01020).
- 8.53: Soprano, Maria Kurenko, "'Tis the Last Rose of Summer" (Moore) (Columbia 03590).
- 8.56: Band, Band of H.M. Coldstream Guards, "Christmas Time in Merrie England" (Columbia 3184).
- 9.4: Weather report and announcements.
- 9.5: Band, Band of H.M. Coldstream Guards, "The Christmas Waits" (Columbia 9146).
- 9.13: Baritone, Mr. John Prouse (a) "Morning Hymn" (Henschel); (b) "Star of Bethlehem" (Adams).
- 9.20: Instrumental Quartette, Columbia Musical Art Quartette (a) "Old Folks at Home" (Foster); (b) "Home Sweet Home" (Bishop) (Columbia 01160).
- 9.26: Elocution, Mr. Stanley Warwick, "Scrooge" (A Christmas Carol) (Dickens).
- 9.33: Carillon, Kannel Lefevre, "O Come, All Ye Faithful" (Adeste Fideles) (Played on the Ottawa Carillon) (Columbia 0853).
- 9.36: Cont., Miss Evelyn Robinson, (a) "O Golden Dawn" (Atkinson); (b) "Good Morning, Brother Sunshine" (Lehmann).
- 9.42: Organ, R. Arnold Grier, F.R.C.O., "National Airs" (Zonophone 5087).
- 9.48: Soprano, Alma Gluck, with Male Quartette, "A Perfect Day" (Jacobs-Bond) (H.M.V. DA232).

- 9.52: Band, Band of H.M. Coldstream Guards, "The Rose" (Myddleton) (Columbia 02521).
- 10.0: National Anthem.

3YA CHRISTCHURCH (306 METRES)—TUESDAY, DECEMBER 25.

- 9.0 a.m.: Children's session.
- 7.0: Relay of evening service from the Christchurch Anglican Cathedral—full choral evensong and Christmas carols—Organist and choir-master: Dr. J. C. Bradshaw, Mus.Doc.
At the conclusion of the service the following concert programme will be broadcast from the studio.
- 8.15: (approx.) Contralto solo—Miss Nellie Lowe, "Ave Maria" (Schubert).
- 8.19: Orchestra and grand organ—Victor Symphony Orchestra, "Liebestraume" (Dream of Love) (Liszt) (H.M.V. Record EB10).
- 8.23: Baritone solo—Mr. A. G. Thompson, "Who'll Buy My Lavender?" (German).
- 8.27: Violin solos—Fritz Kreisler, (a) "Liebeslied" (Love's Sorrow); (b) "Liebestreud" (Love's Joy) (Kreisler), (H.M.V. Record B985).
- 8.35: Baritone and contralto duet—Miss Nellie Lowe and Mr. A. G. Thompson, "Nile Waters" (Lohr).
- 8.40: Grand organ solos—Reg. Goss-Custard, (a) "The Question"; (b) "The Answer" (Wolstenholme) (H.M.V. Record E415).
- 8.48: Contralto solo—Miss Nellie Lowe, "Trees" (Rasbach).
- 8.52: Cello solo—Guilhermina Suggia, "Kol Nidrei" (Bruch) (H.M.V. Record DB1083).
- 9.0: Baritone solo—Mr. A. G. Thompson, "Boat Song" (Ware).
- 9.4: Orchestral—Philadelphia Symphony Orchestra, "Invitation to the Waltz" (Weber) (H.M.V. Record D1285).
- 9.12: Contralto and baritone duet—Dulcet Duo, "Love is Meant to Make Us Glad" (German).
Gramophone Recital.
- 9.30: Close down.

4YA DUNEDIN (463 METRES)—TUESDAY, DECEMBER 25.

- 9.0 a.m.: Children's session conducted by Big Brother Bill.
- 10.0: Close down.
- 5.30: Children's song service conducted by Big Brother Bill.
- 6.30: Christmas gramophone music.
- 7.0: Relay of Christmas Day service from St. Paul's Cathedral—Preacher: Rev. Canon Nevill. Organist: Mr. E. Heywood, F.R.C.O.
- 8.0: Address on "Yule-Tide Music," by Mr. T. Kirk-Burnand, with concert-ed and solo illustrations by the 4YA Harmonists—(soprano, Miss Mae Matheson; mezzo-soprano, Miss Mollie Andrews; tenor, Mr. H. Johnston; baritone, Mr. F. M. Tuohy).
- 9.15: Close down.

Wednesday, December 26

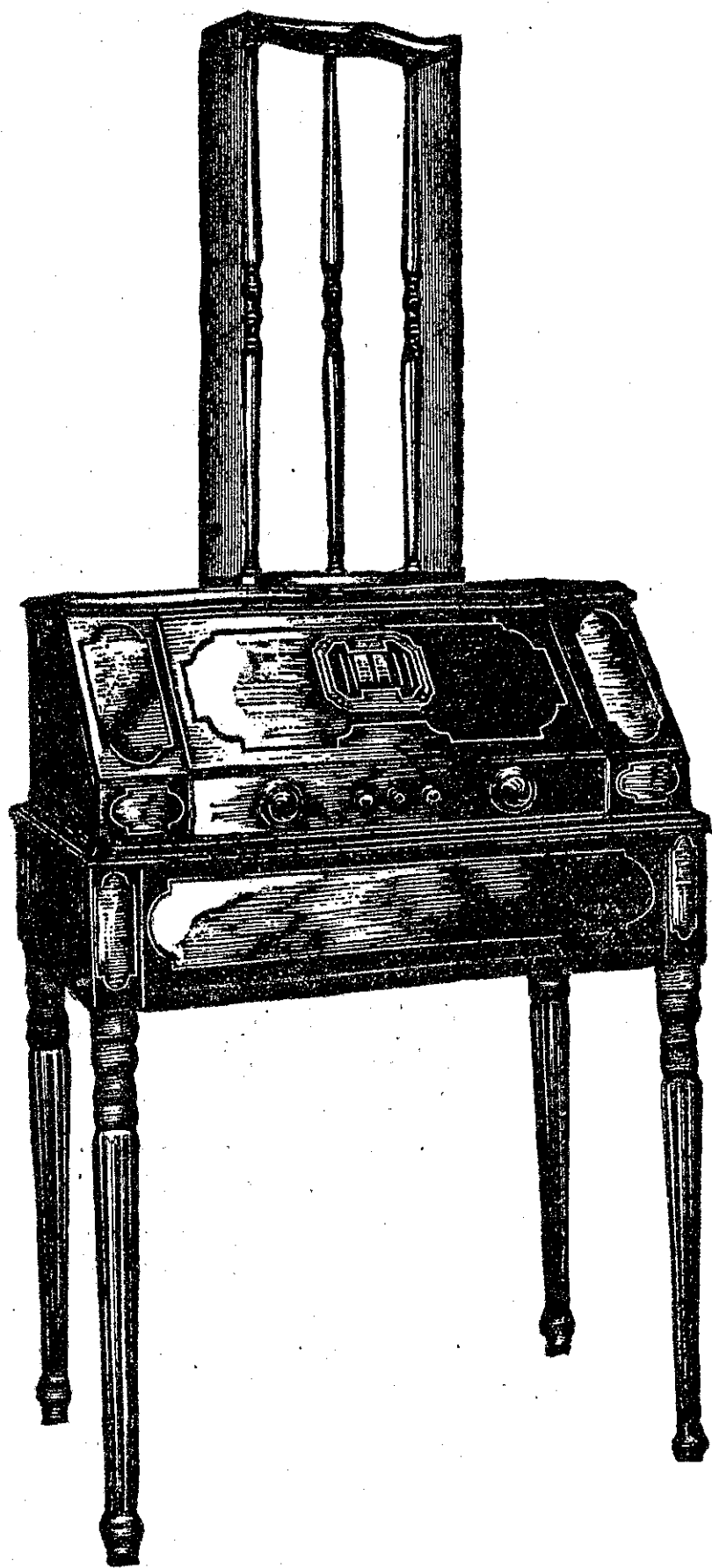
1YA, AUCKLAND (333 METRES)—WEDNESDAY, DECEMBER 26.

- 12 noon: Results of Auckland Racing Club's meeting, interspersed with musical items from the studio.
- 6.0: Children's session conducted by Hobo.
- 7.15: News items.
- 8.0: Chimes.
- 8.1: Overture—The Orchestra, "Morning, Noon, and Night" (Suppe).
- 8.9: Tenor solo—Mr. A. Richards, "Like Stars Above" (Squire).
- 8.13: Wurlitzer organ solo—Jesse Crawford, "Serenade" (Schubert) (H.M.V. Record OA325).
- 8.17: Humour—Mr. Alan McElwain, "My Pal, 'Erb."
- 8.22: Novelty—The Orchestra, "In a Bird Store" (Lake).
- 8.28: Soprano solo—Miss Joan Bryan, "They Say" (Warwick Evans).
- 8.32: Violin solo—Jeifetz, "Tapateado" (Spanish Dance) (H.M.V. Record DB1048).
- 8.36: Vocal trio—Lyric Trio, "They Kissed" (Macy).
- 8.40: Carillon—W. E. Jordan, "Spring Song" (Mendelssohn) (H.M.V. Record B2687).
- 8.44: Tenor solo—Mr. Arthur Ripley, "Take a Pair of Sparkling Eyes" (Sullivan).
- 8.48: Suite—The Orchestra, "Monsieur Beaucaire" (Rosse).
- 8.58: Weather report and announcements.
- 9.0: Entertainers—The Asquiths, Half-an-hour's Drawing-room Entertainment.
- 9.30: Ballet music—"The Orchestra, "Carmen" Ballet Music (Bizet).
- 9.40: Vocal trio—Lyric Trio, "Woman" (Fischer).
- 9.44: Grand organ—Arnold Grier: (1) "Annie Laurie"; (2) "March of the Men of Harlech"; (3) "The Minstrel Boy"; (4) "Rule, Britannia" (Zonophone Record 5087).
- 9.48: Soprano solo—Miss Joan Bryan, "The Lilac Tree" (Garttan).
- 9.52: Humour—Mr. Alan McElwain, "The Rich Man Drives By" (Weston and Lee).
- 9.57: Hawaiian—Hilo Hawaiian Orchestra, "Honolulu Moon" (Lawrence) (Zonophone Record EE56).
- 10.1: Duet—Messrs. Herbert Richards and A. Ripley, "The Garden of Your Heart" (Dorel).
- 10.5: Musical comedy—The Orchestra, "Maid of the Mountains" (Simpson).
- 11.0: Close down.

2YA, WELLINGTON (420 METRES)—WEDNESDAY DECEMBER 26.

- 2 p.m.: Relay of Sports Meeting held at Basin Reserve under the auspices of the Caledonian Society. (Announcer: Mr. N. R. Jacobsen).
- 6.0: Children's session—Aunt Gwen.
- 7.0: News session, market reports and sports results.

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- 8.0: Chimes of the General Post Office clock, Wellington.
Studio concert introducing the "Peripatetic Pair" and Dalton's Dance Orchestra.
- 8.1: Orchestra—Dalton's Orchestra Dance Novelties.
- 8.10: Baritone—Mr. R. Hampton Bennett, (a) "Kamate, Kamate" Te Rangī Hikiroa; (b) "Cape Horn Gospel" (Keel).
- 8.16: Orchestra—Dalton's Orchestra Dance Novelties.
- 8.28: Humour—The Peripatetic Pair, original.
- 8.33: Orchestra—Dalton's Orchestra Dance Novelties.
- 8.39: Song at the piano—Mr. R. T. Robertson, "Hooligan's Ball."
- 8.44: Orchestra—Dalton's Orchestra Dance Novelties.
- 8.50: Tenor—Mr. E. W. Robbins "The Carnival" (Molloy).
- 8.54: Orchestra—Dalton's Orchestra Dance Novelties.
- 9.0: Weather report and announcements.
- 9.1: Baritone—Mr. R. Hampton Bennett (a) "Nita Gitana" (Newton); (b) "The Admiral's Yarn" (Rubens).
- 9.8: Orchestra—Dalton's Orchestra Dance Novelties.
- 9.14: Humour—"The Peripatetic Pair" (original).
- 9.20: Orchestra—Dalton's Orchestra, dance novelties.
- 9.26: Tenor—Mr. E. W. Robbins, (a) "The Company Sergeant-Major" (Sanderson); (b) "Waiata Poi" (Hill).
- 9.33: Orchestra—Dalton's Orchestra, dance novelties.
- 9.39: Song at the piano—Mr. R. T. Robertson, "Ada's Serenade."
- 9.45: Herman Finck and his Orchestra—"Bacchanalia" (Columbia 02541).
- 9.53: Orchestra—Dalton's Orchestra, dance programme.
- 11.0: Close down.

3YA, CHRISTCHURCH (306 METRES), WEDNESDAY, DECEMBER 26.

- 3 p.m.: Afternoon session—Selected studio items.
- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session, conducted by Big Brother.
- 7.15: News report.
- 7.30: Addington stock market reports.
- 8.0: Chimes.
- 8.1: Rebroadcast of 2YA, Wellington.
- 8.8: Chorus—Melodious Four, "The Rajah of Bhong" (Monckton).
- 8.12: Instrumental quintet—Bohemian Quintet, (a) "Drink to Me Only" (traditional); (b) "Gavotte" (Rameau).
- 8.20: Burlesque sketch—Mr. Geo. Peek, "Exits" (Grey).
- 8.26: Chorus, followed by contralto and tenor duet—Melodious Four, Mr. Russell Sumner and Miss Belle Renaut, (a) "You Swear to be Good and True" (Cellier); (b) "Quarrelling" (Monckton).
- 8.31: Instrumental quintet—Bohemian Quintet, (a) "March and Habanera" (Bizet); (b) "Toreador Song" (Bizet).
- 8.41: Songs at the piano—Mr. Franklyn Brown, "Football" (original).
- 8.47: Soprano solo—Followed by chorus—Miss Frances Hamerton and Melodious Four, (a) "Pipes of Pan" (Monckton); (b) "When the Birds Begin to Sing" (Monckton).

