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The Passing of the Old Year

ANOTHER year has slipped away, another milestone in the swift passage of time has been passed. We stand on a threshold; what lies beyond can be revealed only by degress. The future is looked forward to with added certainty—certainty that in 1929 broadcasting will be even more than now part of our very existence. The experiences of the past year can have only one significance—they have become history and as history are infallible guides to the future.



HE moving finger writes; and, having writ, moves on: nor all your piety nor wit shall lure it back to cancel half a line, nor all your tears wash out a word of it." The year 1928, with all its brilliant successes and its dismal failings, has gone. It has left behind it perhaps regrets, perhaps joys; but the new year will provide scope for the atonement of failings and the furtherance of successes.

Such was the impression received from one of the special Church Services broadcast Sunday, 30th. There was an unusual tone about these special services, something that stirred man's very being into new resolutions and urged him on to greater determination. To the hearts of many these messages, receivable only through the medium of radio, will remain cherished.

And so the special New Year broadcasts commenced.

Views of New Year's Eve.

NEW YEAR'S EVE had been awaited by thousands of listeners. Special programmes had been arranged, and everything held in readiness for the great event. And listeners were not disappointed.

From the four centres a different type of programme had been arranged, and each went off with a swing.

From 3YA the noisy, breezy atmosphere from the gay scenes in the Cathedral Square formed quite a feature of the evening's broadcasting. New Year's Eve is always a time of great revelry for those who are fortunate enough to be able to congregate in sufficiently large numbers to carry out mass celebrations. For those

remotely situated, 3YA and 1AA conveyed some of the joyous atmosphere.

At 1YA things were really noisy and the crowd was evidently a very happy one. The scene was well carried to those who were more unfortunately situated. The description, to which was added the humorous touches, particularly where the crowd were lifting up the rear portions of the motor-cars, was remarkably vivid.

One could, by radio, see the scenes being swiftly enacted in these two remotely-situated cities.

A Different Note.

On tuning in to 420 metres, one encountered a different scene. Gone were the rollicking crowds with their wild capers. Here a different note—a prayer for help to face the forthcoming year, a hymn to inspire fresh hope, a message to convey greater security.

Before passing to the Midnight Watch Service from St. Andrew's Presbyterian Church, a fine studio concert had been presented. The orchestra, rendering old and appropriate music, was, as usual, well to the fore. With the support of capable artists, a very enjoyable concert preceded the solemn service.

An Attempted Relay.

SHORTLY after 9 p.m. an attempt was made to relay RFN, Moscow, Russia. This station, operating on short wave, was at the time broadcasting music, and for the first few moments some of the Russian music was audible to even the owners of the modest crystal set. But the elements were against such a rebroadcast, and further music was drowned out. This at-

tempt on the part of Mr. McCarthy (Mack, of Mack's Radio) recalls the many fine re-broadcasts that have been put over the air. Mack has certainly earned the appreciation of all who have not the facilities to listen in to these shortwavers themselves, and even some of these have been only too pleased to turn to 2YA for the re-broadcast rather than to their own receivers. 2YA is certainly very fortunate to have the willing co-operation of so capable a radio engineer.

AND so the new year dawned, and the chimes of the city clocks interrupted the programmes from the stations, and continued their long chime amid the still silence until 1928 had gone!

Australia Greets 1929.

FOR the happenings in Australia we turn to "Switch," whose enthusiasm kept him abroad until the Australian midnight had been passed.

THE writer turned out of bed shortly before 2 a.m. to hear the celebrations broadcast by the Australian stations. 2FC had a studio concert then coming to a close, and on the stroke of midnight (Australian time) the performers and staff joined in singing "Auld Lang Syne" and other choruses. Then 2FC switched over to the Sydney University carillon, which rang out for quarter of an hour.

2BL Sydney, commenced the New Year with a Watch Night Service, and it came through fairly well. Studio artists were performing at 4QG, Brisbane, and a dance orchestra and vocal numbers could be heard from 3LO, Melbourne, which, however, was very weak.

(Continued on next page.)

Passing of the Old Year

(Continued from front page.)

Listeners' Congratulations.

THE Christmas and New Year season has brought shoals of appreciative messages to the broadcasting stations. Listeners have written in to thank the Broadcasting Company for the service it has given throughout the year, and those to whom the season's greetings have been extended have included uncles and aunts, announcers, programme organisers, performers, the mechanical staff—in fact, everyone who has had a share in presenting the broadcast entertainments.

These tributes have been conveyed in many forms—some by means of cards, some by presents (mainly to the uncles and aunts), some people have written at considerable length and others have thought that brevity best expressed their sentiments. Such a one wrote this: "I wish to thank the Broadcasting Company for many hours of delightful entertainment."

Newspaper radio editors have taken the opportunity of tendering their felicitations and have not been tardy with their congratulations. Such a one is "Aerial" of the Christchurch "Star," who thus refers to broadcasting affairs generally:—

THE past year has seen further gratifying progress both in the quality of the programmes broadcast by the YA stations and in the opportunities seized by the N.Z.B.C. to put interesting relays of important sporting and other events on the air. The company has neglected no function of any interest that would appeal to listeners and has shown considerable enterprise in rebroadcasting (when conditions permitted) several foreign short-wave stations.

"On the whole, the evening concert sessions showed a commendable improvement on the preceding year and, from that fact and other indications of the company's initiative, the prospects of still further improvement are very encouraging.

Racing Broadcasts.

IT is a matter of considerable regret to many listeners that the past year has been marred by the antagonistic attitude to broadcasting taken up by the racing authorities. They have been foolish in the extreme

in placing a ban on the broadcasting of relayed descriptions of the races. These, when they were made, proved perhaps as popular a feature of broadcasting as any other activity of the YA stations and did more than any other agent to break down considerably the really large body of popular opinion that horse racing is a pastime beloved by the depraved and patronised by folk the less said about whom the better.

"In 'Aerial's' own experience more than one group of listeners (who, before racing by radio was introduced, would have considered they were going straight to the devil if they had gone to the races) were amongst the most indignant when the company was refused the families for relaying race descriptions.

Relays.

"THERE are folk in New Zealand, as was the case in every other country when wireless first captured the public, who are frightened that a relayed broadcast of their performances, or what not, will have the result of keeping people away from the theatre, hall, course, etc., thus causing financial loss. That these relays in other countries have had exactly the opposite result—where, that is, the performance was worth while—has been proved over and over again.

The New Year.

"WHAT of the New Year? Listeners generally, from what 'Aerial' has been able to gather, are looking forward to further programme improvements, and more extensive rebroadcasts of overseas stations than for an extension of hours by the YA stations, except that there appears to be a growing desire that these stations should shut out their silent nights.

"It may be taken as a truism that 'the older the listener, the more attention he devotes to his local station'; and by 'older' is meant length of experience as a listener, not age in years. The demand to-day—as a year ago—is for 'brighter' programmes. The majority of listeners want music of the light, popular order—not grand opera, nor classical stuff—and what they want they are entitled to receive, for, after all, he who plays should call the tune."

Closing Year's Review

Great Progress in Australian Broadcasting

THE year 1928 may fairly be looked upon as perhaps the most important in the history of broadcasting since its inception in Australia. Particularly to this State does the fact apply, as the year has been one of outstanding progress so far as New South Wales is concerned.

A glance at the figures supplied by the Postmaster-General's Department shows that the year 1928 opened with, in round figures, 72,000 licenses in force in this State, and on present appearances the year will close with a total approximating 92,000 registrations. The gain of 20,000 set owners is the best answer to any who have doubted the policy which has guided the efforts of those controlling the broadcasting services in New South Wales.

A further interesting fact worthy of note is that the total increase in licenses in New South Wales is more than two to one of that for the rest of Australia for the year just closing. This proves beyond doubt that broadcasting increased in popularity, and that the policy formulated by the directors of the New South Wales Broadcasting Company, Limited, has been based upon broad grounds, acceptable to the mass of listeners.

A retrospective view of some of the main features of the past year brings into prominence the broadcasting of Grand Opera, the description of the arrival of Hinkler and the "Southern Cross," the transmissions in connection with the Eucharistic Congress, the English footballers, the tour of the English cricketers, the frequent rebroadcasts of many overseas stations, the Federal elections, and the best that could be given in the world of local sport.

Daily Programmes.

SO far as the daily programmes are concerned, an effort has been made to secure the best available talent for every section of broadcasting. The

question of cost has not been allowed to interfere. The policy has been with the increase of licenses to make available an increased number of features, and this has been particularly noticeable in the instrumental engagements entered into by the Company during the year. In the main, the programmes presented must have been acceptable, otherwise the remarkable increase in license figures in New South Wales would not have been maintained.

Broadcasting which calls for a programme on every day in the week right throughout the year presents enormous difficulties even in cities with populations as large as London, New York, Paris, and Berlin. This becomes greatly aggravated when the obligation is to find programmes for two stations in cities so far removed from the world's great centres of music. That in face of these difficulties, radio has made so much progress throughout Australia, is largely due to the policy of those controlling the "A" class stations, in catering so fully for listeners on the utilization side of broadcasting.

The directors of the New South Wales Broadcasting Company, Limited, endeavoured during the latter months of the year to tap a fresh well in local broadcasting talent. To this end a Radio Eisteddfod was carried out, in which nearly 1500 individual entries were received. The result of this effort has been to considerably increase the range of choice in the vocal and instrumental direction, and to a lesser degree the light and more popular side of comedy, revue, and humorous presentation.

Throughout the year the mechanical and transmission side of broadcasting has retained the high standard to which it had previously been brought. Every effort has been made to instal the very latest improvements and considerable advancement has been made in research in regard to overseas broadcasting.

2FC's Fifth Birthday

STATION 2FC celebrated its fifth birthday on December 5, and invited listeners to send in some candid criticism concerning the best and the worst feature that appeared in the station's programmes. A big response was the outcome, and an analysis of the replies has been made with the following result:—

32 people thought that sopranos were the worst feature on the station, whereas 40 considered the announcing was the best feature. Those in favour of church services exceeded those against by 13; 33 people thought the classical programmes were the best, whereas, on the other hand, 56 thought the dance items came top; 29 people did not like pianoforte solos, whereas 26 thought the children's session was a paramount feature—and so on, through the various items, with the pendulum swinging backwards and forwards, showing vividly how difficult various tastes are to cater for.

THE prize of £1 ls. to the listener who sent in the most interesting letter was awarded by Mr. J. Laugier, Valencia, via Boisdale, Victoria, who gave the following as 2FC's best feature

Continuity of service with a minimum of waste time. Absence of fading. (2FC is the only station which can be received all the time, although other stations of equal power are closer.)

Absence of thinly-veiled advertisements, trivial propaganda, and irrelevant announcements.

Strict adherence to programmes as announced.

Your announcers speak with clarity and modulation without, on one hand, indulging in that imitation superiority of tone, fraught with artificiality so noticeable on some stations. As for criticism, when you warrant it, you will certainly have another epistle from me."

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Radio Round the World

MR. DAVID TENNANT, of the B.B.C., has just inherited from his father, the late Lord Glenconner, Wilsford Manor, Salisbury, together with a large fortune. Mr. Tennant, whose pleasant voice is known to millions of listeners, is an engineer by profession and is one of the announcers of the British Broadcasting Corporation. He is 28 years of age and married this year Miss Hermione Deleley, the actress. He is a keen airman and pilots his own machine.

RECEIVING sets, one of which was supplied through the generosity of several Aucklanders, are a great boon to the leper colony which inhabits that little Fijian island Mokogai. There the patients have been hearing with splendid clarity the big 50 kilowatt station WLW, operated from Cincinnati.

THE South African Broadcasting Company, which operates a big station at Johannesburg, and seemingly publishes a balance-sheet, reports a loss of £20,000 on its first year's operation of a monopoly granted to it by the Union Government. Most of this big deficit is attributed by the company to the prevalence of piracy.

Television Again

SINCE the rejection of the Baird Television system the Postmaster-General has been asked if he knew of a television system capable of transmitting moving pictures of actual events for satisfactory reception by wireless listeners, and whether he was aware that the Baird Company had recently been refused assistance by the B.B.C.

In a written reply, the Postmaster-General said: "I know of no system which is at present capable of transmitting moving pictures of actual events for satisfactory reception by wireless listeners. I have not refused permission for the use of the B.B.C. stations for television tests."

"The Governors of the Corporation decided, in the exercise of the discretion vested in them, after a demonstration by the Baird Company, who hold an experimental license, that the system did not at present fulfil conditions which would justify a public trial through one of their stations. I have recently received an application from the Baird Company for further facilities."

"This application is at present under consideration, and I am not yet in a position to say anything further."

fabric is worn down to such a point that constant repairs and the danger of a blowout at any moment must be expected.

RADIO for every hospital patient has been brought a big step nearer by a gift of £200 from the trustees of the Hunter Shaw estate. Mr. W. Wallace, chairman of the Auckland Hospital Board, in making the announcement recently, said that at present about 70 beds were equipped. The money will be placed at the disposal of the Women's Hospital Auxiliary to spend in the direction indicated. The sum still to the credit of Mrs. Dreaver's wireless fund will also be available.