- 8.52: Dance music—Bailey-Marsden Orchestra, (a) "Nothing" (Handman); (b) "Get Out and Get Under the Moon" (Tobias).
- 9.0: Weather forecast.
- 9.1: Light orchestral—Dajos Bela Orchestra, "Electric Girl" (Helmburgh Holmes), (Parlophone record A4009).
- 9.5: Sketch—Mr. E. J. Peek, "My Guitar" (David).
- 9.11: Dance music—Bailey-Marsden Orchestra, (a) "Miss Annabelle Lee" (Pollock); (b) "Stay Out of the South" (Dixon).
- 9.19: Soprano and tenor duet, followed by chorus—Miss Frances Hamerton and Melodious Four, (a) "Indian Love Call" (Friml); (b) "Geisha."
- 9.25: Dance music—Bailey-Marsden Orchestra. (a) "Melancholy Baby" (Ben-net); (b) "Girl of My Dreams" (Clap).
- 9.35: Patter at the piano—Mr. Franklyn Brown, "At the Telephone" (Rowland).
- 9.41: Dance music—Bailey-Marsden Orchestra, (a) "Mistakes" (Leslie); (b) "Dance of the Blue Danube" (Fisher).
- 9.51: Contralto solo, followed by contralto and bass duet—Miss Belle Renaut and the Dinky Duo, (a) "Oh, He Looked at Me" (German); (b) "No More" (Messenger).
- 9.56: Dance music—Bailey-Marsden Orchestra, (a) "Ice Cream" (Johnston); (b) "Sarita" (Barton).
- 10.5: Bass solos—Mr. T. D. Williams, (a) "Chip of the Old Block" (Squire); (b) "Barley Mow" (German).
- Dance music by the Bailey-Marsden Orchestra.
- 11.0: Close down.

4YA, DUNEDIN (463 METRES), WEDNESDAY, DECEMBER 26.

- 11.30 a.m.: Results of Wingatui race meeting.
- 7 p.m.: Town Hall chimes.
- 7.1: Request gramophone concert.
- 7.40: News session.
- 8.0: Town Hall chimes.
- 8.1: Overture—H.M. Coldstream Guards, "Light Cavalry" Overture (Suppe), (H.M.V. record C1335).
- 8.9: Quartets—Serenaders, (a) "Hard Times Come Again No More" (Foster); (b) "Massa's in de Cold, Cold Ground" (Foster).
- 8.16: Violin solo—Miss Eva Judd, "Liebeslied" (Wagner).
- 8.20: Tenor solo—Mr. W. Harrison, "Little Irish Girl" (Lohr).
- 8.24: Carillon—W. E. Jordan, "Fantasia on Popular Airs" (H.M.V. record B2683).
- 8.32: Soprano solo—Miss Mae Matheson, "Two Little Bluebirds" (Kern).
- 8.33: Instrumental trio—4YA Broadcasting Trio, "Valse in B Flat" (Godard).
- 8.41: Baritone solo—Mr. R. B. Macdonals, "The Poor Old Boatswain" (Long-staffe).
- 8.44: Recitals—Miss Rona Scott, (a) "Mrs. Green in a London 'Bus" (Anon.); (b) "The Proposal."
- 8.53: Contralto solo—Miss Dorothy Allan, "The Proposal."
- 8.57: 'Cello solo—Mr. P. J. Palmer, "Humoresque" (Dvorak).
- 9.1: Weather forecast.
- 9.3: Light orchestral—New Light Symphony Orchestra, (a) "Glow-worm Idyll" (Lincke); (b) "Hearts and Flowers" (Tobani), (Zonophone record EF20).
- 9.11: Quartet—Serenaders, "Poor Old Joe" (Foster).
- 9.14: Pianoforte solo—Miss Aileen Young, "Nocturne in G Minor."
- 9.19: Tenor solo—Mr. W. Harrison, "Two Little Irish Songs" (Lohr).
- 9.22: Xylophone solo—Billy Whitlock, "Xylophonitis" (Parlophone record A2502).
- 9.26: Soprano solo—Miss Mae Matheson, "Tie a String" (Hicks).
- 9.29: Instrumental trios—4YA Broadcasting Trio, (a) "Serenade" (Drdla); (b) "Nina" (Pergolese).
- 9.39: Baritone solo—Mr. R. B. Macdonals, "My Old Shako" (Trotter).
- 9.42: Recital—Miss Rona Scott, "Mrs. Green Has 'Er Photo Took" (Anon.).
- 9.47: Contralto solo—Miss Dorothy Allan, "The Lilac Tree."
- 9.50: 'Cello solo—Mr. P. J. Palmer, "Chanson Orientale" (Glinka).
- 9.55: Selection—National Symphony Orchestra, "Bohemian Girl" (Balfe), (Zonophone record A340).
- 10.0: Dance music.
- 11.0: Close down.

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Thursday, December 27

1YA, AUCKLAND (333 METRES), THURSDAY, DECEMBER 27.

- 12 noon: Results of Auckland Trotting Club's meeting, interspersed with musical items from the studio.
- 6.0: Children's hour, conducted by Uncle Mack.
- 7.15: News and market reports.
- 8.0: Chimes.
- 8.1: March—H.M. Coldstream Guards, "Youth and Vigour" (Lautenschlager), (H.M.V. record B2408).
- 8.5: Quartet—Madame Mary Towsey's Quartet, "Brightly Dawns Our Wedding Day" (Sullivan).
- 8.9: Instrumental Trio—Auckland Trio, "First Movement Trio in D Minor" (Mendelssohn).
- 8.17: Soprano solo—Madame Mary Towsey, "The Linden Tree" (Schubert).
- 8.21: Pianoforte solo—Mr. Eric Maxwell, "On Wings of Song" (Mendelssohn).
- 8.26: Baritone solo—Mr. John Bree, "On the Road to Mandalay" (Oley Speaks).
- 8.30: Organ and vocal—Mr. A. E. Wilson, (a) "Prayer and Cradle Song" (Guilmont); (b) "Love's Old Sweet Song" (arr. Lemare); (c) contralto solo, Miss Dorothy Blomfield, with organ accompaniment; (d) "Variations on a Christmas Hymn."
- 8.50: Tenor solo—Mr. John McDougall, "Mother Machree" (Ball).

- 8.54: March—Royal Opera Orchestra, "Marche Hongroise" (Berlioz), (H.M.V. record C1279).
 8.58: Weather reports and announcements.
 9.0: Instrumental trio—Auckland Trio, "Sylvia Ballet Music" (Delibes).
 9.8: Contralto solo—Miss Edna Peace, "Beloved, It Is Morn" (Aylward).
 9.12: Violin and piano—Miss Ina Bosworth and Mr. Cyril Towsey, "First Movement Kreutzer Sonata" (Beethoven).
 9.22: Baritone solo—Mr. John Bree, "Kashmiri Song" (Woodforde-Finden).
 9.26: Organ and vocal—Mr. A. E. Wilson, (a) "Doll Dance"; (b) "Anapaest" (Wesley); (c) contralto solo, with organ accompaniment, Miss Dorothy Blomfield; (d) "Bell Voluntary" (Roberts).
 9.46: Soprano solos—Madame Mary Towsey, (a) "A Memory" (Maude V. White); (b) "Let Us Forget."
 9.52: Male quartet—The Rounders, "Chlo-e" (Song of the Swamp), (Kahn), (H.M.V. record EA402).
 9.56: Duet—Madame Mary Towsey and Mr. John Bree, "The Day Is Done" (Lohr).
 10.0: Selection—H.M. Coldstream Guards, "Pirates of Penzance" (Sullivan), (H.M.V. record C1368).
 10.4: Contralto solo—Miss Edna Peace, "A Summer Night" (Thomas).
 10.8: Quartet—Madame Mary Towsey's Quartet, "Oh, Who Will o'er the Downs so Free" (Pearsall).
 10.12: God Save the King.

2YA, WELLINGTON (420 METRES), THURSDAY, DECEMBER 27.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sporting results to hand.
 5.0: Close down.
 6.0: Children's hour, conducted by Aunt Gwen, assisted by pupils of Mrs. Theo. Mills.
 7.0: News session, market reports, and sports results.
 8.0: Chimes of the G.P.O. clock.
 Studio concert by the Wellington City Salvation Army Band (conductor, Mr. H. J. Dutton), assisted by 2YA artists.
 8.1: March—The Band, "Carry On" (Coles).
 Cornet solo—Mr. H. J. Dutton, selected.
 8.14: Baritone solo—Mr. Ray Kemp, "Sweet Miss Mary" (by request), (Niedlinger).
 8.18: Soprano solos—Mrs. Daisy Basham, (a) "Mighty Lak a Rose" (Nevin); (b) "Out on the Rocks" (Dolly).
 8.24: Elocution—Miss Violet Wilson, "The Obstructive Hat in the Pit" (Anstey).
 8.29: Three carols—The Band, (a) "The Mistletoe Bough"; (b) "The First Nowell"; (c) "Good King Wenceslas."
 8.36: Soprano solo—Miss S. Rogers, "When All Was Young" from "Faust" (Gounod).
 8.40: Duet—Miss Rita Arnold and Mr. Ray Kemp, "Beauty's Eyes" (Tosti).
 8.44: Wurlitzer organ—Jess Crawford, "The Dance of the Blue Danube" (Fisher), (H.M.V. record EA404).
 8.48: Tenor solo—Mr. Will Hancock, "I Never Knew" (Ball).
 8.52: Contralto solos—Miss Rita Arnold, (a) "I'm Longing for the Spring" (Morris); (b) "Stay With Me, Summer" (Morris); (c) "County Folk" (Brahe).
 9.0: Weather report and announcements.
 9.1: Meditation—The Band, "Nearer to Thee" (Scotney).
 Selection—The Band, "My Fortress" (Kam).
 9.18: Soprano solos—Mrs. Daisy Basham, "Oh, "Foolish Fay" (Sullivan); (b) "When Maiden Loves" (Sullivan).
 9.24: Baritone solo—Mr. Ray Kemp, "Leanin'" (Sterndale Bennett).
 9.27: Elocution—Miss Violet Wilson, "Von Munt's Notee" (Bradshaw).
 9.32: Sea Shanties—Jno. Goss and Cathedral Male Voice Quartet, (a) "Blow the Man Down"; (b) "Toni's Gone to Hilo" (H.M.V. B2698).
 9.36: Three Carols—The Band, (a) "Stille Nacht"; (b) "Sinchester Old"; (c) "Christians, Awake" (traditional).
 9.43: Soprano solo—Miss E. Rogers, "If My Songs Were Only Winged" (Hahn).
 9.47: Duet—Miss Rita Arnold and Mr. Ray Kemp, "Dear Love of Mine" (Thomas).
 9.51: Hawaiian Orchestra—Hilo Hawaiian Orchestra, "Song of Hawaii" (Bories), (H.M.V. EA276).
 9.55: Tenor solo—Mr. Will Hancock, "I Heard You Singing" (Coates).
 9.59: March—The Band, "The Saints of God."
 10.5: God Save the King.

3YA, CHRISTCHURCH (306 METRES), THURSDAY, DECEMBER 27.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Hal.
 7.15: News session.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington.
 8.7: Soprano solo—Madame Gower-Burns, "Annie Laurie" (Lehmann).
 8.11: Orchestra—Royal Opera Orchestra, "Sylvia Ballet" (Pizzicato and Procession of Bacchus), (Delibes), (H.M.V. record C1418).
 8.19: Recital—Mr. R. R. Wills—Extracts from "The Pied Piper of Hamlyn" (Browning).
 8.25: 'Cello solos—Mr. Harold Beck, (a) "On Wings of Song" (Mendelssohn); (b) "Dance Rustique" (Squire).
 8.33: Tenor solo—Mr. Ernest Rogers, "Oh, Vision Entranced" (from Esmeralda). (Thomas).

- 8.37: Instrumental—Chicago Symphony Orchestra, (a) "Chanson de Matin"; (b) "Chanson de Nuit" (Elgar), (H.M.V. record D1236).
 8.45: Contralto soli—Miss Hawey, selected.
 8.49: Instrumental trio—Christchurch Broadcasting Trio, "Petite Trio" (Coerne).
 8.57: Weather forecast.
 9.0: Overture—Mengelberg's Concertgebouw Orchestra, "Symphony No. 8" (Beethoven), (Columbia record 04055).
 9.4: Mezzo-soprano solo—Miss A. Innes, "Tell Me, My Heart" (Bishop).
 9.8: Recital—Mr. R. R. Wills, "Captain Scott and his Comrades" (Lord Curzon).
 9.14: Soprano and tenor duet—Madame Gower-Burns and Mr. E. Rogers, "A Night in Venice" (La Denza).
 9.19: Instrumental trios—Christchurch Broadcasting Trio, (a) "Cavatina" (Metzler); (b) "Russian Mazurka" (Glinka).
 9.27: Contralto solo—Miss N. Bowden, selected.
 9.31: Orchestra with chorus—Bayreith Festival Orchestra, "Parsifal—the Grail Scene" (Wagner), (Columbia record L2008).
 9.39: Mezzo-soprano solo, followed by tenor solos—Miss A. Innes and Mr. Ernest Rogers, (a) "Coming Thro' the Rye" (traditional); (b) "The La: Watch" (Marshall); (c) "I Hear You Calling Me."
 9.51: Orchestral—Royal Opera Orchestra, "Marche Militaire" (Schubert), (H.M.V. record C1279).
 9.55: Soprano solos—Madame Gower-Burns, (a) "Il Bacio" (Arditi); (b) "The Last Rose of Summer" (Flotow).
 God Save the King.

4YA, DUNEDIN (463 METRES)—THURSDAY, DECEMBER 27.

- 11.30 a.m.: Results of Wingatui race meeting.
 4.30: Close down.

Friday, December 28

1YA, AUCKLAND (333 METRES)—FRIDAY, DECEMBER 28.