THE very latest and most complete apparatus for broadcasting and reception graces the wireless room of the Dana, the Danish scientific vessel now in port in Auckland. Even as she lies at Queen's Wharf the little vessel is in direct touch with Copenhagen.

"ROUND the World Rebroadcasts" have been attractions which have aroused much interest in New South Wales during the past few weeks. The effort of submitting a French programme a fortnight ago was most successful. On Wednesday next there will be a relay of P.C.L.L. Holland, and listeners who care to do so will have a chance of brushing up their Dutch.

DISCUSSING the advance in musical taste which has been brought about by broadcasting, and the demand for jazz over the air, a southern writer says: "I confess that one of my greatest surprises on a recent visit to America was the preponderance of really good music in the radio programmes. It would appear that the Americans look upon jazz not so much as music, but as a marketable commodity very saleable in various parts of the world, New Zealand, for instance."

SUCCESS crowned the first attempt to broadcast in Canada special programmes for members of the Byrd Antarctic Expedition, now speeding towards New Zealand, when the ether carried messages of the s.s. City of New York, flagship of the fleet, which on Saturday was between the Galapagos Islands and Dunedin. A wireless communication was received from Captain F. C. Melville, commander of the ship, by the Canadian Westinghouse Company, Limited, which is responsible for radio transmission arrangements between this continent and the explorers. The message expressed appreciation of the programme, and a hope for further transmissions of a like nature.

THE Marconi Company has just received the British Broadcasting Corporation's order for the supply of two high-power broadcasting transmitters, having an unmodulated aerial energy of 50 k.v. These stations will be erected at Potters Bar, near London, in pursuance of the British Broadcasting Corporation's scheme for covering the whole of Great Britain with a smaller number of broadcasting sta-

tions of a higher power than those at present in use.

THE important part which broadcasting is now taking in reporting sporting events was exemplified during the first cricket Test match in Brisbane. Cable messages from London state that cricket scores for the first time took precedence over all other items on the programme from the British Broadcasting Corporation's stations following in order of priority the announcement of the bulletin in regard to the King's health. A further cablegram stated that His Majesty listened with interest to the cricket scores as they were broadcast each day.

OTHER instances of the manner in which broadcasting from the cricket ground is being made use of by some of the players is shown in the case of C. E. Kelleway and Warwick Armstrong, who were both prevented from seeing portions of the Test match through illness. Kelleway was ill with ptomaine poisoning, and Armstrong with an injured foot, and when notified that they must remain in their rooms, their first action was to have wireless sets installed so that they could hear descriptions of the actual play.

EACH afternoon, and at the close of each evening's programme, pictures are being broadcast by Ravag (Austria) as a feature of the regular transmission. The Fultograph method is being used, and the tests since August 31 have been quite successful. First of all, the time signal is given; next, the receiver is given two minutes to prepare; a warning signal follows (the morse letter "v" four times repeated), and then comes a pause of ten seconds for final adjustment of pencil and mechanism; then follows a picture which takes about four and a half minutes, and finally the morse "s" to show that the picture is finished. After a pause of one minute for changing paper, the warning signal for the next picture is given.

FOR the second time this year, the question of whether music broadcast through an amplifier to passers-by on the street is an "unnecessary noise," will come up for argument in the Recorder's Court. The case has been continually postponed since July 18, when the city took action against two firms. In the former instance, a firm was found guilty of having violated a city by-law by creating noise that was not needed for the benefit of the public, and which was contrary to the city law to preserve public peace and good order, and a fine approximating £2 was imposed upon the offenders. Argument was heard from counsel for the defendant as to the true purport of the word "noises" in the by-law, and emphasis was laid upon the fact that when the by-law was adopted in 1870, the broadcasting of music could not have been contemplated. The Magistrate pointed out that the word "noises" in the city by-law meant any unnecessary noise, and that whether in 1870 or at the present time, an unnecessary noise was unnecessary.

IT is interesting, in surveying the radio situation in Canada, to find that the substantial increase in receiving licenses issued in the Dominion in 1927 is attributed to an increased number of wireless sets on Western Canadian farms, where growing prosperity, with a fuller appreciation of the advantages of broadcasting have resulted in steadily widening adoption of sets until now there are comparatively few farms in Western Canada without radio, and it has played a big part in the radical change in the farm life of the territory which has taken place since the end of the war. By means of wireless the entertainment of distant cities is brought to the farm family, so that in this connection it can be considered to lie under small disadvantage by reason of its position. Through wireless the farmer receives grain and live stock prices from town—resulting in a considerable saving of time and money—as well as being kept promptly apprised of world events. Reception conditions on western farms are excellent, in the absence of all forms of interference, and it is to be doubted if there is a territory where radio is a greater boon or has such a scope of service.

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ENGINEERS content that attempts to use a radio tube till it gasps out its last breath are just as ridiculous as using an auto tire until the

FOLLOWING is a list of suggestions for members. They were originated by "Radio" (Australia), under the title of "Ten Commandments for the D.X. Fan."

1. Good reception begins with the interception of ample signal strength. Therefore, make sure of a good aerial and ground connection. Joints should be soldered, or at least taped. A suitable socket aerial plug will often prove more efficient than an aerial, particularly in poor radio localities. It may be employed as a "booster," in addition to the usual aerial.
2. Reception can be no better than the valves employed. Valves, contrary to general opinion, do not last forever. Even if they light, that is no indication of their goodness. When valves have been in use more than a year, they should be replaced with fresh ones. Only those of a reliable brand should be used. Cheap valves are most expensive in the end.
3. Proper A, B and C voltages should be applied. In the case of batteries, this may be done by voltage taps. In the case of radio power units, this may be done by employing efficient variable resistors in obtaining precise voltages for all purposes.
4. The grid leak in the detector circuit should be adjusted for best results. While the two megohm valve may be satisfactory for powerful local signals, this resistance value is too low for weak DX signals. Either a collection of grid leaks of various values should be on hand, or a suitable variable grid leak should be employed if you would enjoy DX results.
5. Regeneration is practically essential to real DX results. It can be secured in various ways, for practically every radio-frequency circuit has some form of stabiliser to prevent regeneration, and this can be altered when in search of DX, so as to permit of regeneration or approach to maximum sensitivity.
6. A sensitive loudspeaker should be employed, or, better still, a pair of head-phones, plugged into the first radio stage. Many loudspeakers to-day are relatively insensitive, because they are design-

THE D.X. CLUB

Views and News.

- ed to operate on powerful local signals without blasting.
7. It is well to change valves around so as to obtain the best valve for each function in the radio set. There is sufficient variation in most valves to make some better for one purpose than for another.
 8. If troubled by excessive background noises or microphonic interference, the cause is generally traced to

er. Always closed down at 7.50, N.Z. time. The last item is always the same song, "The End of a Day."—SATISFIED LISTENER (East Coast). [We can find no record of an American station WGNL. There is a powerful station (25 kilowatts) AWGN, Chicago, operating on 416 metres.]

WHER Received.

I RECEIVED the station WHER on January 1, at 9 p.m., and held it

LONG distance enthusiasts have suggested the formation of a club for DX men, the object being to exchange notes on this fascinating aspect of radio. The suggestion has been adopted, and the club makes its debut this week. Notes will appear only as they are sent. The club will be run entirely by correspondents, so that the onus of keeping it going will depend on every DX man. Long competitive lists we must, through lack of space, bar. Interesting notes about strangers will be welcomed. In reporting stations correspondents should mention the wavelength.

All correspondence for publication should be addressed: DX, "Radio Record," Box 1032, Wellington.

- the detector valve, which should be changed.
9. By-pass condensers of 1 or 2 mfd., connected between minus B and the various plus B terminals of the radio set, will improve sensitivity and tone quality of weak signals.
 10. And in the final analysis, DX is largely a matter of patience and skill, for some fellows can hear 3LO on a crystal detector, while others cannot cover 500 miles with an eight-valve super-heterodyne.

WGNL.

I NOTICE in your "Record" of a fortnight ago some DX enthusiast, asking for a station with four call letters just above 2BL wavelength. This station is WGNL, Chicago. Comes in here at good loudspeaker strength, can hear it 300ft. from speak-

for several items. By my dialing, the wave is 260 metres, approximately. My set is a 4-valve Br.-Drake; aerial, 150 feet long, and 40 feet high. I can get 4YA, 4ZL, 2UE, etc., on the speaker, music being clearly heard 50 yards or more away. Static has been so bad lately that when I place my fingers over the phone terminals I get a kick about 2-3 the strength of the lighting system.—KAUSPANKA (Hastings).

KEJK, California.

COULD any listener locate the American station with call KEJK, Beverly Hills, California, on 270 metres. I am sure the call is right. I held him for 15 minutes when he seemed to fade away, then I went back to KFON, on 280 metres, on a dance number; then they said they will rebroadcast KEJK from Beverly Hills, for the next hour, and they also were on dance music till 9 p.m. N.Z.M.T. Did any D.X. enthusiast hear this. Has any D.X. listener noticed KNX has changed hands, now owned by Paramount Pictures. I heard him for the last few nights now, and close down at 9 p.m. They are on about 285 metres, with a power 5000 watts. I received a letter from another DX enthusiast from their DX, Club, in Los Angeles, and they say 2YA comes through well on his set (8 valves, screened grid) at wonderful speaking strength, no fading or distortion. This DX fan said our New Zealand programmes easily equal that of any station in U.S.A. He tunes in 2YA every evening when conditions are good. This speaks well for our super station. Cheerio.—S. ELLIS (Okato).

[The latest list of Americans gives KEJK 1250 kilocycles, 239.9 metres (shared), situated in Beverly Hills, California, owned by R. C. Macmillan. Power, 500 watts.]

Another Club Supporter.

I ALSO would like to endorse Mr. Ellis's suggestion as to the forming of a DX club amongst those of your correspondents interested in DX work.

As a matter of fact, the same suggestion was made by me some months back, per medium of your columns. And that is necessary really is to commence a DX Mail Bag" column, in addition to the present Mailbag" column, the former to contain the letters pertaining to DX only. This would mean that we DX fiends could immediately turn to what would be one of the most interesting pages, and learn the "latest doing," without having to peruse a number of letters praising or condemning the R.B.C., and on the other hand, those readers not interested in DX would not have to wade through letters in which they had no real interest.—GUY C. HOLMES (Masterton).

1YA Heterodyned.

FOR some few weeks back I have been annoyed by a whistle coming from Auckland and lasting through the children's session till 8 o'clock or thereabouts, at which time it seemed to stop. Three or four weeks ago it struck me it might be another station, and between the news session and the 8 o'clock concert I cleaned this whistle up, and after a few attempts (mostly spoiled with static) I discovered it was a Los Angeles, California station. KHJ. On Christmas Eve from 7 to 7.15 we had beautiful organ music from there, but on Christmas Day when Auckland was silent we had an hour's good music which finished up by hearing him very distinctly say "The time is just midnight and I wish you all Christmas greetings." The time by us then was just 8 o'clock, a difference of twenty hours. We are using a home-made four-valve Browning-Drake, and the volume was strong enough to be heard three or four yards away from the loudspeaker. Perhaps others have heard the carrier coming in and thought it the fault of 1YA. The two stations are working on exactly the same length (333 metres), but it is necessary to turn on all the power to bring in KHJ. I think most sets with long range should get the station when they know it's there. This may interest many, and I pass it on for what it's worth.—G. A. BOYCE (Auckland).

Stations Heard in Auckland.

I SEE by your "Notes and Comments" of December 28 issue that Wellington listeners have been unable to pick up 7ZL, Hobart. This has not been my experience, however, as I have no difficulty in picking him up on the speaker at 11 p.m. 3AR is at quite good phone strength, while 4YA is at full loudspeaker volume soon after 9 p.m. 2YA is at fair strength in daylight, and at night-time the volume is astounding. 2FC is fairly good this summer and is superior to 2BL for time being. 3YA keeps in good form, but 3DB, 2GB, and 3UZ have gone off. Our amateur locals, 1ZB and 1ZQ, are quite good on 1YA's silent night. 2ZF, 2ZM, 3ZC, and 4ZM are in fairly bad form. Back in the winter I could pick up 3ZC in daylight quite easily, with 2ZM and 4ZM almost breaking the speaker at night with volume. On the short waves the results have been very disappointing of late. I have heard no amateurs for nearly a week. I have picked up a French station on about 25 metres at about R4. RFM is only R5-6 with me. 6AG is the most consistent short-wave that I have heard. WGY is quite good, also 2XAD, LNAF and 2XAG. PCJJ is rather disappointing of late, although



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POLL is simply splendid. KDKA is a station I have never picked up, why I don't know, but still I may get him some day. So far my list of stations includes 46 on the ordinary band and 55 on the short waves, total 101, which is, I think, quite good for six valves in the heart of the city, but I expect many country listeners can excel this.—T. PASCOE (Auckland).

Another Solution.

I NOTE that one or two of your correspondents are puzzled as to the identity of a station interfering with 1YA. It is KDHJ, Los Angeles, U.S.A. This station is operating on 1YA's wavelength and his carrier wave sets up a howl from about 6.30 p.m. to 8.30 or 9 p.m. It spoils 1YA completely at times here. 2YA gives the strongest reception here, although sometimes troubled with fading. I am using a five-valve Neutrodyne.—LISTENER (Waipu).

The latest journals from America contain no record of this station. Has any D.X. enthusiast heard this stranger?

JOAK on One Valve.

I have a one-valve home-made set, and as I think it is giving exceptional results for the short time I have had it going I shall enumerate some of the stations received. These comprise 1YA, 2YA, 3YA, 2BL, 2FC, 3LO, 4QG, 2GB, 2UE, 3AR, 2UW, 5CL (?), and JOAK. Perhaps when I give the last you will think this a joke, but this station came in quite plainly last night—December 28—when I made the following notes on the programme for verification:—

10.15: First picked up station. Lecture in foreign language.

10.55: Lecture stopped. Announcer spoke and at end gave call JOAK.

Interval 1 minute.

10.56: Singing and instrumental.

11.23: Announcer spoke then called JOAK.

11.28: Talking, etc., and then commenced what appeared to me to be a play with musical accompaniments and much laughter.

At 12.40 a bell struck one stroke.

12.46: Announcer spoke and called quite distinctly JOAK.

Directly afterwards I went to 2BL and heard relay from 5SW giving bulletin from the King's doctors and orchestra. This was covering the globe somewhat, but the fact of getting JOAK was outstanding in my mind. Is this quite ordinary or not? The wavelength was 375 metres. The aerial is 130ft. and earth is a benzine tin filled with water, buried 6ft. in ground and directly under window. There are no sets in neighbourhood, the nearest being about six miles airline. They are five-valves, but it takes most of them all their time to get Australia, let alone JOAK.—LICENSEE 97600 (Bay of Islands).

CNRV, Vancouver.

I CAN add another American station to the list of D.X. stations in last week's "Radio Record"—CNRV, Vancouver, B.C. (291 metres). This station I receive at excellent speaker strength, from 7.30 p.m., New Zealand summer time, on Wednesdays on a wavelength of approximately 290 metres, about one point on the dial above 2ZF. My list at present is: KFON, KEX, KNX, CNRV, KGO, and two stations between 3AR and

2ZK, from whom I have not as yet received the call signs.—H. M. JAKEMAN (Huntly).

Was It KPO?

AT 11.2 o'clock last evening I tuned in a station half a point on the dial above 2FC. Perhaps some listener can tell me the call sign of same. As much as I received is as follows:—

11.2: Burst of applause and man says I'll sing you a song. 2FC announces a piece by Beethoven. Items from stranger is Our Grand Sweet Song.

11.10: Commences to sing again. 11.15 song concludes. We're going to have some Fiji love again.

11.17: Monologue "Nauru," and jamming with 2FC.

11.19: Item by (?) Orchestra played by (?) Hotel. Fox-trot, "I'm Knee-deep in Daisies."

11.23: Song, Len Nor, entitled "Florette." Announcer says Mr. Nor is anxious to get back to Suva. We are broadcasting from (?) outside Suva.

11.26: Announcer: Excuse me listeners for a few minutes while I say good-bye to Mr. Nor. Orchestra will play "I Want to be Happy."

11.31: 2FC drowns line out.

11.32: "Hullo, everybody!" Slight static. 2RM humorous item, apparently a description of a wedding ceremony.

11.37: An encore entitled (?).

11.40: 2FC again.

11.44: Of all the personalities there is perhaps none better known than Mr. Cochrane.

11.48: Some talk about Mr. Chappell. Good wishes for someone.

11.50: Orchestra.

11.57: Announcement before closing down. I have to thank Their Excellencies for coming out. I wish the whole of King Street a very happy and prosperous New Year.

11.59: "Old Lang Syne" and "God Save the King."

No call sign received.

A happy New Year 2YA and the R.B.C.—JAS. TRUMAN (Huntly).

On 2FC's Wave Length.

CAN any of your readers tell me what station was transmitting a general programme almost on 2FC's wave length on New Year's Eve between 11 and 12 midnight. New Year greetings to all DX friends.—N.C. WINSTANLEY, (Picton).

Coming Features from 2FC and 2BL

ALTHOUGH summer conditions are marring the Australian programmes at the present time, owners favourably situated and with good sets should have no difficulty in tuning-in 2BL and 2FC. During the next fortnight some very fine programmes will be provided.

ON Sunday, January 13, the Manly Band will be on the air, through 2BL, between 3.30 and 5 in the afternoon, and between 8.30 and 9.30 in the evening. Despite the continual demand for something new and novel—which is

not confined only to broadcasting in this restless phase in the world's existence—really good band music has lost none of its popularity, and the Manly Band, ranking as it does among the leading instrumental combinations of Sydney, provides a universally acceptable entertainment. Mr. J. Pheloung, the conductor, is an ardent radio enthusiast, and boasts a flattering following "on the air."

ON Wednesday, January 16, the H. W. Varna Company will produce "The Woman of No Importance" at 2BL Studios. The series of plays Mr. Varna has reduced to tabloid form, so eminently suited to broadcasting, continue to find favour with listeners who enjoy "the spoken word" on the air. There are those who consider music is the only form of entertainment really suited to broadcasting, and they somewhat intolerantly condemn what they scornfully describe as "talking." It takes an artist of long experience to successfully adapt a play for broadcasting, and the many years Mr. Varna has been connected with theatricals now stand him in good stead. His little company are without equal as far as "air" performances are concerned, and his productions in the New Year are eagerly anticipated by 2BL listeners. They are set down regularly each fortnight on Wednesday.

EDITH Cowley and Ian Maxwell are again in Sydney, after an extensive and very successful tour, and an appearance has been arranged for them on Thursday night, January 17, at 2BL. Light popular songs and snappy dialogue provide a pleasing act, which will be welcomed by listeners.

"YE Merrie Trio" is a new combination appearing at 2BL. Bright songs, good novelty piano work, and violin solos of the popular type provide a diverting half-hour for listeners who prefer this type of entertainment, and the programme for Friday night, January 18, is full of sparkling numbers.

THE arrangement of a lightning arrester is simply that of two or more metal plates connected to earth and aerial respectively, but separated by a very small air gap. The instrument is placed at the point where the aerial enters the house and the earth wire goes straight from it into the ground. If the aerial became charged during a thunderstorm the electricity would spark directly across this small gap to earth, instead of taking the comparatively much longer pathway through the receiving instrument, which would thus be protected by the provision of an alternative path outside the house.



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

WELLINGTON, FRIDAY, JANUARY 11, 1929.

EDITORIAL NOTES.

PRESS cablegrams over the holiday period record two outstanding items of news indicative of the growing universality of radio and the audience reached by it. First came the message of the visit by the Prince of Wales to Savoy Hill to broadcast his own earnest recommendation of the fund instituted by the Lord Mayor of London for the relief of distress in Britain's Black Belt. Than the Prince himself, no stronger advocate of any worthy cause could address a British audience. The use of radio for a charitable appeal was not new. In point of fact, a regular feature of the B.B.C.'s organisation is the broadcasting of appeals for approved charities, and the history of radio contains some records of memorable responses on the part of listeners to those appeals. The combination, however, of the Christmas spirit and the personal appeal by the Prince of Wales himself, make this radio speech on behalf of Britain's Black Belt an event outstanding in the history of radio. The practical suggestion of the Prince that no Christmas gathering should break up without some effort being made to gather a contribution to the fund will; when all the receipts are known, prove, we think, to have drawn a response unprecedented in the annals of broadcasting.

THE second item of significance recorded the simple fact that although Britain was two days—Christmas Day and Boxing Day—without newspapers, the community suffered no disability through lack of news, because radio filled the breach. The outstanding item of interest at this period was unquestionably the health of the King, and through the broadcasting of the bulletins as they became available, the anxiety of Britain's population was relieved. Time was when a forty-eight hour abstinence from the news sheet would have left the community at such a time of crisis unsatisfied. Radio, however, met the need, allowed the newspaper world to have its holiday, and satisfied the demands of all for knowledge of the King's progress.

CONTEMPLATION of these two outstanding incidents shows the position attained in the life of Britain by the radio service. That is the position to-day. The position is steadily improving month by month and year by year. With something like two million and a half license-holders, it is safe to say that at least one-quarter of Britain's population is in direct touch with the radio news service. That proportion will steadily expand. The time will come when all will

be served, and in that attainment there will be an immediacy of contact that will contribute wonderfully to the coherency and purpose of the national life.

AS an echo of the American Presidential campaign comes a news item that is of definite interest to radio listeners. We have already been informed of the extent to which the radio service of America was employed by the political protagonists of that campaign. Both Democrats and Republicans made extensive use of radio stations to convey their message to the voters. Assessment of the money so expended shows that two million dollars went into the coffers of the owners of the broadcasting stations in payment for time taken by political speakers on the air. That money was diverted from its former use in the daily Press. The Press comment upon this diversion from their columns of a revenue formerly enjoyed by them is interesting. An ordinary daily newspaper is practically forced to become a political protagonist on one side or the other. Because of this partiality in its news columns, many papers have found in the past that their publication of advertisements of parties opposed to themselves led to confusion on the part of their readers. This is well put by one writer in discussing this question. "I think it is just as well for newspapers not to carry political advertisements," said Mr. J. N. Kinmonth. "The fact that Republican papers accepted Democratic advertisements always proved disturbing to our readers. They failed to appreciate that advertising space is bought and paid for as a marketable commodity, and that refusal to convey the message of opponents would have been unwarranted. In my opinion, newspapers can do very well without this political revenue." This position in America has its interest for us in New Zealand who have recently passed through a political campaign. Use of our radio service was barred to our politicians by the contract and regulations governing the service. Allowing for the difference in the attitude of the New Zealand Press and public from that of America, it is unlikely in the near future that any immediate change will take place. Ultimately, however, radio will be used—under proper safeguards and conditions—for direct contact between politician and public.

Licenses in November Last

THE following is the official summary showing the total number of radio licenses issued as at November 30, 1928:—

	Re- ceiving.	Trans- mitting.	Dealers.	Broad- casting.	Experi- mental.	Special.	Free (Blind)
Auckland	13,983	54	419	2	1	2	75
Canterbury ...	8,078	34	279	1	—	—	47
Otago	2,864	21	162	4	—	—	27
Wellington ..	16,813	53	591	3	—	4	28
	41,740	162	1,451	10	1	6	177

Total: 43,347.

THIS represents in detail the position for November last. Since then there has been a great increase, as our draft statement published last week showed.

Evening with Burns

Listeners' Appreciation

Special Broadcasts for January 25

ON Friday, January 25, Scots throughout the world will be celebrating the 170th anniversary of the birth of Scotland's immortal poet, Robert Burns, the greatest poetic genius of his century. On that evening there will be special Burns programmes broadcast in New Zealand.

SOME very appreciative letters have been received from artists appearing at the different stations, and in this respect the following extract of a letter to Miss Rose Carter, elocutionist, is of interest. Miss Carter appears regularly from 2YA, and is evidently greatly appreciated.

"I was listening in on December 6, at Batley, North Auckland, and very much appreciated your item, 'Whistling in Heaven.' It came through very clearly, and I shall look forward to hearing you at some future date."

Mullard
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life — more power —
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World Unity by Wireless Statement by England's Premier

IN forwarding us a cutting from the "Times" which we reproduce below, Mr. Owen, former president of the Wellington Amateur Radio Society, writes: "The cutting herewith is part of a speech delivered by the Premier, Mr. Baldwin, at the Guildhall Banquet, given by the new Lord Mayor. It is a fine tribute to 'Radio.'"

"The Lord Mayor's Show, which I witnessed from the windows of the Royal Empire Society's Club premises in Northumberland Avenue, is said to have been the best yet; certainly better than three previous ones I have seen. The smartest and most impressive 'set' was the march past of the Air Force, with a large plane on a huge lorry. There were 18 bands and 15 decorated cars, and it took over an hour to pass by."

The Bond of Wireless.

FOLLOWING is the extract from Mr. Baldwin's speech referred to by Mr. Owen:—"There are two things to-day that I believe will help materially to peace. I came down one Sunday morning at Chequers a few minutes before my breakfast was ready, and I went to the wireless set and tried all round Europe to see if anything was coming through at 9 o'clock in the morning. By chance I struck some exquisite music in Berlin, and heard shortly the singing of a hymn. I thought immediately that when the day comes when nearly every cottage in this country can switch on to any station in Europe and hear the peoples of Europe at their music, their dancing, hymn-singing, and prayers, what a bond that will be throughout the world."

"Look back on your own childhood. Look back at the people in the country you used to talk to. We in England regarded every one who lived across the seas as savages, pagans. We knew nothing about them; we were not interested in them; they were 'those foreigners, and when the mass of the people realize that, in whatever country in Europe a man lives, he is a human being like himself, with a family and family life, a wireless set, with his services on Sunday, his dancing in the evening, and with his lectures, war presents a very different aspect."

I believe that wireless—ordinary, common, or garden wireless—is going to be one of the greatest bonds between the common people of the whole world.

It is the common people who, in the long run, will decide whether there will be war or not."