- 12 noon: Results of Auckland Racing Club's meeting, interspersed with musical items from the studio.
 6.0: Children's hour, conducted by Nod and Aunt Jean.
 7.15: News and market reports.
 8.0: Chimes.
 8.1: Overture—The orchestra, "Alceste" (Gluck).
 8.9: Vocal duet—Clarion duo, "Afton Water" (Hume).
 8.13: Grand organ solo, Edwin H. Lemare, "Traumerei" (Schumann), H.M.V. record C1455.
 8.17: Contralto solo—Miss Phyllis Gribben, "The Enchantress" (Hatton).
 8.21: Selection—The orchestra, "Minuet" (Beethoven).
 8.26: Tenor solo—Mr. J. Simpson, "The Crown of the Year" (Martin).
 8.30: 'Cello solo—Pablo Casals, "Moment Musicale" (Schubert), H.M.V. record DA776.
 8.34: Elocutionary—Mr. J. F. Montague, "Maxims."
 8.41: Soprano with orchestra—Evelyn Scotney, "Caro Nome," from "Rigoletto" (Verdi), H.M.V. D1435.
 8.45: Bass solo—Mr. Duncan Black, "McGregor's Gathering" (Lee).
 8.49: Suite—The orchestra, "Pelleas et Melisande," Part 2 (Sibelius). (1) Melisande at the Spinning Wheel; (2) Entr'acte; (3) Prelude; (4) Death of Melisande.
 8.59: Weather report and announcements.
 9.1: Lecture—Mr. A. B. Chappell, M.A., "The Maori—His Games."
 9.16: Symphony—The orchestra, "Oxford Symphony" (Haydn).
 9.26: Duet—Clarion Duo, "Where My Caravan Has Rested" (Lohr).
 9.30: Violin solo—Heifetz, "Hebrew Melody" (Ashron), H.M.V. record DB 1048.
 9.34: Contralto solo—Miss Phyllis Gribbin, "The Rose Will Blow" (Wilton).
 9.38: Dance suite—The orchestra, "Nell Gwynne Dances" (German).
 9.43: Elocutionary—Mr. J. F. Montague, (a) "Good-bye, Little Room"; (b) "Death of the Old Year" (Tennyson).
 9.50: Tenor solo—Mr. J. Simpson, "The Tune of Open Country" (Martin).
 9.54: Choral with orchestra—Chorus and London Symphony Orchestra, "For We Are Afar in the Dim Ages Lying" (Elgar), H.M.V. D1347.
 9.58: Bass solo—Mr. Duncan Black, "My Old Shako" (Trottere).
 10.2: Musical comedy—The orchestra, "No, No, Nanette" (Youmans).
 10.7: God Save the King.

2YA, WELLINGTON (420 METRES)—FRIDAY, DECEMBER 28.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sporting results to hand.
 5.0: Close down.
 6.0: Children's hour, conducted by Big Brother Jack.
 7.0: News session, market reports and sports results.
 7.40: Lecture—Mr. A. Hare, "Lovely, Lonely Pitcairn."
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—The orchestra, "Fingal's Cave" (Mendelssohn).
 8.11: Tenor solo—Mr. Edwin Dennis, "Lend Me Your Aid," from "La Reine" (Gounod).
 8.19: Contralto solo—Miss Madge Freeman, "The Girl With a Brogue," from "The Arcadians" (Monckton).
 8.23: Elocution—Madame Eugenie Dennis, "Lorraine, Lorraine, Lorraine" (Kingsley).
 8.28: Violin solo—Isolde Merges, "Air on G String" (Bach), H.M.V. record 1285.

- 8.32: Baritone solo—Mr. Claude C. Moss, "Live For To-day," from "Maid of the Mountains" (Fraser-Simpson).
 8.36: Suite—The orchestra, "Scheherazade" (Korsakov), 2nd Movement. Story of the Kalandar Prince.
 8.46: Soprano solo—Mrs. Ellison Porter, "Page Song" (Mozart).
 8.51: Choral with orchestra—Chorus and London Symphony Orchestra, "We Are the Music Makers" (Elgar), H.M.V. D1349.
 8.55: Instrumental—The orchestra, repeat item.
 9.3: Weather report and announcements.
 9.4: Duet—Mrs. Ellison Porter and Mr. Edwin Dennis, "Say You Santuzza," from "Cavalleria Rusticana" (Leoncavallo).
 9.10: Grand organ solo—Edwin Lemare, "Andantino in D Flat" (Lemare), H.M.V. record C1455.
 9.14: Contralto—Miss Madge Freeman, "Sequidilla," from "Carmen" (Bizet).
 9.18: Elocution—Madame Eugenie Dennis, "Frenchman at the Telephone."
 9.23: Baritone solo—Mr. Claude C. Moss, "Myself When Young," from "In a Persian Garden" (Lehmann).
 9.27: Novelty—The orchestra, "Master Melodies from Famous Light Operas" (Roberts).
 9.37: Tenor solo—Mr. Edwin Dennis, "The English Rose," from "Merrie England" (German).
 9.41: Cello solo—Pablo Casals, "Melody in F" (Rubinstein), H.M.V. DA833.
 9.45: Soprano solo—Mrs. Ellison Porter, "Waltz Song," from "Maid of the Mountains" (Fraser-Simpson).
 9.50: Sextet with orchestra—Galli-Curci, Homer, Gigli, De Luca, "Chi Mi Frena," from "Lucia di Lammermoor" (Donizetti), H.M.V. DQ102.
 9.54: Clarinet solo with orchestral accompaniment—Mr. A. H. Wright, "Slavonic Rhapsody" (Friedman).
 10.0: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—FRIDAY, DECEMBER 28.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session, conducted by Big Brother.
 7.15: News session.
 8.0: Chimes.
 8.1: Overture—Rebroadcast of 2YA, Wellington.
 8.7: Vocal trio—Radiolian Trio, "Brightly Shines the Moon" (Plantation Song), (Newnes).
 8.12: Violin solos—Miss Irene Morris, (a) "Midnight Bells" (Kreisler); (b) "Scherzo" (Dittersdorf).
 8.18: Humour—Mr. Geo. Titchener, "Different Languages" (Ilton).
 8.24: Soprano solos—Mrs. Claris Shaw, (a) "Love the Jester" (Phillips); (b) "In the Daisy Tower" (Benson).
 8.31: Orchestral—New Light Symphony Orchestra, "Malaguena" (a Spanish dance), (Moszkowski), H.M.V. record C1210.
 8.35: Contralto solos—Miss Mildred Russell, (a) "Sloe Eyes" (Monckton); (b) "Ships of Arcady" (Head).
 8.42: Instrumental trios—Christchurch Broadcasting Trio, (a) "Andantino" (Reincke); (b) "Turkish Rondo" (Mozart).
 8.49: Baritone solos—Mr. W. J. Richards, (a) "Time to Go" (Sanderson); (b) "Old King Cole" (traditional).
 8.55: Dance orchestra—Paul Whiteman's Orchestra, "It was the Dawn of Love" (Davis), H.M.V. record EA381.
 9.0: Weather forecast.
 9.3: Waltzes—International Concert Orchestra, (a) "Gipsy Love" (Lehar); (b) "Sweetheart" (Strauss), Zonophone record EF17.
 9.11: Soprano and baritone duet—Mrs. Claris Shaw and Mr. W. J. Richards, "The Voyagers" (Sanderson).
 9.16: Hawaiian orchestra—Hilo Hawaiian Orchestra, "Hawaiian Nights" (Roberts), H.M.V. record EA310.
 9.20: Humour—Mr. Geo. Titchener, "The Yorkshire Idiot" (Bearle).
 9.25: Instrumental trios—Christchurch Broadcasting Trio, (a) "Humoresque" (Dvorak); (b) "Gavotte" (Leclair).
 9.35: Fox-trots—Radiolian Trio, (a) "You Never Know What's Waiting Round the Corner"; (b) "Breeze."
 9.42: Wurlitzer organ solo—Jesse Crawford, "My Blue Heaven" (Donaldson), H.M.V. record EA284.
 9.46: Vocal trio—Radiolian Trio, "Canadian Boat Song" (arr. Francis Ames).
 9.54: Dance orchestra—The Troubadours, "Cielto Lindo" (Beautiful Heaven), H.M.V. record EA349.
 9.59: Finale—Radiolian Trio, "A New Year Carol," "Let's Merry Be this Holiday" (traditional).
 10.4: God Save the King.

4YA, DUNEDIN (463 METRES)—FRIDAY, DECEMBER 28.

- 3 p.m.: Town Hall chimes.
 3.1: Gramophone concert.
 3.30: Relay of afternoon tea music from the Savoy.
 3.40: Studio items.
 4.0: Relay of music from the Savoy.
 4.15: Gramophone items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Town Hall chimes.
 6.1: Children's session, conducted by Auntie Sheila and Big Brother Bill.
 7.15: News session.
 7.30: Book review by Mr. H. Greenwood, of the Dunedin Athenaeum.
 8.0: Town Hall chimes.

- 8.1: Overture—Berlin State Opera Orchestra, "The Mastersingers of Nuremberg" (Wagner), (H.M.V. record D1260).
 8.9: Mezzo-soprano solos—Miss Agnes Guy, (a) "Life and Death" (Cole-ridge-Taylor); (b) "A Japanese Love Song" (Brahe).
 8.15: Violin solo—Renee Chemet, "Serenade" (Toselli), (H.M.V. record DA955).
 8.19: Bass solo—Mr. J. McNaughton, "My Ain Folk" (Lemon).
 8.22: Recital—Miss Roberta Williams, "One's Life."
 8.26: Contralto solos—Miss Mary Pratt, (a) "Rhapsodie" (Jarman); (b) "There's a Spring" (Jarman).
 8.32: Pianoforte solo—Miss Aileen Young, "Andante con Variazione" (Beethoven).
 8.36: Mezzo-soprano solo—Miss Agnes Guy, "Pokarekare" (Hill).
 8.39: Grand organ solo—Edwin H. Lemare, "Traumerei" (Schumann), (H.M.V. record C1455).
 8.43: Bass solos—Mr. J. McNaughton, (a) "Abide With Me" (Liddle); (b) "Harlequin" (Sanderson).
 8.50: Recitals—Miss Roberta Williams, (a) "The Clown"; (b) "Little Hatchet Boy—With Interruptions."
 8.57: Contralto solo—Miss Mary Pratt, "Cradle Song" (Jarman).
 9.0: Weather forecast.
 9.2: March—U.S. Navy Band, "Anchors Aweigh" (Zimmerman), (Zonophone record EE105).
 9.6: Relay of dance music from the Savoy.
 10.0: Close down.

Saturday, December 29

1YA, AUCKLAND (333 METRES)—SATURDAY, DECEMBER 29.

- 12 noon: Results of Auckland Trotting Club's meeting, interspersed with musical items from the studio.
 6.0: Children's hour, conducted by Cinderella.
 7.15: News items.
 8.0: Chimes.
 8.1: Medley—Savoy Orpheans, "Round the World Medley" (arr. Somers), (H.M.V. record C1223).
 8.9: Baritone solos—Mr. Len Keven, (a) "Border Ballad" (Cowan); (b) "In Summertime on Bredon" (Peel).
 8.16: Instrumental trio—Auckland Trio, "Cavalliera Rusticana" (Mascagni).
 8.26: Elocutionary—Mr. F. W. Barker, "Sick of the Palsy."
 8.33: Relay of entr'acte from Majestic Theatre Orchestra, under the direction of Mr. Whiteford Waugh.
 8.43: Tenor solos—Mr. Will Harris, (a) "A Town in the Old County Down" (Sanders); (b) "Sincerity" (Clarke).
 8.50: Instrumental sextet—"To a Water Lily" (Macdowell), (H.M.V. B2690).
 Band novelty—"Weymouth Chimes" (arr. Hare), (Zonophone 5119).
 8.58: Weather report and announcements.
 9.0: Instrumental trio—Auckland Trio, "Little Modern Suite" (Rosse).
 9.10: Baritone solo—Mr. Len Keven, "The Fishermen of England" (Phillips).
 9.14: Marimba Orchestra, "When It's Love Time in Hawaii" (Heagney), (Zonophone 3852).
 9.18: Elocutionary—Mr. F. W. Barker, (a) "A Frenchman on 'Macbeth'"; (b) "At Thirty-five" (Service).
 9.25: Cello solo—Miss Molly Wright, "Gavotte" (Popper).
 9.29: Tenor solo—Mr. Will Harris, "So Tired" (Little-Sizemore).
 9.33: March—U.S. Navy Band, "All Hands" (Benter), (Zonophone record EE105).
 9.37: Dance programme.
 11.0: Close down.

2YA, WELLINGTON (420 METRES)—SATURDAY, DECEMBER 29.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sporting results to hand.
 5.0: Close down.
 6.0: Children's hour, conducted by Aunt Gwen, assisted by Cousins Betty and Molly.
 7.0: News session, market reports, and sports results.
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—The Orchestra, "The Bartered Bride" (Smetana).
 8.11: Quartet—Melodie Four, "The Owl and the Pussy Cat" (De Koven).
 8.15: Bass solo—Mr. W. W. Marshall, "Drinking" (traditional).
 8.19: Humour—Mr. A. E. Sargent, "A Fine Old English Gentleman" (New-ton), (by request).
 8.25: Soprano solo—Mavis Bennett, "Pretty Mocking Bird" (Bishop), (H.M.V. C1377).
 8.28: Xylophone solo, with orchestral accompaniment—Mr. L. W. Probert, "Dance of the Toy Regiment" (Shilkret and Green).
 8.34: Tenor solo—Mr. Sam. Duncan, "Molly Bawn" (Irish).
 8.38: Steel guitar solo—David Kalli, "Honolulu March" (Parlophone A2464).
 Novelty piano solo—"Do that Heebie Jeebie" (Parlophone A2488).
 8.46: Quartet—Melodie Four, "Johnny Schmoker" (Dix), (by request).
 8.51: Instrumental—The Orchestra, repeat item.
 8.59: Baritone solo—Mr. R. S. Allwright, "The Village Blacksmith" (Wagner).
 9.3: Weather report and announcements.
 9.4: Kinema organ solo—Eddie Horton, "The Adorable Outcast" (Hayes), (Parlophone A2557).
 9.8: Tenor solo—Mr. Frank Bryant, "The Bold Unbiddable Child" (Stanford).
 9.12: Humour—Mr. A. E. Sargent, "Under the Circumstances" (Spurr).