Files for the "Radio Record"

FOLLOWING the announcement that files for the "Radio Record" would be obtainable from us for 1/6 there have been received a large number of orders. Unfortunately, owing to the holidays there is some delay

The Radio Eisteddfod Effort by N.S.W.B.C.

BELIEVING that there was a large field of latent talent yet to be drawn upon for broadcasting purposes, the directors of the New South Wales Broadcasting, Limited, decided to hold an Eisteddfod during the months of October, November, and December.

Applications were invited for entries, and altogether nearly 1500 were received. In the choral section they numbered 30, vocal 774, instrumental 140, bands and band instruments 44, elocutionary section 104, popular and humorous 77, juvenile section 167, Australian compositions 75; country entries in all sections 74.

AS these entries reached such large numbers, it was felt necessary to establish a series of elimination tests with a view of allowing only the performers who showed some considerable merit to go before the final adjudicator. This was then carried out, and when the semi-final round had been reached in each section, Mr. Gerald Peachall, the well-known English musician, who has recently been appointed conductor of the Royal Philharmonic Society, commenced his duty of adjudicating in the choral, vocal, and instrumental sections.

Interviewed at the close of his work, Mr. Peachall said:

"I was pleasantly surprised with the general standard of work shown by the competitors who came before me. In some actions it was a fairly difficult matter to finally allot the first place. Naturally, a good many of the performers are not yet up to the standard required for broadcasting; but to those I would say that by application and perseverance they may yet be successful. In the vocal sections I heard some beautiful voices, but the outstanding weakness right through was interpretation. To have a beautiful voice is one thing, but to be able to interpret a song is quite another matter, and until these young singers make a greater study of what the composer and song-writer mean to convey through their work, they cannot expect to rank as high-class performers. The same lack of study also made itself apparent in much of the instrumental work."

From a general point of view the Eisteddfod has been a success, as quite a considerable amount of acceptable talent has been unearthed. Unfortunately, however, the sections in broadcasting which needed the greatest amount of recruiting—comedy, revues, sketches and humorous items—have not been helped to the degree that was anticipated.

in the arrival of these so that, for the time being, the orders are held over. When these come to hand they will be sent out strictly in the order of priority so that, to avoid disappointment, readers desiring files are urged to send in their orders as soon as possible.

The supplies are expected within the next month and those whose orders have been received can rely on getting their folders as soon as they come to hand.

Physical Culture Interesting Lecture from 2YA

LISTENERS will remember the very interesting lecture on physical culture delivered from 2YA by Mr. Alfred Blaxall, some three weeks ago. His novel presentation threw a different light on to this important aspect of our well-being.

Relative to this, the lecturer has received an appreciative letter from a well-known medical man, that will, no doubt, interest all who listened to this fine lecture:—

"I am prompted to write to you by having listened to your lecture this evening from 2YA. I have read a good deal of literature, and heard several talks by physical culturists, all, or nearly all, the utmost piffle."

"I should like, therefore, to say that your talk this evening is about the only one which was sound and sensible. I think this is the first time I have written a letter of this kind, but I was so delighted to hear such sensible and true facts, that I couldn't resist the temptation to write, as a medical man, and one who is rather keen on physical culture, to say how much I appreciated your lecture."

"I am looking forward to hearing your next lecture."

A New Publication of Great Interest

OUR readers will be interested to learn that Mr. Ellersley Hall, better known to the younger folk as "Peterkin" of 3YA, has received word that his first book has been accepted for publication in England by Messrs. Whitcombe and Tombs, Ltd. Mr. Hall, who specialises in boys' adventure stories and whose tales have been enjoyed by numerous young radio en-

Special Schubert Number

THE latest issue of "Radio Times" (England) to hand, November 16, 1928, is a Special Schubert Centenary Number. The publication is a very fine one and does its publishers great credit. Lovers of this great master will find great difficulty in obtaining a finer, more concise account of the life and works of Schubert than is contained in this issue, especially considering that it sells at but a few pence.

Among the very fine articles is one "A Biography in Miniature" (and it is not so "miniature" either). This article, dealing with all the stages of the life of the great musician, is profusely illustrated by reproductions from a collection of lino-cuts made by F. B. Harnack. These alone are very fine, and something quite unusual for a radio publication.

Another article, by R. Capell, music critic of the "Daily Mail," "The Songs of Schubert," is intensely interesting and is a very concise account of this important aspect of Schubert's writings. The accompanying reproduction depicts the manuscript of one of the master's earliest songs.

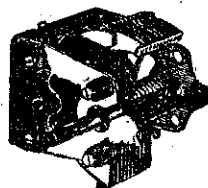
For the gramophone enthusiasts a special article, "Schubert on the Records," is presented, suitably illustrated.

The issue, in a special cover, is worthy of a place on the magazine shelf of any music lover.

thusiasts throughout New Zealand, has written a stirring book, entitled "The Secret Station."

It is packed with excitement and adventure, and is a real New Zealand story with two New Zealand lads as the heroes. As the title suggests, it deals largely with radio—a subject which should make the book particularly acceptable to boys. We congratulate Mr. Hall on his success.

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Hints on Operating a Loudspeaker

How Good Reproduction may be Obtained



NO matter how good your set may be, it is the loudspeaker which ultimately governs the reproduction, so that it is well that every listener should know how to test his loudspeaker on those occasions when it seems to have developed a fault.

Now, the complete and thoroughly scientific test of a loudspeaker is a task beyond the scope of any but a well-equipped laboratory, but if we pay attention to certain fundamental facts it is quite easy, with the apparatus at the disposal of almost every listener, to find out some very important facts. If, too, a second loudspeaker is available either as a permanent acquisition or borrowed for the evening from a friend, then the test can be made still more complete and satisfying.

"Falling-off."

ASSUMING that you have purchased a good loudspeaker and have in the past been satisfied with its reproduction, then the falling-off in quality can arise from three sources. The first is from some source prior to the entry of the signal into the receiver, the second is from the receiver itself (including under this heading valves and batteries), and the third is from the loudspeaker.

Only too often a sudden or slow falling-off in quality of reproduction is blamed to the loudspeaker whereas it

IN the following article Mr. Percy W. Harris, M.I.R.E., editor of the "Wireless Constructor," discusses a topic vital to listeners. The article is distinctly practical and should prove beneficial to all interested in quality reproduction—and who is not?

arises from some source under heading 1 or 2. If another loudspeaker, preferably of the same make and type is available, the first thing to do is to substitute the other loudspeaker for your own, whereupon if the cause is exterior to the loudspeaker the same faulty reproduction will be heard in both instruments.

Loudspeakers may be divided under the two headings of "moving iron" and "moving coil." In the first classification come those loudspeakers in which we have an electro-magnet which exerts a varying attraction upon a diaphragm, armature, or a reed according to the varying strength of the incoming signal.

The diaphragm, armature, or reed communicates the motion so set up in it to a cone of paper, fabric, or some suitable material which in turn moves the surrounding air, or in another type sets in motion an air column inside a horn.

L.S. Adjustment.

IN the second classification the currents from the receiver pass through a coil which is suspended in an intense magnetic field, the varying

current, passing through the coil and not through the electro-magnet, causing a variation in position of this coil in the field. As the coil is itself rigidly attached to some form of diaphragm, the diaphragm is moved and impulses are communicated to the surrounding air. As the vast majority of loudspeakers now in use fall under the first heading, we will deal with faults in these before the others.

Taking first the horn type, in the majority of these a stallo diaphragm, circular in form and varying in diameter from that of the diaphragm used in headphones to several inches across, is rigidly held at its periphery above the pole pieces of the electro-magnet in the windings of which the currents from the receiver circulate.

The sensitivity of this device will be largely dependent upon the air gap between the pole pieces and the diaphragm, the smaller the gap the greater the sensitivity of the instrument. Obviously, there are limits here, for the diaphragm has to move with varying attractions of the electro-magnet, and if we make the gap too small then a strong signal will draw the diaphragm down so much that it will touch the pole pieces.

In order that one may suitably adjust the gap a screw or lever is fitted to most loudspeakers of this type, the adjustment being such that either the diaphragm is moved nearer to or farther away from the magnet, or the whole magnet itself is moved, the latter being the more general practice.

Sometimes one may adjust a loudspeaker of this type to give maximum sensitivity without the diaphragm coming in contact with the pole pieces, even with the strongest signal, and then on leaving the set for a day or two we may find that even a weak signal makes the diaphragm touch. This is due in many cases to variations in temperature of the metal, for metal expands and contracts with changes in the room temperature, and these may arise from an alteration in the weather, or the lighting of a fire.

Effect of Plate Current.

IN many receivers loudspeaker windings are included in the plate circuit of the last valve, and when this is of the super-power variety quite a considerable direct current will flow through the windings in addition to the variations set up by the signals. This steady direct current would exert a continuous pull upon the diaphragm if the direction of current is such that it tends to accentuate the field of the permanent magnet.

On the other hand, if it is the opposite direction it will reduce the pull of the permanent magnet around the pole pieces of which electro-magnetic windings are wound. There is thus a right and a wrong way of connecting a loudspeaker in sets where the loudspeaker windings are directly in the plate of the last valve.

With the right way one not only obtains the best sensitivity, but the steady current tends to prolong the magnetism of the permanent magnet, whereas when connection is made in the opposite direction this steady current is tending all the time to demagnetise your loudspeaker magnet and reduce its sensitivity.

For this reason many makes of loudspeaker are marked with positive or negative leads or terminals, the former using red and black tips, or else the positive lead has a coloured thread wound into its insulation. Some speakers, in deed, are marked positive and negative by the conventional cross and dash. Not all speakers are so marked, however, for there is a particular form of magnet which is not appreciably influenced so far as its life is concerned, but in all cases it is just as well to keep the windings to the correct polarity.

Testing Polarity.

IF your loudspeaker leads are not marked for polarity, or what is just as important, if the loudspeaker terminals of your set give no indication of which is the positive and which is the negative, here is the way to proceed.

Connect up your receiver, switch on the loudspeaker and carefully adjust the speaker screw or lever until you can hear the rattling which indicates that the diaphragm is touching the magnets. Now carefully and delicately

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alter the adjustment so that the diaphragm just clears the magnet and does not touch even with quite a strong signal.

Next, without altering anything else, reverse the loudspeaker leads and one of two things will happen. Either the reproduction will sound just as good (or possibly weaker to some degree) or you will once again hear the rattling noise showing that the diaphragm and magnets are touching each other.

Making Sure.

If you do hear this, then the connection you have at that time is the correct one, for it shows that in the way you have just joined up the leads the steady current is tending to accentuate the magnetism, and, therefore, is exerting a greater attraction, which is what you want it to do. All you need now do is to readjust your diaphragm so that it is cleared once more, and you will be sure that your connection is right for this particular loudspeaker.

If, however, as first mentioned, reproduction sounds practically the same, then it is probable that your first adjustment is the correct one, but to check this readjust the loudspeaker diaphragm until it just touches once more, and then set it back to just clear again. Now reverse to the original loudspeaker connections and you will get the rattling noise referred to, confirming that the first connection was the correct one.

In the case of loudspeakers which incorporate some output device such as an output choke or an output filter, which prevent any direct current flowing through the loudspeaker winding, then it does not matter, which way round you connect your loudspeaker, because there is no direct current to do harm. Furthermore, the direct current being absent you will not find any difference in attraction one way or the other.

Use Filter Output.

It is a distinct advantage for two reasons to have some form of output device of good quality. The first and most important is, not that the direct current is kept out of the loudspeaker windings, as so many people think, but that the resistance of the output device (if it is properly chosen) is much lower than that of the loudspeaker, and, therefore, you do not lose voltage in the comparatively high resistance of the loudspeaker windings.

This is of great importance with modern valves and, in fact, the latest super-power valves are practically useless without some form of output device. To illustrate this let us imagine we have a loudspeaker with a resistance of 2000 ohms—quite a common figure—and a super-power valve with a 4000-ohm resistance (not impedance).

If now we apply 100 volts to the H.T. positive terminals, then the voltage applied to the valve itself will not be 120, but approximately 80! By using an output device of suitable impedance, but of low D.C. resistance, we can see to it that the plate of the valve has nearly the full voltage applied to it by the battery.

The correct use of super-power valves however, needs a special article, and, as we are dealing here solely with loudspeakers, we must next consider troubles that may arise with the cone type. In a number of these the type of movement known as the balanced-armature movement is used, no adjust-

ing screw of the type used with the horn loudspeakers being provided.

In most cases, however, an examination of the cone loudspeaker will show that a suitable adjusting screw is provided, and in loudspeakers which operate on a principle similar to that described for the horn speakers, an alteration of this adjusting screw will have the same effect as that described above, and the correct way round can be found by the same method.

A few types of loudspeaker have no adjusting screw of the ordinary type, but have a tiny screw which locks the rod attached to the centre of the cone. When this is released the small rod attached to the actuating mechanism can move in and out of the central hole without actuating the diaphragm. The sound given when this is occurring is similar to that when the loudspeaker diaphragm is touching the magnet, but is much weaker.