- 9.18: Vocal solo, with piano and clarinet—Sidney Burthall, "Charmaine" (Rapee), (Parlophone A2259).
 9.24: Novelties—The Orchestra, (a) "Naila" (Lange); (b) "In a Clock Store" (Orth).
 9.34: Contralto solo—Essie Ackland, "Love's Old Sweet Song" (Molloy), (H.M.V. C1410).
 9.38: Quartet—Melodie Four, "The Goslings" (Bridge).
 9.42: Instrumental—The Orchestra, popular fox-trot novelties.
 9.52: Dance music.
 11.0: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—SATURDAY, DECEMBER 29.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 6.0: Children's session, conducted by Chuckle and Aunt Pat.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington.
 10.0: Dance programme.
 11.0: Close down.

4YA, DUNEDIN (463 METRES)—SATURDAY, DECEMBER 29.

- 7.15: News session.
 8.0: Town Hall chimes.
 8.1: Relay of orchestral music from Octagon Theatre Orchestra, under the conductorship of Monsieur Henri de Rose Mus.Bac.
 8.11: Popular song hits—Miss Mona Melville, (a) "Riviera Rose" (Nicholls); (b) "Leonora" (Abrahams).
 8.18: Hawaiian selection—Queenie and David Kaili, "Hawaiian March" (Ellis), Parlophone record A2372.
 8.22: Humorous Scottish song—Mr. Buster Brown, "Aye, Wakin' o" (Lauder).
 8.26: Humorous sketch—Major F. H. Lampen and Mrs. Lampen.
 8.36: Humorous songs at piano—Miss Eileen Cooper, (a) "Being" (Forwood); (b) "Ellen" (Rolt).
 8.42: Relay of orchestral music from the Octagon Theatre.
 8.57: Popular song—Mr. J. B. McConnell, "When You Played the Organ" (Donaldson).
 9.0: Weather forecast.
 9.2: Band novelty—National Military Band, "Christchurch Chimes" (arr. Hare), Zonophone record 5119.
 9.10: Popular song hit—Miss Mona Melville, "Close in Your Arms" (Nicholls).
 9.14: Kinema organ solo—Eddie Horton, "The Adorable Outcast" (Hayes), Parlophone record A2557.
 9.18: Humorous Scottish songs—Mr. Buster Brown, (a) "Jean McNeil" (Lauder); (b) "North, South, East and West" (Lauder).
 9.25: Humorous sketch—Major and Mrs. Lampen.
 9.35: Song at piano—Miss Eileen Cooper, "These Men" (Arphorp).
 9.39: Vibraphone solo—Rudy Star Three, "Diane" (Rapee), Parlophone record A2548.
 Instrumental trio—"Me and My Shadow" (Rose), Parlophone record A2405.
 9.47: Humorous songs and patter—Mr. J. B. McConnell, (a) "Thinking" (Morgans); (b) "The Music in Mother's Eyes" (Sheard).
 9.54: Medley—Savoy Orpheans, "Round the World Medley" (arr. Somers), H.M.V. record C1223.
 10.0: Close down.

Sunday, December 30

1YA, AUCKLAND (333 METRES)—SUNDAY, DECEMBER 30.

- 6 p.m.: Children's session, conducted by Uncle Leo.
 6.55: Relay of Divine service from St. Andrew's Presbyterian Church. Preacher, Rev. George Budd; organist, Dr. Neill McDougall.
 8.30: Soprano solo—Miss Ida Holmes, "Ave Maria" (Gounod).
 8.34: Organ—Four Indian Love Lyrics, (a) "Temple Bells"; (b) "Less Than the Dust"; (c) "Kashmiri Song"; (d) "Till I Wake" (Woodforde-Finden). Col. record 02696.
 8.42: Contralto solo—Mrs. A. Wallis, "And God Shall Wipe Away All Tears" (Sullivan).
 8.46: Baritone solo—Mr. Walter Brough, "It is Enough" (Mendelssohn).
 8.52: Instrumental trio—"Trio No. 1 in B Flat—Allegro Moderato." Col. record 04138.
 9.0: Soprano solo—Miss Ida Holmes, "Come Unto Him" (Handel).
 9.4: Orchestral—"Rakoczy's March," from "The Damnation of Faust." Col. 04155.
 9.8: Contralto solo—Mrs. A. Wallis, "The Lord is My Light" (Allitsen).
 9.12: Band—"March Lorraine." Col. record 02681.
 9.16: Baritone solos—Mr. Walter Brough, (a) "Lord God of Abraham," from "Elijah" (Mendelssohn); (b) "The Diver" (Corelli).
 9.22: Violin—"Humoresque." Col. record 09506.
 9.26: Orchestral, "Dance of the Sylphes." Col. record 04155.
 9.30: God Save the King.

2YA, WELLINGTON (420 METRES)—SUNDAY, DECEMBER 30.

- 3 p.m. to 4.30 p.m.: Afternoon concert.
 6.0: Children's song service, conducted by Uncle George, assisted by the Island Bay Baptist Sunday School Choir.

- 7.0: Relay of evening service of St. Andrew's Presbyterian Church. Preacher, Rev. R. J. Howie, B.A.; organist and choirmaster, Mr. Frank Thomas.
 8.15: Studio concert.
 Orchestral—Berlin Philharmonic Orchestra, "Carnival Romain" (Berlioz), H.M.V. record D1365.
 Tenor solo—Mr. Chas. Williams, "Do We Believe" (St. Quentin).
 Choral—Glasgow Orpheus Choir, (a) "Dimlit Woods" (Brahms); (b) "Great God of Love" (Pearsall). H.M.V. record E482.
 Duet—Miss Florence Stevens and Mr. Chas. Williams, "Love Divine" (Stainer).
 Orchestral—Victor Symphony Orchestra, "Dance of the Hours" (Ponchielli), Zonophone EF12.
 Soprano solo—Miss Florence Stevens, "Fear Not Ye, O Israel" (Buck).
 Duet—Fernand Ansseau and Marcel Journet, "I Am Escamillo," from "Carmen" (Bizet), H.M.V. record DB1098.
 Violin solo—Mischa Elman, "Symphonie Espagnole," Op. 21, 4th Movement (Lalo), H.M.V. DB224.
 Tenor solo—Mr. Chas. Williams, "O Flower Divine" (Wood).
 Choral—Sheffield Choir, (a) "As Pants the Heart" (Spohr); (b) "Break Forth Into Joy" (Barnby). Columbia 02664.
 Soprano solo—Miss Florence Stevens, "A Dream of Home" (Arditi).
 Pianoforte solo—Alfred Cortot, "La Cathedrale Engloutie" (Debussy), H.M.V. DB679.
 Duet—Miss Florence Stevens and Mr. Chas. Williams, "Calm Silent Night" (Goetz).
 Instrumental—Creatore's Band, "Grand March and Finale," Act 2 "Aida" (Verdi), H.M.V. C1339.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 30.

- 3 p.m.: Gramophone recital of selected items.
 4.30: Close down.
 5.30: Children's song service, conducted by Uncle David.
 7.0: Relay of service from Knox Presbyterian Church. Preacher, Rev. T. W. Armour; organist and choirmaster, Mr. Billington.
 8.15 (approx.): After-church concert from studio.
 Overture—Berlin State Opera Orchestra, "The Magic Flute" (Mozart), H.M.V. record E464.
 8.23: Tenor solo—Mr. H. Blakeley, "Be Thou Faithful Unto Death" (Mendelssohn).
 8.28: Cello solo—Pablo Casals, "Prize Song" (from "The Mastersingers of Nuremberg"), (Wagner). H.M.V. record DB1012.
 8.32: Bass solo—Mr. E. J. Johnson, "Blow, Blow, Thou Winter Wind" (Sargeant).
 8.37: Orchestral—Philadelphia Symphony Orchestra, "Toccata and Fugue in D Minor" (Bach), H.M.V. record D1428.
 8.55: Tenor solo—Mr. H. Blakeley, "Molly Bawn" (Irish Melody), (traditional).
 8.59: Grand organ solos—(a) "The Lost Chord" (Sullivan); (b) "Largo" (Handel). H.M.V. record C1237.
 9.7: Bass solo—Mr. E. J. Johnson, "Abide With Me" (Liddle).
 9.11: Choral with orchestra—Chorus and London Symphony Orchestra, "Nunc Dimittis." H.M.V. record D1347.
 9.19: Tenor and bass duet—Messrs. H. Blakeley and E. J. Johnson, "The Day is Done" (Lohr).
 9.23: Orchestral—National Symphony Orchestra, "Orpheus in Hades" (Offenbach), Zonophone record EF16.
 9.30: Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 30.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from the Methodist Central Mission. Preacher, Rev. W. Walker.
 8.0: Gramophone recital.
 9.15: Close down.

Double-Grid Valves

SINCE the description of the amplifier to work from 22½ volts was published last week, local dealers have had numerous enquiries for the 241 valve. Unfortunately this valve is not procurable at present, but by adding another cell in the "A" battery the 441 may be used equally well.

(Concluded from page 11.)
 nals augmented by extra collecting area are increased.

To this there are two very likely causes:—(1) The aerial system is defective. A careful survey should be made of the aerial masts and leads to make quite certain that there are no breaks or leaks. (2) Batteries are weak, and the extra strength from the aerial is so great in proportion to the strength already generated that a marked difference is noticeable. Put the volt meter across the terminals of

the batteries, and the trouble will probably loom up in unmistakable terms.

(Concluded from page 2.)
 the position and determine the basis upon which future trading shall be undertaken. The trade awaits this conference with interest, both on its own behalf and that of the public. Meantime satisfaction can be expressed that apparently the position is in hand, and that no costly litigation will occur to disturb the radio atmosphere.

A Westport Report.

I AM now situated in another part of the globe, as you will observe by my address. Well, it is a splendid location for radio, almost perfect; in fact quite perfect. The first night up here I had good reception with an aerial slung across the room on hooks. The length was about 30ft. and height about 5ft. I received the surprise of my life. I put the earphones on expecting to get weak signals. They came off quicker than they went on. 2YA, Wellington, simply roared in. I had to tone him down. Now my aerial is at the top of a 60ft. hill at the back of my house and on a 25ft. brick chimney at the house end. For earth I dug a hole until I struck water. Next I soldered a wire to a tin and buried it in the water. The wire from the tin is soldered to a pipe driven about 5ft. in moist clay and another wire to the set. To-day, December 11, I have had 2YA since his commencement at 12 noon. Volume is just perfect. It's good to get dinner music. I'm sure we country listeners appreciate it very much. Please allow me to congratulate 1YA's announcer on his description of the wrestling contests at the town hall. There was not a dull moment during the whole session. Your programmes are getting better every night. Carry on. With my best wishes for a successful New Year and a cheerful Christmas.—Radio Fiend (Westport).

Reception at Tokomaru.

JUST a line to advise you of the wonderful clear reception we received here last evening of the concert from Wanganui—relayed and broadcast by 2YA. It was simply splendid—not a word or syllable missed and the music and other items were delightful. We also had wonderful results of the election returns, and also of the return flight of the Southern Cross—all of which were particularly good. The Broadcasting Company are to be congratulated on the class of entertainment they are giving their

listeners—not isolated cases, but at all times. Wishing you every success and the compliments of the season.—H. D. Evans (Tokomaru Bay).

An American Mystery.

IN reply to a query in this week's issue of the "Record," I should judge that the station logged by your correspondent a degree or two above 2BL was KWKH, Shreveport, Louisiana, on 352.7 metres. (See my report of reception in letter to "Record" of December 7.) On more than one occasion lately I have logged an American station on 380 metres, but have not been able to get the call. On the 9th inst. the volume was sufficient to enable me to learn the name of the concluding item, and when the closing announcement was given, I also clearly got the time of signing off. Can any one advise me the identity of this station? (It is not KGO, who comes in about one point higher on the dial.)—Guy C. Holmes (Masterton).

Another Query.

I WOULD much appreciate it if any listener heard a station on December 9, 1928, Sunday, at 7.10 p.m., on about 284 metres between 2ZF and 3YA. All I heard of the speech which was most of the time drowned in QRM interference, was: "This is — testing on 100.00 watts" this was followed by a short talk by the same announcer, who laughed at something now and again; then a jazz item was put over on an organ, followed by talk and music, etc. I would be very much obliged to any listener who was lucky enough to locate this station under better

Our Mail Bag

Will correspondents please practice brevity, as heavy demands are now made on space. All letters must be signed and address given as proof of genuineness; noms de plume for publication are permitted. Address correspondence Editor, "Radio Record," P.O. Box 1032, Wellington.

circumstances than I had. The volume was good, but static and QRM was 200 per cent. more. I use in my set Philips valves, shielded grid 442 (one stage on high frequency), detector A415—A409 in first audio and 443 Pentode in last stage—and have no trouble in pulling 4YA in at decent loudspeaker strength any time after 7 p.m. In concluding I wish to thank the Broadcasting Company for the dinner-time sessions—for I am one of the growlers who have been moaning the past twelve months for such sessions. Also I can find nothing wrong with 2YA. The Wanganui relay was perfect for such a relay—no buzz or crackling of relay lines being audible. I thank you for your splendid service.—N. C. Fitzgerald (Gisborne).

Texas Station Identified.

YOUR correspondent, "Guy Holmes, of Masterton," in your issue just to hand, asks if any other of your subscribers succeeded in getting the American station broadcasting on 341 metres last Saturday evening. I listened to this station exclusively from 7 a.m. till 10.3 p.m. on Sunday, 2nd instant. The station is in Dallas, Texas; sign call, so far as I could make it, is ARLD, and the telephone number of the studio 26811. The programme was good, and came in at great strength through the loudspeaker, and were it not for the peculiar nuances of speech of the Southerner one would have had no difficulty in catching every word. To-night WENR, Chicago, has been excellent, and KWKA, Louisiana, was also good and on the air till 8.20.