On some types of speaker this screw needs quite frequent adjustment, for the material of which the cone is made may be susceptible to changes in humidity and temperature, so that it is just as well with this type before starting the evening's entertainment to release the screw for a moment and tighten it up again, so as to relieve any tension that has been set up by atmospheric changes. A loose screw in such a loudspeaker is, therefore, one of the faults to look for when you are getting bad reproduction.

Crackling Noises

LOUD crackling noises in any type of loudspeaker, with, perhaps, periodical cessation of signals, generally arise from a faulty winding. One must assume, of course, that another loudspeaker has been tried, and it has been discovered that this fault is not in the set or previous to it. The wire used to wind the electro-magnets in loudspeakers is extremely fine, in order that a sufficient number of turns may be wound into the small space available and if, during the winding process, a drop of moisture, such as can arise from perspiration, finds its way into the winding, the acidity may set up corrosion which, in course of time, will eat right through the wire.

If you have had your loudspeaker for a few years and it has been very gradually falling off in strength, it is probable that the permanent magnets have lost some of their strength. This may occur even when the loudspeaker has been correctly connected, and the trouble will be accentuated, of course, when you have used it incorrectly joined up. Re-magnetising permanent magnets of loudspeakers is carried out by a number of firms for a very small charge and will give new life to many an old instrument.

Contrary to a common belief, very few loudspeakers give blasting through loudspeaker overloading. One often hears it said that a certain loudspeaker is very good, but "cannot stand strong signals."

Nearly all cases of so-called loudspeaker overloading are due to output put valve overloading.

LONG-GUARDED secrets are being liberated by American manufacturing firms, with the result that many circuits of many factory-made receivers hitherto secret, are being published.

The Paris Wireless Exhibition

Remarkably Different from English

THE French national flair for the artistic is greatly in evidence at the fifth annual wireless exhibition which was officially opened at the Grand Palais des Champs-Élysées by the President of the Republic and which closed on Sunday, November 4. M. Doumergue himself is an enthusiastic listener, and he found much to interest him. He was also very much struck by the picture broadcast demonstration arranged by the Compagnie Française de Radiophonie from the Radio-Paris station, standing by the receiving set in the exhibition for the four minutes while his photograph came through. He then congratulated those concerned.

The members of "Spir" (the Syndicat Professionnel des Industries Radio-Électriques—the trade body which is the equivalent of the National Association of Radio Manufacturers and Traders in England) went to particular pains to give their products the utmost fineness of finish. Coloured inlaid woods, lacquers, and the most brilliant of varnishes had all been applied with elegant care on cabinets and consoles of the best woods, carved in striking shapes. The same eye for beauty was apparent in the disposition of the panels, the shapes and colours of frame aerials and loud speakers, and even in the case of such supplementary apparatus as rectifiers.

One is, however, forced to wonder whether this ideal has been developed at the expense of mechanical perfection. Perhaps it has, for in the course of the past five years I have heard the performances of a very great number of French manufactured receivers and one is forced to the admission that, generally speaking, they do not by any means excel those of British manufacture in reproduction. Except for a few furtive demonstrations of portable sets by salesmen, no demonstrations were allowed in the hall. Incidentally the "Spir" do not permit at their exhibitions the showing of foreign manufactured apparatus.

Other novelties like those which created so much interest at Olympia and Witzleben were the moving coil loud-speaker and the pentode valve. Of the moving coil loud-speaker there was one exhibited by a leading French manufacturer who was making much of his "sensation of the exhibition" and veiling it in mystery in spite of the fact that its price is £32, and it was impossible to say when delivery could be made.

THE French, however, have almost from the beginning favoured reed-driven cones, and many new features in the way of diaphragm inertia reduction and the shape of the reed were noted. These give excellent reproduction of the high and low notes and can handle a large volume without distortion. It was noteworthy also that the French are dropping the fallacy that 80 volts anode current are sufficient for good reproduction, and one hears more now of higher volt-

ages. Of examples of all-from-the-mains receivers, which have definitely come into their own in England, and sets which might dispense altogether with batteries of any kind, not a single one could be found. As a compensation, however, there is a good range of apparatus which permits listeners freedom from H.T. batteries and other difficulties. Of rectifiers, too, there is an outstanding range, as might be anticipated in a country in which the most humble of habitations has its electric light.

THE French manufacturer as well as the home constructor in this country has always had an incomprehensible love of knobs on the panel of his receiving set, and there is no remarkable tendency to simplification of manipulation.

The gramophone-wireless marriage is in evidence, but the products containing complete apparatus is usually housed in most elaborate cabinets which sell at commensurate prices. An improved standard of quality in the components on exhibition was noticed.

Of the special exhibits it may be said with perfect safety that the model studio in the salon d'honneur attracts the most attention from the crowds who are flocking to the exhibition.

It is impossible to pass over without mention the Belin exhibits of picture transmitters and the receiving apparatus which is to be found on the stand held by Radio-Toulouse, another example of this station's enterprise.

Five Important Points---

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Pentode's Crystal and Valve.

I AM constructing the crystal and one-valve set which uses reaction, as you described in the "Radio Record" of November ult. I have on hand a condenser of .00035 m.f.d. capacity. What difference in the number of turns will I have to make to the coils? I have rather an oversize in aerials, mine being nearly 200 feet in length. Would this extra length, if I used the number of turns specified make up for the lower capacity of the .00035 m.f.d. condenser?—(A. S. Khaddallah).

If the aerial is nearly 200 feet long, use fewer turns on the aerial coil, say 15 to 25. The number of turns on the secondary coil will have to be increased to 75 turns. The next smaller gauge wire, as you are using a smaller condenser, the length of aerial has no appreciable effect on this coil. The great point to make is to make sure that each part is doing its own particular duty. Test the crystal and use the right type of valve.

In any case try reversing the crystal to make sure which is the best way round.

Storage Batteries.

A CORRESPONDENT forwards suggestions following our note on accumulators. The information originated from Messrs. Cameron Bros., Service Station, Palmerston North.

A Corner for Beginners

By Observer

1. The number of cells does not effect the amp. hour capacity of an accumulator. The capacity of the battery depends on the size and number of plates in each cell. So that if one cell runs down, it would lose its voltage and the battery would be inoperative.

2. Two cells cannot be connected in parallel with 3 cells as the 3 cell portion would discharge themselves through the 2 cells until they were run down to the voltage of the 2 cell portion (4 volts).

3. The paste of a battery plate must be kept in a charged condition. If the battery plates are discharged and allowed to stand for any length of time, the paste will become "Sulphated" or hard and cannot be recharged. This is especially true of the negative plates.

4. A battery can be stored dry, if it is thoroughly charged first, then the acid emptied out and replaced with distilled water and given a short charge. The water is then tipped out and the vent plugs, sealed to prevent evaporation and drying of the wood separators. The best way would be to take the battery down and remove the plates. The better way still is to leave the battery at a service station and keep it charged by giving it a short charge once a fortnight.

Weak Signals.

THERE are many causes of weak signals, but the following are specific examples of the causes of the weak signals that were marring the reception of a radio enthusiast known to the writer. For some considerable time this friend has been unable to get past 2YA with his four-valve Brown-ing Drake; in fact, 2YA was at times hardly audible. The usual causes of weak signals, run-down batteries, were soon found to be out of the question. Aerial and earth were in good order, so there was nothing left but to thoroughly test the set by means of the 'phones and a battery.

As the set is in operation at the sea coast there was a certain amount of rust—the grid condenser looked particularly offensive, and when the 'phone test was applied, there was a continuous clicking when there should have been silence. Further, it was found that the removal of the grid leak made no difference to the signals; they were audible at the same strength. These two tests proved conclusively that the grid condenser was at fault.

But results were not yet what they should be, and further investigations were made with the 'phones and the battery. This time an audio transformer was suspected, and the test reinforced the supposition, with the result that a new transformer found its way into the set. Results were now good, for 2YA, but beyond that great difficulty was encountered.

It was noticed that the rheostat controlling the radio valve made no difference to the volume of the signals. A minute examination showed that the radio wiring and the rheostat were in good order. There was nothing left but the valve to question, yet it was lighting quite well, and seemed quite in order.

However, there could be nothing else to blame, so the valve was removed and taken to a friendly dealer. No sooner on the testing than "No emission," the valve was no more radio valve than hurricane lamp.

So the troubles of a disappointed listener were tracked down, and now wireless is a pleasure, not an annoyance. Listeners who are troubled should go about trouble tracking in the same way it was in his case.

Some Useful Warnings.

THE following, by a radio writer to the Auckland "Herald" are very apt and specific hints for the Radio Beginner. "Observe" can do no better than to pass them on verbatim.

DON'T change over connections, remove or replace valves, or tinker with the interior wiring of your set, with the batteries switched on.

Why not? Because there is a risk of accidentally short-circuiting the H.T. or L.T., with consequent damage to either the valves or the batteries. First cut off the filament current and pull out the high-tension positive plugs, then you can make any necessary adjustment or alterations in safety.

Don't pull the valves out of their holders carelessly or jerkily and don't pull them out at all more often than is really necessary.

Why not? Because valve filaments, even if they are of a comparatively robust type, are not made to withstand unlimited vibration.

Don't grasp valves by their glass bulbs when you wish to withdraw them from their holders or sockets.

Why not? Because you may loosen the bulbs. Take hold of the valves by their caps or bases.

Don't on any account connect the high-tension battery leads to the low-tension terminals. (This "don't is, of course, intended only for absolute beginners—all other wireless enthusiasts will have learnt, perhaps by painful experience, that the small firework display inside the valves which results from this experiment is too brief and costly to be worth while!)

Don't leave your set in a position where the sunlight will shine directly on to the ebonite panel.

Why not? Well, if you try it, you will discover why not—too late! Bright sunlight invariably discolours ebonite, turning the surface of the panel a dingy greenish or brownish hue.

Don't have slack, sagging bare wires or loose connections in the interior wiring of your set.


Why not? Because the wires may touch or make contact where they are not intended to, thereby causing accidental short-circuits which may damage the valves or batteries.

Don't flick a wire across the terminals of your accumulator and note "how she sparks" with a view to discovering "how much juice is left"!

Why not? Because it is likely to temporarily or permanently damage the battery. So don't do it—unless, of course, you have borrowed the battery from a neighbour who habitually oscillates, in which case it doesn't matter in the least, does it?

Noises in a Shortwave Set.

THE sources of these noises in a shortwave set, are many, but a component that is often guilty is the grid leak. A good grid leak, of course, has a constant and definite value of resistance, but those which are not good seem to vary their resistance at a fairly low frequency—hence the noise. As a rule, grid leaks are satisfactory, but now and again one meets a faulty sample. If one is troubled by noises it is well to test this component at once. The simplest way, of course, is to try a substitute, but if a spare one is not at hand, short-circuit the old one with a piece of wire. If the noises cease there will be no need for further search.



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IN BRIEF.

G. FERGUSON (Dunedin): If you forward an addressed envelope we will forward you suggestions as to how harmonics may be cut out.

G.C.T.

IN our last issue, a correspondent asked for the meaning of the abbreviation G.C.T. At the time we were unable to verify the information offered us with the result that an inaccuracy has crept in. It appears that G.C.T. signifies Greenwich Civil Time. This term, identical with G.M.T., is used to compare American standard times, so that announcements made regarding the times of transmissions of important news, reports, etc., are stated in G.C.T. Each Time Zone can make its own adjustment. Thus one time is announced instead of several. Greenwich time is chosen because it is accepted as the standard time of the world. A chart enabling the rapid conversion of time has been published in the Radio Record.

The time zones in America are Atlantic Standard Time (A.S.T.), Eastern Standard Time (E.S.T.), Central (C.S.T.), Mountain (M.S.T.) and Pacific (P.S.T.).

Dial Markings.

I have a factory built 6-valve set, and, on the front, in a semi-circle is an indicator marked from 0 to 100. What is puzzling me is that, say 2YA is advertised on 420 metres, how I can get him on my wireless. Do these marks represent so many metres? If so, what is the correct method of obtaining 2YA on 420 metres?—PUZZLED (Wanganui).

ANSWER: The question as to why a station operating on a certain wavelength can be brought in at a different number on the dial has puzzled many. Behind each dial is a condenser or several condensers fastened together (gauged). Of these there are two principal parts, the moving plates and the fixed plates. The moving plates move in a semi-circle, hinged, usually, slightly to one side of the centre, and the amount of the moving plates passing between the fixed plates is thus controlled by the knob on the panel. When the moving plates are right clear of the others, it is clear that one limit of the semicircle has been reached. As no proportion of the moving plates is between the fixed plates the reading is 0, while, when a semicircle has been described or 180 degrees passed through, all the plates are between the fixed plates and the reading is 180. This action of the condenser has the effect of altering the tuning of the receiver to make it sensitive to a band of wavelengths which are determined by

the coils. The usual range is between 200 and 550 metres, so that a station of 420 metres would be brought in at some of the higher numbers of the dial. There is a method of calculating where stations can be found from their wave length, but it is a task that may be a little formidable to anyone who has not had practice in elementary mathematics. The best method is to keep a log noting the position and the wavelength of the station received so that when it is desired to hunt for a stranger whose wavelength is known, the proximity can be ascertained by reference to the nearest station, in point of wavelength, that is heard on the set.