My home is situated 1000 feet above sea level, and few wireless sets anywhere here have consequently reception as good.—F. B. Logan (Kereru, H.B.).

Radio News and Reports.

THE Broadcasting Co., by placing on the air news and reports from different parts of New Zealand, and also from Britain, daily, has given a service, educational, instructive, interesting, and valuable, but for some time past the time occupied by this means has been gradually curtailed, more particularly at 2YA, and now we have about five minutes of news and the remainder of the hour is given up to lecturettes, etc. If we deduct the racing, the

cricket, etc., we have some evenings no news at all, and on Thursday evening we had one item of news. Many of the lecturettes are decidedly instructive, as they were on that evening, but the fact remains that we got practically no news from other parts of the Dominion. It would be a great convenience to listeners if the hour were divided into, say, 10 minutes sections, and we would know what to expect at any given time, instead of at present waiting for perhaps half an hour, and then getting one item of news, or perhaps none. Parliament was sitting on Thursday, yet on that evening the fact was not mentioned. Keep clear of politics, but why not give the public, who have no hope of hearing a debate in the House itself, an opportunity of hearing the opening, say, when it again resumes. All parties would be on the same wicket. Again thanking the company for its good work.—Listening In.

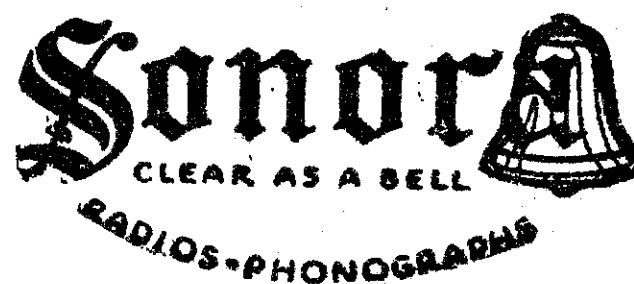
Points About Reception.

THERE are a few points of general interest regarding reception that I have noticed lately, and possibly they may have been noticed by others. During the news and reports session from 1YA there is a continuous heterodyne squeal to be heard, also distant music, etc., which is presumably caused by another station operating on the same wavelength. I think I heard the call sign of WBZ one evening recently. This station has the same wavelength as 1YA, but since it is situated at Springfield, Massachusetts (some 8000 miles distant), it seems peculiar that it should interfere with 1YA, which is only about 60 odd miles away, particularly as my set is only a two-valve one. Last Sunday evening from about 10 to 10.20 p.m. (New Zealand summer time), I picked up the American station KRLD, which, according to my dialing, would have a wavelength of about 290 metres. According to the list of stations in the "Radio Listeners' Guide," KRLD operates on 491 metres. Do you happen to know if this station has changed its wavelength, or would it be a harmonic that I picked up? (Many of the American wavelengths have been changed.) I have noticed in your columns that wireless station signals have sometimes been heard on ordinary line telephones. I have sometimes noticed exactly the opposite here, namely, that through the wireless receiver I have heard scraps of my neighbours' telephone conversations. I may mention that my telephone is on a party line with an earth circuit, but the respective wireless and line telephone earth plates are some thirty feet apart, and the receiving instruments are at opposite ends of the house. The wireless

CHEAP HOLIDAY FARES FOR CHRISTMAS and NEW YEAR HOLIDAY TRIPS.

Holiday excursion fares will be in operation from December 14 to January 5, inclusively, and they will be available for return until February 9.

For full information regarding holiday travel, communicate with the nearest Station-master, Passenger Agent, Central Booking Office or District Manager.



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Arrange for a demonstration TO-DAY

F.J. PINNY Ltd. 58 Willis Street. WELLINGTON.

aerial at one point passes over the telephone line, but about 30 feet above it. It would be interesting to know whether the effect is caused from the earth or the aerial.—Philip Williamson (Whangamata).

A Suggestion.

I FEEL I must make a suggestion as to DX listeners. During the last few months we have been reading some very interesting DX results received by listeners and new stations heard, which we cannot locate. My suggestion is that we have a DX club in a corner of the "Radio Record" to enable listeners to give new stations received during every week, with the wave-length and times logged.

Such keen DX listeners as Messrs. Holmes, Gray, Blucher, Ireland, Davis, Handley, and Vic.'s Radio Shack to give notes and send in new stations logged during the week. I received a letter from a DX listener in Los Angeles and they have got a DX club to enable listeners to exchange views on DX. I feel I must congratulate Mr. Ireland on his great log of 3RI, Melbourne. This log must be a New Zealand record as to the watt power. My lowest watt Aussie is 25 watts on a five-valve receiver. My log of Yanks, from December 2 to December 6, is: KEX, on 250 metres, every evening, very clear on speaker; also KFON, KGO, KNX, and another new one, KOIN, Portland, on 319 metres, time 7.15 p.m. Thursday. KPQ, on 230 metres, 500 watts, will broadcast an all-night programme from 12 midnight to 7 a.m. in the morning, American time. This information was received from my DX friend in Los Angeles. Cheerio.—S. Ellis, Okato.

The C. A. Larsen?

AS I have been puzzled as to the name of a station that I have heard frequently operating behind Wellington (2YA), I have heard it on speaker volume, and often hear it when 2YA is awaiting the next item, I have often tried to tune it in, but it seems to be exactly on 2YA's wavelength. I have often tried to get this station on a Wednesday night, or after 2YA has closed down. Could you also tell me if this station that I got on Sunday, December 9, operates on about 200 metres? It was operating from 11.30 until 2.30.—Valve Set (Lower Hutt).

[The C. A. Larsen operates on 2YA's wavelength, 420 metres, and is without call sign. The station near 250 metres may have been KEX, Portland, Oregon, on 254 metres.—Ed.]

American Data.

A RECENT letter from the owners of KEX, the Western Broadcasting Co., 201 Terminal Sales Blvd., Portland, Oregon, reports that after November 11 their power will be 5000 watts on a frequency of 1180 kilocycles (254.1 metres). Affiliated stations are KGA, KJR, and KYA. KFON is now on 240 metres, a friend in the States writes. Re KGER, I logged the low-power station last January 2. My log consists of 36 stations on a four-tube neutrodyne set, including 8NU, 3AJ, 150A, and 100Z.—J. G. Mason (R.M.), Tuakau.

Test with Berlin

Mr. A. P. Morrison Reports

MR. A. P. MORRISON (Brooklyn) writes:—"On Tuesday, December 11, 2ME Sydney was heard conducting tests with AGB2 Berlin, Germany. This test was not what you would call a success, the trouble being that AGB2 could not understand the English language too good, the receiving conditions not being good at that end. 2ME stated they would have someone there the following night who could speak the German language. Wednesday, December 12, the test was listened for again, but 2ME was unable to pick up AGB2. Sometimes their carrier wave was audible and nothing else, so no test was carried out with them, but 2ME conducted a test with VPD Suva, 37.5 metres. A test was also carried out with the Suva station on December 11, but the test carried out last night was more successful, the trouble being a defective "mike" at Suva end, on the first test.

To-night, December 13, AGB2 was tuned in at 7.30 p.m., calling 2ME Sydney, but on going up to 28.5 metres. 2ME was not on the air, but came on a few minutes afterwards. AGB2 Germany gave his wavelength as 26.5 metres. This test was more successful than its previous ones, and AGB2 was heard to state that on Wednesday's test he was not able to raise 2ME carrier, but stated that afterwards he heard 2ME conducting a test with Malabon, Java, ANE, and was heard very clear and strong in Germany (this test I did not hear). As regards

Byrd's Mission to the Antarctic

To Investigate Blind Spot Theory

THE Byrd Antarctic Expedition, now en route to the Bay of Whales, will study one of radio's most puzzling problems—the phenomena known as "radio 'blind' spots."

Commander Richard E. Byrd's radio engineers will conduct extensive experiments in an effort to determine the origin of the phenomena which make it impossible for powerful wireless transmitters to communicate with certain points, although they can easily reach surrounding and more distant areas.

A device known as the "osiso," with which time variations almost to the millionth of a second can be measured, will be the instrument with which these studies will be made. This device was invented by an oscillograph engineer of the Westinghouse company.

Heaviside Layer

WHILE it was found that some so-called "blind" spots are caused by peculiarities of land configuration, this cannot explain all of them. As the result of years of study, engineers developed the "Heaviside theory," which pictures the earth as girdled by a stratum through which radio waves cannot pass and by which they are reflected back to the earth.

This stratum has become known as the "Heaviside layer," but its exact character is unknown to engineers. They believe, however, that "blind" spots are caused by the interference of radio waves reflected from the "Heaviside layer" with radio waves passing direct from transmitter to receiver. Long-distance radiocasts are accomplished, it is believed, not by the direct passage of waves from trans-

mitter to receiver, but by reflection from the "Heaviside layer."

In numerous tests with the "osiso" it has been estimated by reckoning the speed of radio waves and the time it takes reflected waves to return to the earth, that the "Heaviside layer" encircles the earth at an average distance of about 350 miles. Because of the behaviour of radio waves under certain conditions, a theory has been advanced that at the north or south pole, or possibly both, the layer touches or approaches the earth. Definite confirmation or refutation of this theory is one of the results hoped for from the experiments.

The experiments, according to the announcement, carry the approval of the United States Navy, which is interested in eliminating the "blind" spots which exist at sea as well as on land.

Radio Echoes.

THE phenomena of radio echoes, static and fading, which may or may not have a relation to the "Heaviside layer," also will be studied minutely by the radio expert, Mr. Hanson, with the "osiso." It is thought that when the Byrd party returns home, Mr. Hanson will bring with him a comprehensive set of facts on these vexing mysteries of radio science.

The "osiso," with which potential values as small as one-hundredth thousandth of a volt have been measured, also will record voltages as high as 2,000,000 volts. It is an oscillograph of a design which makes it readily portable, being only a fraction of the size of the conventional laboratory devices for measuring electrical oscillations. Its portability, according to Westinghouse engineers, makes it particularly adapted to use under the conditions which will be encountered in the Antarctic.

Aeroplane Radio

IF aeroplane service tests undertaken by the American Telephone and Telegraph Company between the ground and a cabin aeroplane develop as rapidly as some of the recent experiments in radio communication, it will soon be possible for anyone within reach of a telephone to communicate with anyone who may be travelling by aeroplane.

"It may be a matter of five years," one of the engineers of the above company stated, "and it may quite possibly be a much shorter time, before we achieve our object of an actual connection-service between an object moving through the air and a station on the ground."

'Can't the Radio and have a little Cooking Demonstration of your own



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THE MASTER VALVE

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The "Rotorua" Portable Receiver

By "Pentode"

(Concluded from last week)



FOLLOWING on with the description of the portable set, the cabinet of which was described in the special issue of the "Radio Record" last week, we have the receiver itself to construct.

Some readers appear to be having a little difficulty in obtaining the parts as mentioned in the list of components. This list is given as representing the parts used by the writer, but there is not the slightest necessity to keep exactly to the list. Any good makes of components are quite suitable, and the reader is advised to consult his dealer. The point to watch is, that each part must be small and light in weight.

quency transformer, with reaction," and the numbers will either be found on the base or the coil itself.

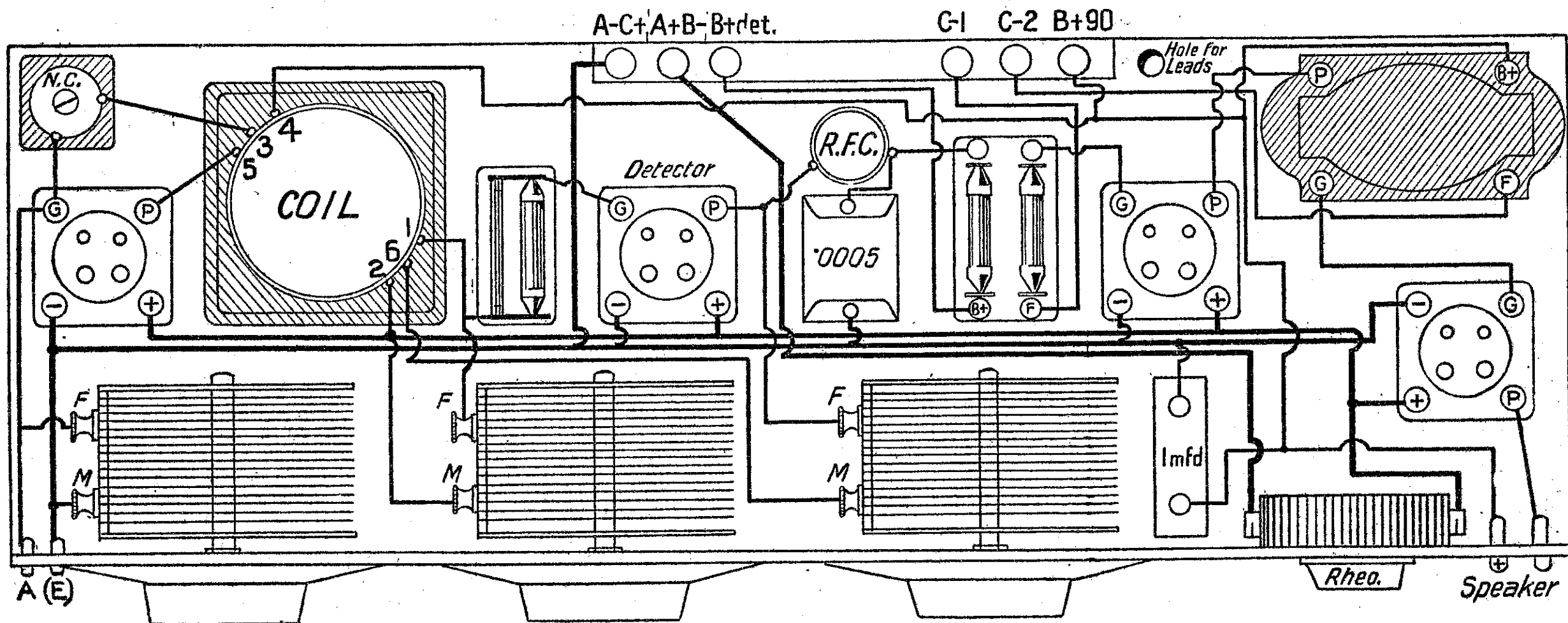
Out of a piece of sheet copper or aluminium mark and cut the shape as shown in the diagram. The length over all is 12 3/8 in. and 8 3/8 in. wide. The dotted lines should be marked, and show where to bend. By clamping the sheet between two pieces of wood with sharp, square edges, the lines shown dotted can be bent down at a right angle by tapping with a flat piece of wood. Before bending, drill 1/8 in.

the ebonite former. This constitutes a coil of 90 turns, tapped on the twenty-fifth.

ON the smaller piece of former wind on twenty-eight turns of the 30 DCC wire, tapped in the centre. Allow about 6 inches of wire on the two ends and centre tap for connecting. This coil can then be slid inside the larger coil and fastened by wedges so that it is under the middle of the 65 turn secondary coil. Reference to the diagram will help the constructor to understand the arrangement. These three leads from

which may be obtained from a chemist. The cement should be of a creamy consistency, and is best made in a small bottle, the bulk of small chips being about half that of the acetone liquid. The cement is applied to joints with a small sharp stick and dries solid in two or three hours if not too thickly applied.

Two strips of celluloid are cut 1/2 in. wide by 4 in. long, and one strip 1 in. wide by 4 in. long is cut the shape shown, 1 in. wide and 1 1/2 in. from point to point. The diagram of parts is given full size so that the celluloid may be placed over it and the lines scratched in with a sharp point. The corners of the notches should be rounded as shown so that



Carefully lay out the components on the baseboard before screwing down, and make quite sure that the moving plates of the variable condensers clear all wiring, etc., when moved.

Before anything can be done the coil and coil screen must be made. This coil has to be totally enclosed in a metal case for one reason. The grid coil of the high-frequency valve is wound to constitute the frame aerial, which is hinged with the lid. The position of this coil therefore varies with relation to the grid coil of the detector valve, and a strong coupling would exist between the two coils, unless one is shielded. The result would be instability and difficulty to neutralise.

As reaction is employed, the size of this coil and screen can be considerably reduced without sacrificing any efficiency, and any damping introduced by close proximity to an earthed screen is compensated by the application of reaction. Details are given for the construction of coil and screen, but if the reader prefers to incorporate any of the well-known makes of English screened coils, the numbers given here apply to the numbers found on the six-pin coil base. This English component is known as the "split primary high-fre-

holes where shown. This sheet is bent to form a box measuring 4 1/2 in. high and 3 in. square, with a flange at the bottom, so that when inverted over the coil, the screen can be screwed down permanently. If aluminium is used the seams will have to be either riveted or bolted with small nuts and bolts. If made of copper, then all the seams can be soldered and no holes will be necessary except in the flange. This screen is screwed to a metal base 3 1/2 in. square, which can be provided with three drilled projectors to screw to the wooden baseboard.

The Coil.

NOW the coil itself. This consists of a centre tapped primary, coupled to a secondary with a coil for the Reinartz method of reaction. Details are given for winding a 2 1/2 in. and a 2 in. diameter coil. A few more turns are necessary on the smaller former. Two small brass or aluminium brackets are best and drilled to hold the coil upright. Starting about 3/8 in. from the end on which the brackets are screwed, wind on twenty-five turns of the 24 DCC wire. Make a loop and carry on winding in the same direction, another 65 turns. Fasten the end by passing in and out of two holes drilled in

the primary coil can be brought out to three soldering lugs arranged on the end of the ebonite former. The number of turns given here are for a coil of 2 1/2 in. diameter.

IF a two-inch former is used, then wind on thirty turns, make a twist for a tapping and follow by seventy-two turns. This makes a coil of 102 turns tapped at the thirtieth primary winding 32 turns centre tapped. After wedging in the primary, this can be fixed into place by sticking with seccotine or celluloid cement. This finishes the coil, and a note can be made of the leads for connecting up. These are numbered, so chances of mistakes are very remote.

R.F. Choke.

The radio frequency choke can now be given attention. If the constructor wishes to buy one already assembled he should choose one with a small enough diameter to go in the space provided and should cover the broadcast range.

A good R.F. choke can be made on a celluloid frame constructed from strong motor-hood celluloid joined with cement made by dissolving chips of the celluloid in liquid acetone,

the wire will not catch on the edge when winding.

Two holes are shown in the base through which 1/2 in. screws can be placed to hold the choke in position. The position of the upright strips is shown by dotted lines.

The two 1/2 in. strips are to be cemented to the centre of the inch strip, one on each side, cement being placed along each side of the joint. To do this the 1/2 in. strip can be supported on edge by a strip of wood each side, the top edge cemented and the inch strip put in place, supported level by strips of cardboard packed underneath. The other 1/2 in. piece is then cemented on and similarly propped up. When the cement is partly set, the supports may be taken away and the upright cemented to the base and left to dry.

A useful choke for broadcast wavelengths is made by winding 200 turns in each set of notches, making 1000 turns in all. Thicker wire may be soldered on at the ends for connecting up. A useful gauge of wire is 34's or 36's.

The Assembly.

PROCURÉ a baseboard 18 x 5 1/2 x 1/2, and after drilling the panel for the condensers, rheostat, and terminals, screw on the baseboard with fine

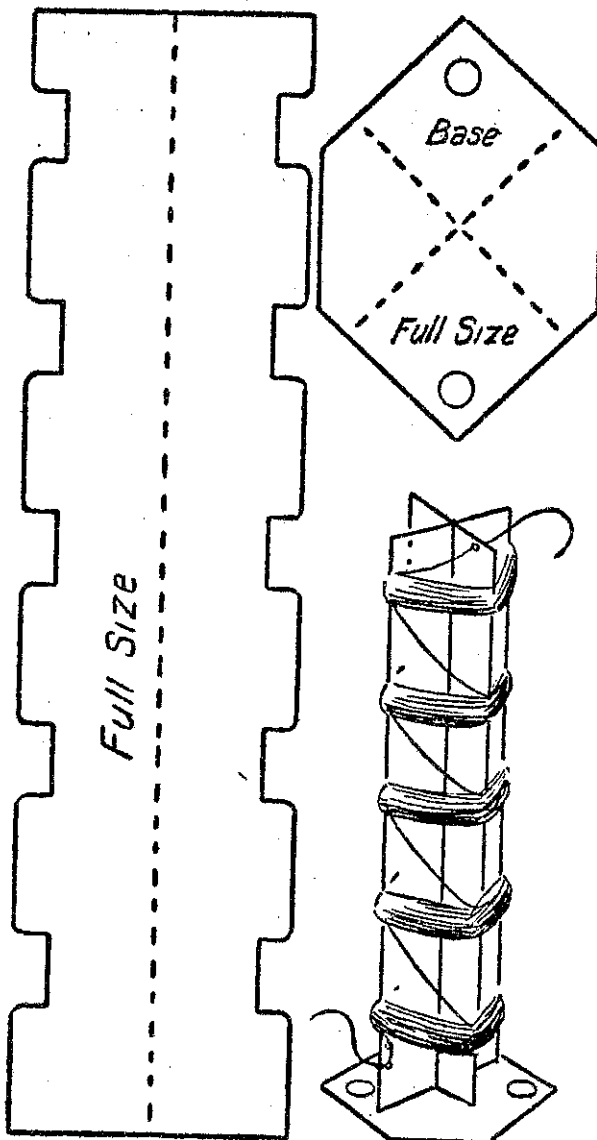
screws. Two small brackets bolted to the baseboard and screwed to the panel will strengthen the whole and lessen the strain on the small screws. Holes to take the three condenser spindles can be drilled $4\frac{1}{2}$ in. apart, the left one being $2\frac{1}{2}$ in. from the panel end. The rheostat is mounted on the right of these three condensers, while underneath are drilled two holes to take the two speaker terminals. These are brought out to the front, together with the speaker leads, so that the 'phones can be used if necessary by simply disconnecting the speaker. On the extreme left are two more terminals for connecting to the loop with a small piece of flexible wire.

Reference to the layout diagram will give the disposition of the various parts. A narrow terminal strip is screwed along the back, arranged with six terminals, on which short leads are taken down to the batteries underneath. As will be seen, the grid leak and condenser has to be suspended, and for this purpose a short piece of thick bus-wire is used to connect to the grid terminal of the detector valve.

On the left, close to the end of the baseboard, screw the first valve holder. Behind this is the neutralising condenser. Next screw the metal plate of the screen and mount the coil vertically in the middle of this. Making room for the grid leak and condenser between the coil screen and detector valve holder, this holder is screwed into place. The radio frequency choke and by-pass condenser are fastened as shown. This small fixed condenser will also have to be suspended by stiff buswire and not screwed to the wooden baseboard. At the side of this is mounted the resistance capacity unit. Before mounting slide out the coupling condenser and test with the 'phones and a 45-volt battery. After the first click, no other loud clicks should be noticed. If this condenser leaks, the results will be horribly distorted music and speech, and a faulty condenser here should always be looked for in the event of poor reproduction. In the extreme right-hand corner at the back is screwed the transformer, arranged with the plate

and grid leads convenient for their respective terminals on the valve holders. The remaining two valve sockets can be arranged in the spaces behind the rheostat.

In portable receivers the small B batteries which are used are subjected to a fairly heavy load, and may, with



Radio-Frequency Choke

use, develop slight noises. A m.f.d. condenser is therefore used to smooth out the slight irregularities in direct current, and also helps to lower the resistance of the B battery. It is always advisable to incorporate one in any set.

Wiring.

EVERYTHING is ready for the wiring, and the easiest way to tackle

this is to wire all the filament wiring first. In the theoretical diagram the filament rheostat was omitted, but this can be arranged in the positive lead from the A battery. All the wiring can be done with rubber-covered flex or 20-gauge tinned wire covered with insulated sleeving. Follow each wire carefully, and when fixed cross out from the diagram. This is perhaps the safest way to do the wiring, and it can be seen at a glance if any wiring has been left out.

Although the grid and plate wires are shown with right-angle bends in the diagram, make all these wires as short as possible, so that they run straight from each terminal. When leading wires to the coil, arrange them to be down close to the metal base plate, so that small pieces can be cut out of the shield to allow these wires to pass through.

Laying Out.

HAVING wired and fixed up the components so that a jar will not upset anything, the receiver can be tried

out. This is done before fixing in the cabinet.

Stand the set on a support so that two flexible leads can connect up the frame aerial. Connect up the batteries and the speaker or 'phones and insert the valves in the following order:—HF, detector, 1st L.F., 2nd L.F. Turn on the rheostat and tune in the local station. The frame aerial will have to be pointing to this station, as will be the case whenever using the frame.

To operate, tune-in on the two left-hand dials, and use the right-hand condenser dial as a reaction or volume control. The rheostat knob is used to control the voltage in the filaments, and should never be used at a higher reading than necessary. As the battery supply is 3 volts and the filaments consume two volts only, a certain amount of resistance will always have to be in use, except when the batteries are running down.

Neutralising.

To neutralise the set disconnect the filament positive lead temporarily from

What sort of a CHRISTMAS PRESENT shall I buy the Boy?

"AH, I KNOW"

A



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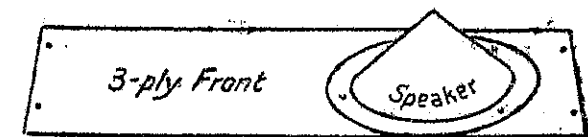
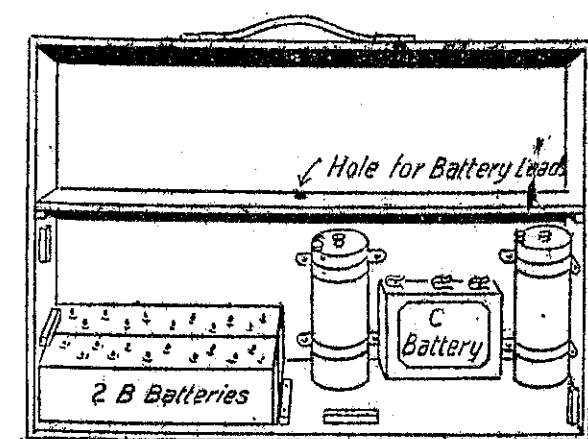
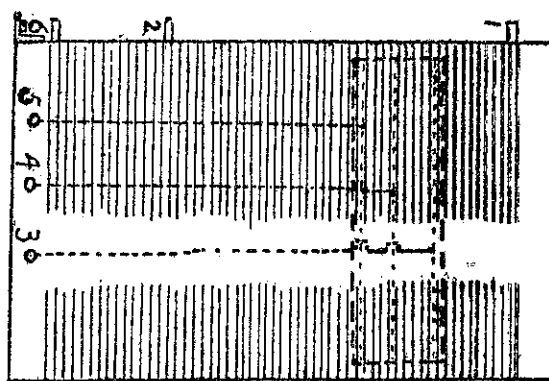
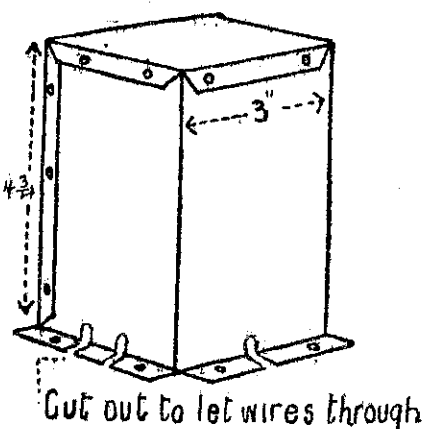
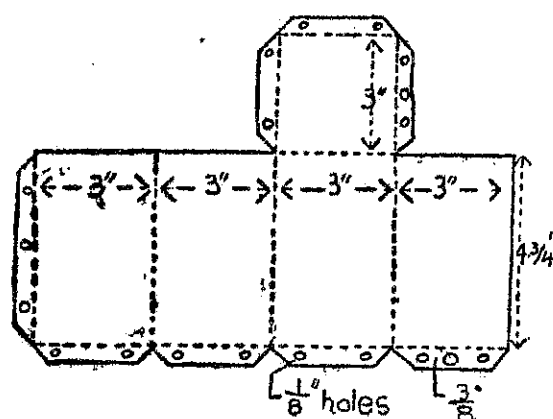
BROWNIE CRYSTAL SET

12/6 each

OBTAINABLE FROM ALL RADIO DEALERS.

the first valve socket, and tune to the local station again, preferably using the outside aerial for this purpose. The outside aerial can be attached to the centre tap on the frame aerial, and the earth connection to the lower terminal of the three on the frame.