Points About the Aerial.

J.K.M. (Kai Iwi) writes: As a beginner, and keen follower of "Questions and Answers" in the "Radio Record," there are one or two points I would ask you about my radio set. The type I have is a factory made set, and the results I obtain are most satisfactory, yet I feel I can better my reception in some ways and am keen to try, hence my reason in enlisting your aid. Interference is practically nil as there are no high-power lines within three miles and no surrounding obstacles, such as hills, bush, etc. Altitude, roughly, 1000ft. Reception from 2YA is just about perfect, 1YA comes in fairly well, but 3YA and 4YA are rather indistinct. I am enclosing two rough diagrams which may help my crude explanations. (The diagrams are good and help materially to make the meanings clear—Obrs.).

(1) My earth wire is now 9ft. long and insulated. Would it matter if it were lengthened to about 13ft? This alteration would shorten my "lead-in."

ANSWER: The general rule is to keep the earth lead as short as possible so that unless there is no other way out of the difficulty, do no lengthen.

(2) My lead-in is not insulated at present. Would it improve reception if I replaced it with insulated wire?

ANSWER: The lead-in should always be insulated as it is usually necessary to pass this near to a roof or to the side of a building which will act as an earth and lessen the effective height of the aerial.

(3) Do you agree with my alteration of the lightning arrester to keep it dry? If moved it would be up under the overhanging eave and hence more sheltered from the rain.

ANSWER: From a sketch, the writer shows that the arrester is fully exposed to the elements. This is a bad plan for sooner or later the dampness will find its way into the "works" and cause a short to the ground, thus seriously impairing the efficiency of the aerial. This may be happening at the present time and be the cause of the unsatisfactory reception of the more distant stations. The new place suggested, under the eaves, would be much more satisfactory.

(4) Do you consider my earth sufficient? If not, could you help me by suggesting a really efficient earth?

ANSWER: The earth, while not particularly good, should be quite satisfactory. Suggestions as to how the earth might be improved were made in our special issue, December 14.

Questions and Answers

(5) I have taken bearings in connection with my aerial wire and the direction is roughly North-North-West. Will this bring in the best results? I propose erecting new masts shortly and so can put the new ones in the correct position if that would be better. Are the present masts (42ft.) high enough?

ANSWER: The aerial (a T) is directional to the New Zealand stations which is probably the best, as real entertainment is to come from the local stations. If the Australians are desired in greater strength and the New Zealanders can afford to be weakened, try running in a north-easterly direction. Yes, the masts are a good height.

If these suggestions do not aid the correspondent to solve his troubles, he would be advised to make a test of his transformers, condensers, chokes, valves, etc., by the methods frequently described in the Beginner Corner. Help in this direction will supplement the notes, if any specific difficulty is encountered.

Amplifier to Work from Mains.

"PENTODE," Friday, November 16, shows diagram and particulars of crystal and amplifier to work off A.C. mains. In the use of crystal this works very well. Should a valve be used in place of crystal, what alterations or additions would be necessary to obtain, say, 22½ volts (as used in conformity with B battery)?—C.W.B. (Wellington).

The receiver is not suitable for adaptation as suggested. Correspondents making up this receiver should exercise great care, for there is a certain danger in working with the A.C. current.

A Variable Grid-leak.

"COULD you inform me if there would be any need to alter a one-valve circuit if a variable grid-leak is used instead of a fixed. If so, could you tell me how it would be altered? I am at present using a 3 meg. grid-leak, and I do not think I am getting the best out of the distant signals.

"Is it possible to publish a one-valve amplifier to run a Pentode valve. The Pentode valve is supposed to have a large amplification factor, therefore using a Pentode in a one-valve audio the results should be far superior to an ordinary audio valve. Would the tone of the receiver suffer with the increase of volume, and what B voltage would be needed to operate the

audio part of the receiver using a Pentode?"—"ROTOSTAT" (Wellington).

ANSWER: A variable grid-leak can be inserted in place of the usual fixed type without any alteration to the circuit.

Providing the correct voltage as stipulated by the maker is applied, a Pentode may be employed in a single stage amplifier. A suitable circuit was published in our special issue of December 14, page 28.

Tone would not suffer, but rather it would be improved.

What Tools are Required?

"AS I have never tried my hand at it, I should like to know what tools are required for building a simple set, and any details which you can give me about the right kind to choose."

ANSWER: Very few tools are required, and the chief of these will be found in the ordinary household toolbox. The following summary brings out some important points, which should be borne in mind if purchasing them:—

- (a) Soldering iron (get one with a good, heavy end, not one of the light ones which will not keep hot long enough to use).
- (b) A tin of fluxite or similar soldering paste.
- (c) A pair of cutting pliers. (Those known as side cutting are very convenient, but the flat-nosed variety are invaluable for tightening up nuts, etc.).
- (d) A pair of round-nosed pliers, for bending the wire when it is required to put round terminal shanks, etc.
- (e) A flat file.
- (f) A hand drill for drilling panels, etc., and a set of drills for same.
- (g) A couple of screwdrivers, one fairly large, one small.

There are many other tools which will come in handy later, such as vice, etc., but much depends upon the set you decide upon building. With the above you will be able to make a very good start upon ordinary constructional work.

"IS copper wire better than iron for an aerial?"

Yes, copper wire has a higher conductivity than iron, and therefore is more suitable for aerial wire.

A RUN-DOWN H.T. battery is the commonest cause of sizzling noises accompanied by distortion.

WHEN connecting-up a strange L.F. amplifier to a set leave the H.T. negative terminal unconnected. (Otherwise you may short your L.T. battery.)

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THE WOMAN'S POINT OF VIEW

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In My April Garden

By the Hon. ELEANOR NORTON.

*The chestnut trees show lovely leaves
Like emerald glass against the light,
Anemone and hyacinth*

*Are visions of delight;
Whose beauty—how immeasurably old—
Renews itself in ivory and gold.*

*Horace, who walked the Roman fields,
Breathed the same fragrances that now
I breathe; and Herrick would have
plucked*

*Those buds for Julia's brow,
And Shelley, had he been among my
blossoms set,
Might have immortalised this violet!*



Who wants music when they're baking?

—What you want is a tin of Anchor Skim Milk Powder. Easier to mix and much more economical than ordinary milk. Makes flavour more delicious too. Ask your grocer—and write for free Recipe Booklet to "Anchor," Box 844, Auckland.

ANCHOR
SKIM MILK POWDER

IT is sometimes a puzzle to know what to do with the earring that remains when we have lost one of a pair, especially as the attempt to revive the Renaissance fashion of the single earring has not caught on. Here is an idea. We all possess charming remnants of brocade and embroidery, which we shall make eventually into handbags. In place of the conventional little "tab" of material below the frame, firmly attach a suitable earring, choosing your lining to tone or contrast. A jade earring on grey brocade with a jade lining, for example, amber on brown or diamante on black velvet. Each makes a charming finishing touch.

THE tiny tots are just as particular these days about the decoration of their nurseries as are their mothers over their boudoirs, and the latest designs in lampshades will please many toddlers' hearts. There are shades of parchment cut in the design of a cottage with a long chimney, and others of fine fretwork on parchment and depicting fairy stories. One shade shows pictures of Little Red Riding Hood coloured in vivid reds and greens, and another of the Blue Bird is in delicate shades of blue.

BLACK taffeta ribbon effectively embroidered with thick coloured wools in a bold design, and filled in with stitching in metal thread, can now be purchased, and makes an original sash for a picture frock.

LINEN tea-cosies with rustic scenes embroidered in coloured wools are a novel means of brightening the nursery tea-table. The pictures show fascinating views of ploughed fields, with cottages seen through the trees in the background. Tablecloths, with embroidered corners to match, make a set which is guaranteed to delight the heart of any child.

SMALL diamante studs, sewn at intervals into the material, brighten the simple frocks of black satin or ring velvet which are worn for afternoon occasions or for informal dinners. The studs give an attractive touch of brilliance to the most sober gown, and sparkle like dewdrops in the electric light.

PARMA violets in Barbola work make a dainty covering for a dressing table set comprising a large mirror, a hand mirror, brushes, tray, powder bowl, and tall candlesticks. Placed on a gilded dressing table, the violet set is particularly effective, but women who prefer another colour scheme may choose primroses or small pink-tipped daisies.

FEW women can resist the fascination of pearls, real or imitation. To own a string of pearls is usually one of a woman's pet ambitions, and nowadays, when there are so many excellent imitations on the market, it is an ambition that most can realise.

The best imitations have a creamy tinge, and the sheen on them is slightly iridescent. Pearls, if of good quality, improve with wearing, as sunlight and the natural grease of the skin help to keep them a good colour.

Hidden away they become dull and yellow. They are very susceptible to damp, and should never be put in water. After each time of wearing the pearls should be wiped with a soft cloth.

Most good imitation pearls are threaded with knots between, if not for the whole length of the string, at least for an inch or so either side of the clasp.

It is quite easy to re-string your own pearls, but it takes a little time, especially when putting knots between them.

If your pearls are graduated, slip them off the old silk carefully, placing them in the order they were threaded originally. It is a good idea to lay them in the ridge of a piece of corrugated cardboard, so that there is no danger of their rolling about.

Making the Knots.

Nowadays one can buy silk for threading pearls in various thicknesses with a fine wire attached to push through the holes. But as an alternative, dental floss is strong and suitable, and if you keep the end waxed with candle wax or white wax you will find it quite easy to manipulate the holes. You will need a length of silk two and a half times the length of your pearls when finished.

The knots must be tightly drawn up against the pearls, otherwise the string will have a very untidy appearance. Start by making a knot about an inch from the end of the silk and thread the first pearl. Then put a pin on your knee or on a cushion and twist the end of silk round it securely. In this way you can keep the silk taut while making the knots, as this is essential.

To make the next knot, make a loose knot, slip the point of a darning needle through it, and with this guide the knot up the silk until it is lying close against the pearl. Slip the needle out and draw the knot tight. Continue in this way, taking up the pearls in the order in which they lie, and making a knot between them until your string is finished.

Veal Olive Pie.

CUT a fillet of veal into thin slices, about 4in. by 2in. each; dip them in beaten yolk of egg and baked bread-crumbs; on one side put a little grated lemon peel and nutmeg, pepper, and salt. Roll each up very tight and pack them closely in a well-buttered pie or fireproof dish. Cover with good beef gravy or made beef essence, with a little Worcestershire sauce. Put a light roof of pastry on and bake. Beef olives can be piced in the same way.

Rich Pound Cake.

MIX as ordinary—Soz. "Anchor" butter, 10oz. sugar, 4 eggs, pinch salt, flavour. Next sift together dry—2 heaped breakfast cups flour, 1 tablespoon "Anchor" skim milk powder, 1 small level teaspoon baking powder.

Add these to the cake mixture, using enough water to bring the texture down to a state where the dough will spread easily, but will not run. Then add—4lb. sultanas, lemon peel, almonds, or cherries, as desired.

Bake in a moderate oven; will take from 2½ to 3 hours.

This cake is easily made, and will be much appreciated by the family.

Moulded Greengages.

SKIN and stone about a pound of greengages and put them in a pan. Add the kernels of a quarter of them, blanched and chopped, a quarter of a pound of loaf sugar. Stew them until they are thoroughly cooked and mingled; then add a half-ounce, or rather less, of gelatine, melted in a very little hot water. Put into a mould to set. Serve with whipped cream.

Apricot Macaroni.

BOIL a quarter of a pound of macaroni in milk tender, flavouring it with bitter almonds or vanilla. Put this at the bottom of a pie dish, cover thickly then fill up with a very rich custard. Bake, which will probably take quite a time. At the last sprinkle with grated nutmeg.

When your throat pricks

take—

Pulmonas

RELIEF BY INHALATION

FOR COUGHS AND COLDS

Annotations of Annabel

Books.

GALLIONS REACH.
(H. M. Tomlinson.)

DEAREST,—How surprisingly free and frank is the life that spreads itself before the girl of 1929. Intelligent she has proved herself, open-eyed and full of curiosity, ready to take opportunity by the hand, yet with time to "stand and stare" at things interesting, from psychology to cinerarias; and capable of carving a niche for herself in the temple of achievement, if not of fame. Which appears a blessed social dispensation to one whose youth was cribbed, cabined, and confined by rigid conventions of manners and morals inculcated in the reign of austere grandmother of our own King George; when the mind of youth, eager, restless, and groping for light and course, and left with but shadowy leading was frigidly warned off the course, and left with but shadowy knowledge of fundamental facts of life and love.