Having tuned-in the local at its loudest strength, adjust the neutralising condenser until the signals become inaudible, or grow very faint. The set is now balanced, and the neutralising condenser can be screwed down firm.



Disposition of Batteries, &c.

Panels for the Experimenter.

FOR purely experimental work, ebonite or even bakelite panels can be dispensed with very easily. First of all, procure a supply of 3-ply wood. This material is not expensive, and when any prolonged amount of experimental work is carried out, it is a good thing to have a stock of this wood handy. Make the necessary panel for the experimental set or apparatus out of this wood. Whilst doing so, procure also one or two old gramophone records and half a pint of naphtha or methylated spirits. Cut the records up into very small pieces, and allow them to soak for

Disconnect batteries and slide into the cabinet. Tag all the battery leads with their correct connections, so that connecting will be done inside the cabinet without being able to refer to the terminals above.

Join the two A batteries in series, remembering that the terminal is the one in the middle.

Join the two 45-volt batteries in series and adjust the detector voltage to the best value.

A Few Hints.

The receiver is now complete, and one or two hints may be useful for the user of this set.

Always turn off the rheostat when not being used. This automatically cuts off all the batteries.

If a long outside aerial is used in conjunction with the frame, it may be necessary to use a .00025 fixed condenser in series with the outside aerial, and should be connected between the

outside aerial and the centre terminal of the frame.

Handle the set with reasonable care, always remembering it is a wireless set and not just an attache case containing books.

Useful Tips and Jottings

Several hours in the naphtha or spirit, stirring them frequently. The records will almost completely dissolve in the liquid, which should then be poured off into a bottle. Before assembling terminals, or components on the plywood panels, give the latter three good coats of the above mixture. The panel will then be found to provide a perfect degree of insulation, and its total cost will work out as the merest fraction of that of an ebonite panel of the same dimensions.

Battery Connections.

BATTERY connections can be made with almost any size wire, provided it is suitably insulated. The B Battery wires carry small amounts of current, but the voltage is as high, and in many cases higher, than the voltage in the electric light wires in your home. Rubber covered wire is desirable. The A battery wires carry relatively larger amounts of current at much lower voltage. This means that very small wire should not be used. The size should be at least No. 16. While thin insulation is theoretically sufficient because of the low voltage, rubber covered insulation is safe because an accidental short circuit in storage battery wiring may result in a fire. The special cables sold for connecting the batteries contain a group of wires each of the right size and with the proper insulation. The size of the wire used to connect the loudspeaker is of no importance.

A CORRESPONDENT wants advice on his receiver. With the aid of his circuit and layout diagram, it was quite easy to diagnose his trouble. The writer considered it of sufficient interest to mention in these columns, and it may help other amateurs, whose sets have similar symptoms.

1. B batteries run down abnormally fast, and when milliammeter connected in B-lead, a current of 3ma. was passing even when filaments cut off.

2. C battery also continually discharging through no apparent reason.

3. Very distorted music when C battery disconnected, and poor with C battery connected. The circuit under discussion was a Browning Drake, with

three audio stages. Two impedance, and one resistance capacity coupling. To find the reason of the B current flowing when filaments turned off, assuming, of course, that no leakage through faulty insulation, the B circuit was followed. The only place that was likely to be faulty was either the large condenser across the B battery, or the coupling condenser in either the resistance or impedance coupling unit.

In view of the fact that the C battery ran down very quickly, it was assumed to be a faulty coupling condenser. This is the path the anode current was taking. Through the anode resistance or choke, through the faulty condenser, to the grid of the following valve, and so on, through the grid leak, or impedance and C battery to B. As the C and B batteries are thus connected in series, both would run down, even when the receiver was not in use. This is a fault that is always likely to occur, and those owners of sets suffering from similar complaints should not fail to test all their condensers with a pair of phones and a dry battery, by the method described this week in the "Beginner's Corner." Substitution with new ones is the only remedy, and only good mica condensers of .006 to .01 mfd. capacity should be used. In the case of some commercial impedance units, the condenser is incorporated inside. To test this, temporarily disconnect the P, G, B, and F terminals on the unit, and test termin-

als P and C, as it is between these two that the coupling condenser is connected.

The Trickle Charger.

RE your trickle charger for A and B batteries in "Radio Record," November 23. Having built this charger to your specifications throughout I should just like to know one or two points about connecting up. (1) Can I charge A battery on its own and also B battery likewise? (2) The charger seems to be working OK, but on testing current on A minus and plus terminals I only get 2 volts 1/2 amp., but on bridging B minus and plus I get 12 volts 1/2 amp. I would like to know if it is all right to charge A battery on these rates, or is there some fault somewhere? The wiring is OK, the only thing my cell transformer is 8 volts instead of 10-12, as you mention. Would that make any difference, or could the charger be made to charge at, say, 2 to 3 amps if wanted. My battery is 4 volts 80 amp. hour, charging rate 3 amps.—B.L.O. (Auckland).

ANSWERS.

(1) Yes, a wet B battery can be charged as readily as an A accumulator, but charge one at a time.

(2) If the instructions had been followed and a 10-12 volt Bell transformer been employed the voltage would have been 4 volts as required. The charger is meant to charge at the rate of 1/2 ampere per hour.

FOR really strong and pure loudspeaker reproduction it is absolutely essential to use a large power or a super-power valve on the last stage.

Judging Speakers

THE human ear is such a tricky piece of mechanism that one can be deceived into believing something that is actually not so. That is why it is so hard to judge loudspeakers. After hearing a loudspeaker in a friend's place or at the shop of a dealer, one may decide that it is not as good as his own when he turns on his radio receiver a little while later. Yet the speaker just heard may be the better. The reason for this queer decision is that the ear has become adapted to listening to distorted music, and when the faithful reproduction is heard, it sounds as though the speaker is at fault. The ear has become used to the omission of tones and overtones, and when they are introduced the effect is not always pleasing to the ear.

It is for this reason that it is almost impossible to compare two speakers unless they are heard working alternately on the same receiver, with some arrangement that will enable the speakers to be changed over rapidly.

IN a land where one has to pay nothing in the way of license fees, radio has become most popular with the farmer, says an American writer. In the State of Iowa, according to a recent official report, one farm in every three has a receiving set. The number rose from 10,556 to 76,032 in one year.

Philips P.C.J.J. Speaker Units

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L. H. WRIGHT.

Radio Specialists

Letter to "Galena."

"RECORD FAN" (Christchurch), writes, asking for details of a crystal set that he can get 2YA with. His brings in 3YA well, but "not a whisper from the capital city."

It is to be feared that he cannot be helped. A weak spot is suggested, but one evidently does not exist. He would be advised to try Pentode's full wave crystal. If that will not get Wellington from Christchurch, then nothing will. Other questions are:—

"Could you tell me how high it would be necessary to erect an aerial to enable crystal to work loudspeaker on local station—that is, without batteries, valves, etc.? I am told it is done in Wellington with 60ft. aerial."

Sorry, but we think you are expecting too much of an ordinary crystal set. The full wave set may bring in 3YA at loudspeaker strength, but it is too much to expect an ordinary crystal to do that. It must be borne in mind that 2YA is ten times the power of 3YA. 10 x 60 height of aerial—(Is this logic?)

"Would a 50ft. aerial sloping to set end, 35ft., be less effective than a horizontal one of 50ft.? Would the effect, if any, be very noticeable?"

So much depends on local conditions that it would be difficult to say with precision which would be the better. It is to be expected that the horizontal one of 50 feet would be better (see article on "Receiving Aerials" in our special issue last week). In any case, there would be little difference.—"Galena."

Distortion on a Crystal Set.

DISTORTION on a crystal set, followed by one or more stages of audio amplification, can easily take place if any high frequency currents pass through to the audio side. When constructing a set of this nature, always include a fixed condenser across the primary terminals of the first L.F. transformer. This often gives increased signal strength by preventing choking of the high frequency by the iron cored coil of the transformer.

Load Signals from Crystal.

UNFORTUNATELY, any crystal set, no matter how good it is, always is under a disadvantage as compared to the valve set. This disadvantage is that all the energy used to work the crystal set has to be derived from the broadcasting station. There is no supply of local energy of any type such as batteries, etc., by which signals can be strengthened, and, consequently, no matter what is done to the set, the limit is soon reached.

Getting Louder Reception.

HOWEVER, although all the power to work a crystal set must in the

first instance come direct from the broadcasting station, there are several ways of making the best of this instead of letting some of it be wasted. First and foremost a good aerial and earth connection must be used, and if the crystal owner has not tried experimenting with these at all, he should certainly try some of the tips, etc., which appear in the "Record" from time to time, so as to get the maximum efficiency out of this part of the set.

It stands to reason that the more energy the aerial can pick up the more will be received in the 'phones, so be sure to have a good high aerial and as far away from screening, etc., as possible, and a really good earth connection, as short as possible, without any waste owing to bad joints in the earth leads, dirty terminals, dirty insulators, or leakage through nearby metal pipes, etc.

Having got the very best strength it is possible to get into the crystal set, it will be found that the best way to get results in any other room is to use fairly thick wire—say No. 16 gauge—and to keep the leads as short as possible and well separated. Instead of taking two long leads to any additional room, it is generally necessary only to take one lead provided that you can find a really good earth plate in the other room as well.

For instance, if the set is in the back room of the house, and you want to listen in the front room as well, there is generally no necessity to take two wires, one from each telephone terminal. If you have an earth plate buried just outside the front room window, and a lead from that is shorter than the lead from the set would be, you can connect that earth plate to one of the new telephone leads, the other telephone terminal to the long wire which goes to the set itself, and then try connecting this first to one telephone on the set, and then to the other. On one connection it will give no results at all, because that is the terminal which is joined to the earth in the set, but on the other telephone terminal on the set it will be found good results may be secured in this way (much better generally than could be obtained by having two wires, one to each telephone terminal).

Use of More Crystals.

CAN signals be amplified by using a number of crystals? This is a question which many beginners ask themselves. They think that, since one crystal can produce good signals, two or more crystals should be capable of producing very good signals. This is false reasoning, however; it is no more correct than it would be to say that because you can eat a good dinner off one table you can a very good dinner off two or more tables!

It is sometimes suggested that improved results can be obtained by using two crystals in parallel, but although there is theoretical justification

for this advice it is rarely carried out in practice.

"Pentode" suggests a method by which this may be done, but it will be seen that it is a little more complicated than two crystals arranged in parallel.

It is a good plan, however to connect up two crystals in parallel with the object of using them alternately.

Should one crystal be thrown out of adjustment accidentally the other could be rapidly substituted. This has the advantage of preventing any loss of signals when the first crystal is thrown off its sensitive contact in the middle of a song or speech from a broadcasting station. Moreover, it affords an opportunity of testing the efficiency of different crystals by comparing the sensitivity of one crystal with a number of others.

Resistance of 'Phones.

TELEPHONES are usually referred to as "low" or "high" resistance telephones. This is because there is inside each earpiece a coil or coils of fine wire. The coils are wound round the limbs of a magnet, and the received currents pass through them. The effect of the received currents passing through the wire is to increase the pull

of the magnets on the diaphragms of the 'phones, and the number of turns of wire used has an important bearing on the extent to which the pull increases. Unfortunately, also, the amount of wire in the coils affects the resistance of the circuit as a whole. The more the wire the greater is the resistance. It is therefore advisable to use different kinds of 'phones, with different kinds of receivers.

'Phones which have a resistance of 8000 ohms (4000 each earpiece), are likely to give the best results with a crystal receiver. For working with a valve receiver that contains three or more valves, low resistance 'phones are more suitable. The wire used in a winding with a resistance of 8000 ohms is very fine and liable to become damaged if dropped. A happy medium is the 'phones with a resistance of 4000 ohms, or 2000 each earpiece

Lead-in Wires.

FOLLOWING are extracts from the Fire Underwriters rules, referring to the lead-in. These are important and should be carefully noted by all set owners:—

- (a) Lead-in wires shall be of copper or other approved metal which will not corrode excessively, and in no case shall they be of smaller cross sectional area than 0.0045 sq. in. (7/.029") or No. 14 S.W.G.
- (b) External lead-in wires shall be installed in accordance with Rules 1 (a) and (b).
- (c) Lead-in wires shall enter building through a non-combustible non-absorptive insulating bushing.
- (d) Within a building lead-in wires shall not be installed contiguous to any part of an electrical installation.

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BEGINNERS are sometimes hard to convince. One informed "Switch" that his new six-valve set, although costing about £60, had failed to come up to expectations, and he asked for advice whether he should return it and claim a refund. When asked what was the specific cause for complaint, he said he was unable to bring in the Australian stations with anything like the volume that a friend did three months ago on his five-valve set. Only after the beginner had been induced to revisit his friend's home and ascertain for himself that Australian reception had "gone off," was he convinced that he could not blame his own set.

THE ring-side description of the boxing contest between McAlister and Taylor at Wellington last week, broadcast by 2YA Wellington, was a feather in Mr. Aldridge's cap. He exhibited a vast improvement on his former endeavours, and he rattled off his report of each blow almost as soon as it was struck. The rapid description of a

"willing" pugilistic encounter when punches are being exchanged almost continuously, requires an inordinately quick perception and ready command of descriptive ability. Last week's effort was the best yet heard from 2YA.

DURING his lecture at last week's meeting of the Wellington Radio Society, Mr. C. C. K. Fear mentioned a problem in poor reception he encountered at a listener's home. He examined the set, valves, aerial, and earth, and even tried out the set at his home, and found everything O.K. during the latter test. On returning the set to its owner's home, Mr. Fear was surprised at its poor performance. It then occurred to Mr. Fear to examine the lightning-arrester, and discov-

ered that it was cracked at the back, thus permitting wet to enter it and causing a "short" to earth.

PRISONERS in the New Zealand gaols have not yet indulged in secret listening-in, but in the Melbourne gaol (Pentridge) not so long since some illicit receiving sets were discovered and seized. At the famous English prison at Wormwood Scrubbs a class of sixty prisoners regularly follows the educational talks given from the British Broadcasting Corporation's stations.

AT the Wellington Radio Society's meeting last week two small boys exhibited a conspicuous knowledge in radio technicalities and an intelligent thirst for information from the lecturer, Mr. C. C. K. Fear. One of the youngsters proved to be Master Wesley Chisholm, aged 13 years, of Wellington College, who was awarded as first prize a five-valve receiving set by a local radio company for the best home-made crystal set in a competition conducted by that company. Mr. Byron Brown, president of the society, complimented the boy on his knowledge of radio principles.

ONE hears some peculiar speeches at the Wellington Radio Society's meetings occasionally. At last week's meeting a gentleman who occupied the floor for over ten minutes commenced by soundly condemning the programmes by 2YA, Wellington, and concluded by saying he had no fault to find with them except that he would prefer to hear more frequent talks of an educational character!

THE perennial question as to whether extreme long-distance reception by crystal sets was due to re-radiation by a valve set or to actual direct reception, was brought up by Mr. Fear, the lecturer at the recent meeting of the Wellington Radio Society. Mr. Fear cited instances of personal experience which favoured the theory that direct reception of the Australian stations with crystal sets operated in a good locality was possible. Yet he would not say that he was quite certain on the matter though everything pointed to it having been accomplished. The Australian radio press appears to be certain that these long-distance crystal set feats are due to re-radiation by a valve set.

MR. FEAR, who resides on the heights of Khandallah, just on the summit of the hills surrounding Wellington, stated at the Wellington Radio Society's meeting, that a neighbour and himself had both heard Sydney and Melbourne stations on crystal sets. Mr. Fear, himself, had tuned from station to station across the Tasman with his crystal set during a favourable period of reception of the Australian stations.

ON Thursday evening of last week 2YA, Wellington, put on an engaging "stunt" when with only a moment's warning the Sydney short wave station, 2ME, was re-broadcast. The announcer at 2ME could be heard broadcasting music for a station in Berlin, and giving the names of the team selected to represent the English-

men in the second Test match in Sydney. The rebroadcast was almost perfect, and it was all too brief.

MR. MAX HOWDEN, the well-known Melbourne amateur transmitter, recently reported being unable to pick up either the American or New Zealand amateur transmitters operating on 10 metres. He suggested that "the trouble is probably somewhere between here (Melbourne) and New Zealand." Broadcast listeners have noticed the difficulty in getting good reception from the Australian stations, evidently due to the mysterious "trouble" mentioned by Mr. Howden.

A RADIO friend handed in the following queries the other day: (a) What is the liquid in an accumulator composed of? (b) What is the chemical symbol? (c) What does the symbol denote? The solution is sulphuric acid diluted with distilled water. The chemical symbol is H₂SO₄, which indicates the nature of the atoms contained therein. A molecule of sulphuric acid contains 2 atoms of hydrogen, hence H₂. One atom of sulphur is shown as S, and 4 atoms of oxygen are shown as O₄.

A WELLINGTON company has been testing out a small broadcasting outfit lately on 172 metres, using a power of 50 watts into the aerial. As many of the imported factory-built sets cannot tune below 200 metres, there was a good deal of disappointment among owners of these sets who were unable to pick up the stranger.

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APPARATUS All Good Radio Dealers.**

RECEPTION has been poor from most of the regular short-wave stations at the usual time they are best heard in New Zealand. This appears to be general throughout this country by reports and inquiries received from various readers.

A revised schedule of transmissions of the short-wave stations W2XAD and W2XAF has just been received from The General Electric Company, Schenectady, New York, dated November 3, 1928.

The times are as follow in New Zealand mean time:—

W2XAD, 21.96 metres.
Monday: 10 a.m.—3 p.m.
Tuesday: 6.30 a.m.—8.30 a.m.; 10.30 a.m.—4.30 p.m.
Thursday: 10.30 a.m.—4.30 p.m.
Friday: 6.30 a.m.—8.30 a.m.
Saturday: 10.30 a.m.—4.30 p.m.
W2XAF, 31.4 metres.
Tuesday: 10.30 a.m.—4.30 p.m.
Wednesday: 10.30 a.m.—4 p.m.
Friday: 10.30 a.m.—4.30 p.m.
Sunday: 10.30 a.m.—4.30 p.m.

These times differ slightly from the previous published list.

5SW on its new wavelength of 25.53 metres appears to be received in the morning about the same as that of 24 metres. It suffers from rapid fading just the same and is not any stronger. It has been coming in at about R5 at 7 a.m. On Tuesday and Friday, when testing with 2XAD, they have been better at R8.

PCJJ has lost its punch. Starting at 6 a.m. at about R8, it rapidly goes off. On Saturday it is not worth listening till the last hour or so. By the way, PCJJ did not appear on the air as usual on Wednesday morning up till 7.30 a.m. It is unusual for this station to miss one of its regular transmissions.

KDKA, 2XAF and 2XAD are all weak during the afternoon, except toward the finish. On the other hand, 2XAD comes in at least R7 with their duplex tests with 5SW on Tuesday and Friday mornings till 6 a.m., and then again with their television test, followed by musical items on these mornings.

A few weeks ago when reception was good in the afternoons from 2XAD it was very weak or inaudible during the early morning.

3LO, Nairobi at its best is seldom better than R3.

A correspondent to the "Radio News" (United States) reports to that magazine that he has heard a station on 24.5 metres operated by Societe Francaise Radio-Electrique, 79 Boulevard Haussman, Paris. Perhaps this is our friend "Ici Pa."

THE following is the new schedule for PCJJ, Eindhoven, Holland: Wavelength 31.4 metres; Fridays 6 a.m. till 8 a.m., 11 a.m. till 3 p.m.; Saturdays, 6 a.m. till 8 a.m., 12 noon till 6 p.m., New Zealand summer time.

Standard Telephones and Cables (Australia) Ltd. were testing out a station on Wednesday afternoon and evening (December 12) on about 173 metres. The following particulars were supplied by Mr. Keith H. Thow:—"The transmitter used, with the exception of certain modifications, is a standard 50-watt equipment as manufactured by Standard Telephones and Cables Ltd., London. The 50 watts rating referred to is the actual input to the aerial of the unmodulated carrier. If we can complete some experimental work we have on hand in connection with the

Round the World on Short Wave

Notes of special value to short-wave enthusiasts are contributed weekly to the "Radio Record" by Mr. F. W. Sellens, Northland, Wellington. Observations from others are welcomed.

transmitter, we shall endeavour to be on the air again next Wednesday at 8 p.m. (December 19). We also hope to raise the wavelength to about 230-240 metres, in order to bring our transmission within the tuning range of the average broadcast receiver. We should greatly appreciate reports on the transmission, particularly in writing (P.O. Box 638, Wellington), referring to the following points:—(a) Quality of speech and music; (b) stability of wavelength; (c) amount of generator hum in carrier; (d) "sharpness" of tuning. It would also be helpful if reports gave us details of the receiver, e.g. type, make, number of valves, etc. We are particularly interested to receive reports of reception at distances greater than 50 miles."

RECEPTION of distant short-wave stations is still below the average. The only exception is RFM, Siberia, this station is far better than it has been for some months.

My log for the week is as follows:—

Saturday, December 8.

PCJJ at 6.15 a.m. was R2-3, and only just audible at 7.15 a.m.

7LO Nairobi about R2.

KDKA was R2 at 3 p.m., increasing to R5 at 5.8 p.m., when they signed off. During the same period 2XAD was slightly weaker.

PCJJ was not audible till 4 p.m.; strength increased to about R5 at 6 p.m.

Sunday, December 9.

KDKA at its best was R7. The latter part of the transmission consisted of a message to members of the Byrd Expedition.

2XAF was weak till they closed down.

Monday, December 10.

7LO, Nairobi, very weak. R2-3.

3LO with their weekly test on 32 metres, were very good. Records and news items were heard.

RFM were putting over a banjo solo at 10.15 p.m., which was heard at R9. Talk and musical items were given afterwards.

Tuesday, December 11.

At 5.30 a.m. 5SW and 2XAD were carrying out duplex telephony tests. The English station was R8 and the American R5, both 100 per cent. readable.

2XAD, which was transmitting on about 2 metres lower than usual, was faintly audible through 5SW.

They, 2XAD, were heard again later on their usual wavelength (21.96).

A station on about 26 metres was heard calling "Achtung" and "Allo" at R3-4. At times it appeared as though duplex telephony tests were being carried out.

7LO, Nairobi, was R2.

5SW at 7 a.m. was about R5. Rapid fading spoilt intelligibility.

6AG, Perth, was testing till about 11 p.m. Reception was excellent at R8-9.

ANE at R9 were very clear and steady.

Wednesday, December 12.

7LO, R2-3.

"Big Ben" from 5SW at 7 a.m. was

audible, but talk could not be understood.

At 8 p.m. 2ME, Sydney, was calling AGB2, Berlin, Germany, but could not get a reply.

Later 2ME had a long talk with VCB, Suva. The Sydney station was R9 and Suva R7-8. Both were 100 per cent. readable.

On signing off at 10 p.m., 2ME said they had a schedule with Java and later with PCLL (Holland).

Standard Telephone and Cables, Ltd. (Wellington), were testing on 173 metres. On their first harmonic, about 86 metres, they came in at full speaker strength. Not having a coil suitable, I could not get them on 173 metres.

Thursday, December 13.

PCLL was tuned in at 6 a.m. at R6 playing records. Volume decreased rapidly.

5SW, before "going over to London," were R5 and 100 per cent. readable, but as soon as the relay commenced, signals were mushy and quite impossible to read.

7LO weaker than usual. R1-2.

2ME had apparently been talking to AGB2, Berlin, when I tuned them in, but I was too late to hear the German.

RFM was very good at R8.

Friday, December 14.

PCJJ commenced sharp at 6 a.m. with the Dutch National Anthem at R8, very clear and steady, talk being 100 per cent. readable.

At 10 p.m. R⁷ was R9.

A Fiji Shortwaver.

MR. J. D. O'LOUGHLIN (Masterton) writes: On Tuesday, December 11 at 6.48 p.m. I picked up another new station, viz., VPD, Suva, Fiji Islands, on 37.5 metres. He was testing and came in at great strength. Modulation was good and the transmission was very steady. He was again heard later in the evening, closing down at 10 p.m. On Wednesday, December 12, 2ME was working AGB, Berlin, who was on morse, and calling AGC. Later he worked VPD, Suva, ANE, Java, and finally PCLL. VPD was again very good, but faded slightly. According to 2ME, ANE now works on 15.74 metres, PCLL on 18.4, and 3ME on 31.7. At 5.47 a.m. on Monday, December 11, a stranger was heard on 37 metres. He was very weak, but the call was partially heard. After three musical items, he said: "This is station W—W." A short talk followed, but was not readable. He then closed down. On the 80 metre-band a station operated by Standard Telephone and Cables, Balance Street, Wellington, was heard testing at fair strength. Harmonics of 4YA, 2YA, 1YA and 2BL have been rather loud on occasions lately.

New Stations on the Air.

MR. A. P. MORRISON (Brooklyn) writes:—On Saturday nights at 12 o'clock a S.W. station is to be found on 52 metres. This station I have heard four or five times, but who he is I do not know. I can never get the station call, mostly foreign language is spoken and some nights quite good music and vocal items are heard.

His strength is about R6 to R7. I think probably it is AFK, Germany. Has any other S.W. fan heard this station?

On Sunday, November 25, an American station was logged at 6.55 p.m. on 42 metres and were broadcasting a dance programme. Quite good music was heard, but no announcements, but every now and then different ones would come to the "mike" and say something humorous about what was going on. This continued till 7.45 p.m. and then the station was announced, but a Morse station started up and I lost most of what was said, but Warner Bros., Detroit, was mentioned and their time was given. This station I tried for again last Sunday, but failed to find him.

KDKA was heard on Sunday, December 2, sending out a special programme to the Byrd expedition, both on 25 metres and 63 metres. This is the first time I have heard him on 63 metres, and on that wavelength he came through quite good about R8 with me.

Mr. Sellens mentions in his notes last week of a number of stations heard, but too weak to get the call of same. Lately I have been experiencing the same thing. It seems a great many foreign S.W. stations are beginning to operate but on low-power, and it makes them very difficult to log. One instance is that an American station operates on 104 metres and I can pick him up practically any night from 7.30 till 8.30. I am quite certain he is a Yank because nothing else but jazz is played. We hope they will increase their power.

8XAL I have not heard for some time now—not since it was stated he was going to increase his power.

A good many New Zealand amateurs are coming in at good strength lately, especially 2BO, Wellington. I think perhaps he has that new transmitter working.

2XG, Rocky Point, America, has been heard a good many times lately. He also seems to have increased power.

Re Mr. T. Pascoe inquiring about a station on about 60 metres, I have heard this station and feel certain it is the harmonic of one of the Australian stations.

J.P., Johannesburg

SHORT-WAVE enthusiasts will be interested to learn that a Wellington amateur has succeeded in hearing the short-wave station JP, Johannesburg, operating on 25 metres. Mr. R. Thomson, of Rona Bay, was the initial recorder of this station, and first heard it on the evening of Tuesday, December 4, at 10.30 p.m. Mr. Thomson secured other short-wave stations on the loud-speaker, but was reduced to the 'phones to log JP. On a succeeding evening a friend of Mr. Thomson also succeeded in logging the elusive Johannesburg station. Having regard to the power of the transmitting station, this feat is even more notable than the reception of 7LO, of Nairobi.

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