WHICH reminds me of Rosalie, that enigmatic charmer, who has proved herself efficient and at the right moment as hard as nails. Having elected to leave her country home, beyond a few hundred pounds to start off with, father refused further financial assistance to his wandering daughter. If she wanted to earn her living, let her do it unaided, said he, not without reason. And with a little luck, considerable shrewdness, which is an inheritance from her plutocratic parent, and the aforesaid indispensable initial capital, triumphantly she has vindicated herself with a small shop in a by-street, where provocative hats discreetly flaunt, and small, tempting

trifles, made by clever, impecunious friends, find ready purchase. Over the shop lives its enterprising owner, in an attractive diminutive flat, with silken, hemstitched amber curtains, furniture of weird design, and black but comely aspect, and a few astonishingly beautiful bits of Ming pottery, filched from ancestral home. In the back-ground, like a humble, unfailing friend, is a hot-water service that provokes to envy. By some wizardry, turn of a handle, lighting of one small jet, and the good offices of the Gas Company, in the twinkling of an eye boiling water flows into sink and hand basin, and nice big bath. Think of it, my sisters, struggling along in ancient, inadequate dwellings, when, hot and horny-handed, you shovel coal.

JUST at present it would seem that bourne for thousands of pounds sterling is found in huge erections of bricks and mortar—some wholly utilitarian in architecture and execution, a few bohemian and picturesque as a bacchanter's dream—that fling themselves skyward and cling like giant fungus to thoroughfare and hillside. No more the hopeless, harassed search for "apartments," an end has come to those calls of the wild on suave, unhelpful house agents, the turn of the long lane is in sight, and haven found for father, mother, and brood; the latter in particular having proved itself a considerable hurdle in the pursuit of domestic oasis.

PLAYS, little plays, are being offered over the air. Which is a pleasant

sign of the times, and one that it is hoped will lend itself to the greater glory of radio. In Australia, one hears, competitive playlets are on the tapis, which is all to the good for public enterprise and private talent. 'Tis curious how the litterateur, of much or little talent and any age and sex, cherishes ambition to produce a play which automatically will bring fame and fortune in illustrious wake. There are certain occupations, also, in which most people that on earth do dwell are confident they would shine. Running a book-shop, for example, or keeping a cabaret; editing a newspaper or conducting a coffee stall on the wharf through the worst of winters.

THE essential for success in matters mundane would seem to be a business instinct, that enviable acumen or sixth sense that twists all dealings to vulgar advantage. Other qualities, it is granted, are desirable; tact being a commercial as well as a social asset, and psychological intuitiveness not to be despised. But, above all, surrounding all, and in us all, as we barge onward and upward towards topmost peak of profitable Parnassus, must be an eye for expediency, capacity to score off our neighbour or queer his pitch, and carry away our sheaves with us. Within limits, of course; over-indulgence in taking toll from one's fellows having been known to lead to the Nemesis who lies in wait for him who too greatly grabs.

Your

ANNABEL LEE.

Hints to Book-lovers

NOW that so many good books can be obtained in editions to suit all pockets, their place in the decorative scheme of a room is more generally realised than was the case years ago, when books were expensive luxuries.

The aim of every real lover of books is to make them last as long as possible, and to preserve them they must be carefully handled. When dusting, take two books and beat them together so that the dust is shaken out. To dust the edges merely rubs the dirt into the pages. Soiled edges can be cleaned by the use of a soft piece of rubber or a little pumice powder.

Household reference books that are constantly in use are liable to become soiled by finger marks or spotted with grease, which, if not dealt with, will spread through several pages. The former can usually be removed by dry breadcrumbs or a hard piece of rubber.

To get rid of grease spots, sandwich the soiled page between two sheets of blotting paper covered with powdered French chalk. When pressed with a warm iron the marks will disappear. Ink stains can be removed by the application of a weak solution of spirits of salts and water. When books are bound in leather, the covers can be revived with a good leather polish, or milk and the white of egg mixed in equal quantities.

If the leather is dirty, it should be cleaned first with a soft, damp rag which has been dipped in warm water containing a few drops of vinegar, but the leather must be thoroughly dried before applying polish with a clean, soft duster.

A common habit which is fatal to the appearance of any book is the turning down of the corner of a page to mark a particular place. Loose leaves and torn pages also give an untidy look, and they should be neatly repaired.

Weak bindings can be strengthened by a wide strip of linen glued inside the front and back covers where the pages join the binding.

Mildew on covers can be removed by rubbing them with oil of lavender. Damp is most destructive to books, and they should be arranged in a dry room and dusted regularly if you want to keep them in good condition.

Bank for Women Only

BECAUSE it is felt that many women do not wish to entrust the management of their financial affairs to male bank clerks, an Amsterdam bank recently opened a branch office, run entirely by a staff of women, for women clients only.

The manageress of the branch stated that she expected in particular the patronage of divorced women and widows. Her staff would deal quietly and secretly with their clients' affairs.

Decorative Linen Baskets

Until recently the soiled linen basket served a useful purpose only, but now the shops are offering them in a most decorative guise.

Barbola work, one of the most popular handicrafts just now, is used a good deal as trimming. A basket painted pale green or peacock blue will have a garland of gay flowers around its lid and a big posy in front. They are sold in various shapes, the handiest of them all being the triangular one, because it takes up the minimum of space.

Another way of dressing up a linen basket is to paint it in some pretty colour—gold paint is a little more expensive, but a very effective background—and trim it with taffeta flowers.

Use up any scraps of pretty silk you may have: cut them into circles and gather round the edges, stuffing them with cotton wool. The "calyx" can be added by means of contrasting silk. The leaves are also padded within.

To sew on to the basket use waxed thread and a strong darning needle.

PCJJ, Hilversum, is situated only a few miles from Utrecht, a town with a history that every schoolboy knows.

THOSE who have read the essays of this writer, collected in a fascinating volume entitled "Old Junk," will not be surprised at the quality of his raid on romance, or to find that his novel "Gallions Reach," is packed full of adventure in lands of tropical forest, big game hunting, and strange and sinister people of the East.

A man accidentally commits a crime, and thereafter wanders away from London and his former discreet and well-ordered surroundings of business and pleasure. Without his own volition he finds himself on a strange ship, and then begins a narrative of thrilling power, dazzling imagination, and great literary beauty.

The character drawing is good. Who, having met him, will forget Chief Officer Sinclair, or the Scottish Gillespie, and Captain Hale, that quiet, seemingly insignificant hero, whose death in mid-ocean we feel to be in the nature of tragedy, and feel personal, poignant regret when he goes down with the Altair.

Those days and nights in the boats, such a triumph of word painting; the humour and gallantry of the seamen, and wonderful description of the great storm; all these are etched on the memory. Mr. Tomlinson knows the sea in her moods of beauty, violence, and raging, insensate cruelty; and he makes us know her also, for he wields a magician's pen. Rangoon and Penang are familiar to him as Lambton Quay to the town clerk, and tropical nights of magic and terror, with big and little pouncers and killers that prowl and squirm in the jungle.

A touch now and again is reminiscent of Hudson; sometimes for a moment we think of Conrad's spell; but Mr. Tomlinson stands entirely on his own merits, and can bear comparison with the giants of literature. He has written a wonderful book, its style impeccable, its understanding of men deep and intuitive. I quote at random:—

"Knowledge of Sinclair and that bunch of men of his old ship gave to an aimless and sprawling world the assurance of anonymous courage and faith waiting in the sordid muddle for the signal, ready when it came. There were men like that. They were only the crowd. There was nothing to distinguish them. They were nobodies. But when they were wanted, there they were; and when they had finished their task they disappeared, leaving no sign, except in the heart. Without the certainty of that artless and profitless fidelity of simple souls, the shining importance of august affairs of flourishing cities would be worth no more homage than the brickbats of Babylon."

Just so. When they are wanted there they are. We learned that in the war years, and are grateful to Mr. Tomlinson for his reminder.—R.U.R.

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S-O-S

TRAVEL IN COMFORT BY
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Features of Next Week's Programmes

Features of 1YA.

A Leading Sydney Artiste for 2YA.

VAUDEVILLE items will be rendered by the Bohemian Duo, who have specially arranged four of the latest "hits" for vocal work with Hawaiian accompaniment. Miss Sophie Vivian, a monologist of undoubted ability, late of Fuller's Opera Company, will be welcomed after a long absence from 1YA. Miss Vivian will also render a soprano solo, "Ma Curly Headed Babby." The Auckland Trio will contribute amongst their numbers, Greig's "Humoresque." The programme will be continued until 11 p.m., with dance and novelty records.

Notes from 2YA.

THE orchestral items on Monday evening's programme will include "Orpheus in der Unterwelt," Sarasate's "Spanish Dance," Schubert's "Unfinished Symphony in B Minor" and the "Meyerbeer Ballet Music." Miss Ava Symons will play Kreisler's "Caprice Viennois," to orchestral accompaniment. Further instrumental numbers, pianoforte solos, will be played by Miss Marjorie Bolton.

MR. JOHN PROUSE, baritone, will sing the old favourite of 40 years' ago, Mattie's "Non e ver," also "O Star of Eve" (from "Tannhauser") and "To-morrow will be Friday." Miss Alma Clegg, soprano, will sing "The Young Nun" and "Five Eyes." Miss Evelyn Robinson's items will be the negro spiritual "Sometimes I feel Like a Motherless Child," "Until," and "Sunrise." Tenor solos "Lorraine" and "When Shadow's Gather" will be sung by Mr. James Fordie.

MR. R. L. (Rolly) Robertson, well-known on the concert platform before the war but heard in radio from 2YA for the first time last week, is appearing again on Tuesday evening in further songs at the piano. He will be one of the performers in a very diversified programme that evening.

Other artists will be Palmer's Hawaiian Trio in plantation melodies, Mr. Lad Haywood and his mandolin, Mrs. C. H. Wood (mezzo-soprano), Miss Eva Bennett (soprano) and Mr. G. Austin Blackie (tenor). The Studio Orchestra will play "Finlandia," Massenet's "Suite le Cid" and Amy Woodford Finden's "Four Indian Love Lyrics."

MADAME Aileen Johns, of Napier, will be singing at 2YA on Thursday evening. Her numbers will be "The Last Song," "Wake Up," "Gretchen at the Spinning Wheel" and "An Indian Lullaby." Also singing this evening will be Miss Rita Arnold (contralto), Mr. E. W. Robbins (tenor) and Mr. Ray Kemp. Mr. Kemp will sing the ever popular "The Mountains of Mourne" and "Five and Twenty Sailormen." Mr. J. S. Webb, elocutionist, will give Byron's "Waterloo" and, of a different type, an extract from Dennis's "Ginger Mick." The band engaged for the evening is the City Silver Band under Mr. H. Baker.

MISS Ethel Friend—one of Sydney's leading contraltos—at present on a visit to New Zealand, will be heard on 2YA during this month. As a radio artiste, Miss Friend is a widely-known



and experienced singer, having been under contract to Stations 2BL and 2FC, Sydney—also the other side of

await the Auckland Salvation Army Congress Band, which will appear under Adjutant Goffin on Wednesday. Wellington listeners doubtless have happy memories of Adjutant Goffin and his Salvation Army Band through his performances at 2YA. The Adjutant has

the world in London, Daventry and Manchester—the three important stations in England. Among her recent appearances in Sydney include: The Schubert Centenary Concert in conjunction with the Royal Philharmonic Society at the Town Hall: "Mendelssohn's Hymn of Praise," "The Elijah," and during the Joseph Hislop (Britain's leading tenor) season in 1927, Miss Friend appeared with Mr. Hislop in the society's performance of Gounod's "Faust."

In quartet work Miss Friend has performed with the ladies' string quartet (Conservatorium), and was also heard in Brahms' "Licherslieder"—in operatic work, "Rigoletto," "Romeo and Juliet," etc. Of Miss Friend's work Mr. Spencer Clay, of the Wigmore Studios, London, W., and conductor of Covent Garden Opera Co., late Chicago Opera, and Sir Thomas Beecham's Opera Co., writes: "I can confidently recommend Miss Friend as a reliable and gifted artiste. She has a splendid contralto voice of excellent quality and range. Miss Friend is also a good musician, and can safely be trusted with the rendering of works of the most difficult nature."

Miss Friend will be heard from 2YA on January 14, and again on January 29.

had the Congress Hall Band under his control for some months and he has gone to considerable trouble to prepare an interesting programme for 1YA. The vocalists on this programme will be the Hazell-Sutherland Duo and baritone selections will also be rendered by Mr. Hartley Warburton. The excellence of this programme will do much to recompense listeners who have missed hand numbers from the programmes during the past few months.

IN addition to the presentation of "Merrie England" on Thursday, Madame Irene Ainsley will sing a contralto solo "My Ships." The Auckland Trio will present interesting numbers which will include Widor's "Serenade." Miss Gladys Gamman is to contribute elocutionary numbers, chief of which will be "The Death of Minnehaha." This number has been previously performed by Miss Gamman and is being repeated in response to a number of requests. Miss Ina Bosworth will play the violin solo "Berenice Minuet."

FRIDAY'S programme will be of great interest because of the appearance of the Clarion Quartet and the Auckland Comedy Players, under Mr. J. F. Montague. The Clarions will present something out of the ordinary in classical items in Parke's arrangement "Of the City Choir." Miss Alma McGruer and Mr. Duncan Black will sing a duet arrangement of "Allan Water." The Auckland Comedy Players will present two one act plays, one worthy of special mention being a sketch, "The Right Touch." Orchestral items are to be contributed by the studio orchestra under Mrs. Evelyn Prime.

THE evening church service will be relayed from St. James' Church, the preacher being the Rev. E. R. Harries, and Mr. Walter Impett will be in charge of the choral arrangements. In the studio concert, which will follow the church service, Mr. Stan Pritchard (baritone) will sing "The Lord is my Light" and Sullivan's well-known solo "Thou art passing hence." Miss Cecelia Duncan (soprano) will also present vocal contributions, a number which should find ready favour being Coats' "Bird Songs at Eventide."

THE vocal contributions for Tuesday evening's programme will be entrusted to the Lyric Four, who, assisted by Miss Alma McGruer, will render a programme of operatic solos and a short operatic scena from the "Pink Lady."

An item which calls for special comment is "Pickle Hearted Mimi" from "La Boheme" (Puccini), which will be sung by Messrs Ripley and Richards. Miss McGruer and Messrs. Ripley and Thomas will also present "The Marriage Scene" from "Romeo and Juliet." Elocutionary numbers will be rendered by Mr. Alan McElwain and Mr. Eric Maxwell, the popular young pianist, will play Chopin's "Fantasie Impromptu."

AUCKLAND listeners have for some months been anxious to hear band music from 1YA, this type of performance having been absent from the local programme subsequent to the Auckland Municipal Band ceasing to broadcast. A popular welcome should therefore

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A concert party called "The Strollers" will contribute to Friday evening's programme. Their items will be grouped into three sections, each providing a twenty minutes' diversified entertainment. The Strollers are a party which will please all listeners. The musical fare to be provided will be mainly of a light nature. There will be concerted and solo musical items, also two sketches, one of which will provide original humour. The Strollers include artists of pronounced ability. The balance of the programme will be provided mainly by the Studio Orchestra whose items will be Suppe's "Pique Dame," "The Voice of the Bells" (Thurban), Dvorak's "Humoresque" and Offenbach's "Genevieve de Brabant."

THE Saturday evening will be, as usual, exceptionally bright. Mrs. P. M. Jackson, who will assist the Melodie Four in the vocal section, will sing "Hills of Donegal" and "Absent." The concerted numbers to be sung by the Melodie Four will be "Peter the Cat," "Slow River," and "Home Little Maori Home." Solo items will be "A String of Pearls," "The Village Blacksmith," "When Other Lips," and "The Jungle Song." Humorous recitations will be given by Mr. Jack Wilkinson, "Bachelors" and "I'm a Dadda." The Studio Orchestra will present an excellent programme, comprising "Ole South," "The Skaters' Waltz," "A Southern Wedding," "Waltz Dream" and Fox-trot Novelties.

MISS EILEEN KIMBELL (soprano) and Miss Ngaire Coster (mezzo-soprano), two very pleasing radio artists, will be singing in the after-church studio concert on Sunday evening. Miss Kimbell's numbers will be "Lord of our Chosen Race," "Swift the Hours" and "A Memory." Miss Coster will sing "What a Wonderful World it would be" and Brahms' "Lullaby." Another performer will be Mr. Charles Clark (baritone), whose numbers will be "The Glory of the Sea," "Mellande in the Wood" and Tosti's "Parted." Specially chosen records will cover a wide variety of subjects.

Attractions at 4YA.

ON Sunday evening a service from Moray Place Congregational Church will be broadcast. The preacher being the Rev. Albert Meade, M.A. If the weather prevails the St. Kilda Band concert will be relayed from the seaside, following the church service.

INCLUDED on the programme to be rendered by the St. Kilda Band, under the conductorship of Mr. James Dixon, on Tuesday evening next, will be the band's test march, "Shuniadinska," by Mirovitch. There will also be some other outstanding numbers on this programme, including the overture "Zitella."

Miss Dorothy Sligo, mezzo-soprano, Mr. R. A. Mitchell, tenor, and Mr. W. B. Lambert, bass, will provide the vocal numbers, while Mr. Lester Moller, elocutionist, will recite "The History of a Music Box," and other numbers.

ON Wednesday evening the 4YA Harmonists, under the directorship of Mr. T. J. Kirk-Burnand, will present the vocal numbers from Edward

"Merrie England" at 1YA

THURSDAY'S programme at 1YA will feature the presentation of Sir Edward German's light opera, "Merrie England," which will be produced under the direction of Madame Irene Ainsley. The story of "Merrie England" is set in the days of Queen Elizabeth, who together with those famous personages of her reign, the Earl of Essex and Sir Walter Raleigh, appear in the opera. The scene is laid in the heart of medieval England by the Thames near Windsor. Madame Ainsley will sing in this opera, and will be assisted by Mrs. H. Millburn and Messrs. Jack Maddox and Thomas Bradley.

German's comic opera, "Merrie England." This is one of the best known and most beautiful of comic operas, and contains some very fine solo and concerted work, which will be delightfully handled by the various members of the quartet. At the conclusion of this recital, studio numbers will be presented by the following: Mr. Neil Black, bass, Miss Aileen Young, pianiste, Miss Eva Judd, violiniste, and Miss Madge Yates, elocutionist.

A NEW singer will be heard on Friday night's programme, Miss Evelyn Shephard, mezzo-soprano, who possesses a charming voice, which will no doubt be greatly appreciated over the air. Among her numbers will be "Now Sleeps the Crimson Petal" (Quilter), and "Damon" (by Strang). Baritone solos will be rendered by Mr. Murray Hood, and Contralto solos by Miss Irene Hornblow.

THE vaudeville programme to be presented on Saturday evening includes a new artist in Miss Minna Ahlers, who will feature some popular song hits with piano and ukulele accompaniment. Miss Betty Roberts and Mr. Norman Skurr will also be heard in popular song numbers, most of which are songs which were popular some years ago. Mr. J. Paterson, the Scottish baritone, will present some humorous numbers, including "When McKie Started to Learn to Play the Bagpipes." Humorous sketches will be presented by Miss Sheila Neilson and Mr. J. B. McConnell, and an excellent selection of light instrumental music will be included in the programme.

Children's Sessions

AT 1YA.

TUESDAY, JANUARY 15—Here is Uncle Pat with more good advice about looking after your teeth. He will also have jolly stories and cousins will sing and recite.

WEDNESDAY—Who is in charge to-night? Why! Hobo, and, of course, Percy will be there, too, so be prepared for an hour of fun and laughter.

THURSDAY—As well as Peter Pan we have Uncle Mack with us this evening, so we hope to hear more of the distant lands that Uncle Mack knows so well.

FRIDAY—Nod and Aunt Jean will provide a happy hour. The Gramophone Man will also be present with records, and lecturette, and there will be birthday greetings for those having birthdays.

SATURDAY—Cinderella has a play this evening which we hope the

Radio Family will like. It is about a fat king who wanted to be thin, and a thin Princess who wanted to be fat. Listen and see how they get on.

SUNDAY—Children's song service conducted by Uncle Leo, assisted by cousins from Frankling Road Sunday School.

AT 2YA.

MONDAY, JANUARY 14—Cousin Marjorie is coming to-night, children, to sing for you, and Cousin Helen will recite. Greetings and birthday wishes from Uncle Jeff and a bed-time story. Cousin Irma is coming all the way from the Lower Hutt to talk to you also.

TUESDAY—For this hour the pupils of Mrs. Theo. Hills are coming, and Uncle Jim will greet you all with stories and poems.

THURSDAY—Miss Ivy Hoare has kindly promised to bring some of her little pupils to entertain you this evening, and Aunt Gwen will talk to you and read a bed-time story.

FRIDAY—Cousin Babs will play for you some of her enjoyable piano-forte solos. Cousin Marjorie will sing, and Big Brother Jack and Robinson will welcome you with their cheery song and Cock-a-doodle-doo.

SATURDAY—Two little friends whom you all know will tell you little stories in verse—Joyce and Dulcie—and we have a new cousin to introduce—Cousin Helen, who will sing for you. Uncle Toby and Aunt Gwen will be there, too.

SUNDAY—The children's song service will be conducted by Uncle George, assisted by St. Matthew's Sunday School choir.

AT 3YA.

MONDAY, JANUARY 14—Scatter, back from her camping trip, will tell you of the adventures she had. Cousins Kathleen and Margery with fresh New Year songs and choruses.

WEDNESDAY—Here is Uncle Johnny (we have to call him "Johnny," he seems so very young!) with some lovely new stories for you all. Cousin Francis will sing for us, too.

THURSDAY—Uncle Hal, with Molly and Jack and Galloping Gus, are all ready and set to entertain you to-night. So sit up and listen!

FRIDAY—Everybody waiting to hear Brother Bill and his funny stories to-night. And a host of little cousins to help him in his fun and jokes.

SATURDAY—Chuckie and Aunt Pat keeping the ball rolling to-night with snappy songs and stories, music and tit-bits.

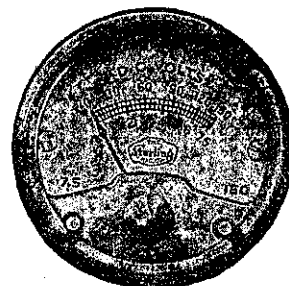
SUNDAY—Children's song service, as usual, with the hymns sung by the scholars from the Opawa Baptist Sunday School.

AT 4YA.

TUESDAY, JANUARY 15—Where is Commander Byrd now? What are the brave men doing who are with him? What happens when brave men make a dash for the South Pole? Big Brother Bill is using a gramophone record on which another brave adventurer, Commander Peary, has told the answer to all these questions. There will be other stories too.

FRIDAY, JANUARY 18—Who knows when bells were first invented, and why they were used? How many have heard the finest carillon of bells in all Great Britain? The Bells o' Bournville. They will play from 4YA to-night, and Big Brother Bill will tell stories of the bells. Aunt Sheila will be there with stories too. Letters and the radio postie.

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Full Programmes for Next

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Sunday, January 13

1YA, AUCKLAND (333 METRES)—SUNDAY, JANUARY 13.

- 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 Sunday session.
 6.55: Relay of service from St. James' Church. Preacher, Rev. E. R. Harries. Organist, Mr. Walter Impeff.
 8.30: Overture—Royal Albert Hall Orchestra, "Coriolan Overture" (Beethoven), (H.M.V. record D690).
 8.41: Baritone solo—Mr. Stan. Pritchard, "The Lord is My Light" (Allit-sen).
 8.45: Pianoforte solo—Cladimir de Pachmann, "Raindrop Prelude" (Chopin), (H.M.V. record DB858).
 8.49: Soprano solos—Miss Cecilia Duncan, (a) "Bird Songs at Eventide" (Coates); (b) "Ave Maria" (Luzzi).
 8.57: Instrumental quartet—Catterall Quartet, "Allegro and Adagio, Quartet in G" (Beethoven), (H.M.V. records D997/8).
 9.12: Baritone solos—Mr. Stan Pritchard, (a) "Thou Art Passing Hence" (Sullivan); (b) "Slow, Horses, Slow" (Mallinson).
 9.20: Violin solo—Fritz Kreisler, "The Old Refrain" (Kreisler), (H.M.V. record DA269).
 9.24: Soprano solo—Miss Cecilia Duncan, "Silver Threads Among the Gold" (Danks).
 9.28: Orchestral—Royal Albert Hall Orchestra, "Hungarian Rhapsody No. 2" (Liszt), (H.M.V. record D144).
 God Save the King.

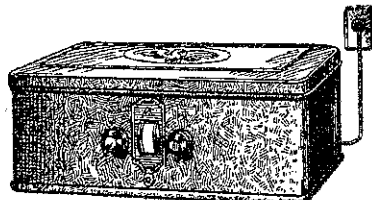
2YA, WELLINGTON (420 METRES)—SUNDAY, JANUARY 13.

- 3 p.m.: Afternoon session.
 6.0: Children's song service, conducted by Uncle George.
 6.30: Relay of evening service from St. Gerard's Redemptorist Church. Organ solo—"Andante" (Baptiste) (Archdowne).
 Rosary with choral responses.
 Antiphon—"Alma Redemptoris" (Davis) (Anon).
 Sermon by Rev. F. X. Cahill, C.S.S.R.
 Hymn—"Jesus, My Lord" (arr. H. Mount) (Anon).
 Motets—"O Salutaris" (Silver) (Fischer); "Tantum Ergo" (Oates) (Anon).
 Recital of the Divine Praises.

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- 8.15 (approx.): Studio concert.
 Overture—Symphony Orchestra, "The Mastersingers" (Wagner), (H.M.V. record D1260).
 Baritone solo—Peter Dawson, "Honour and Arms" (Handel), (H.M.V. record C1500).
 Violin solo—Renee Chemet, "Serenade" (Pierne), (H.M.V. record DA955).
 Contralto solo—Miss Mona Carrick, "The Lost Chord" (Sullivan).
 Pianoforte solo—Mischia Letitski, "Hungarian Rhapsody No. 6" (Liszt), (H.M.V. record D1383).
 Tenor solo—Mr. Edwin Dennis, "Jesus, Do Roses Grow So Red" (Nevin).
 Orchestral—State Opera Orchestra, Berlin, "William Tell" (Rossini) (Parlophone record AR1003).
 Soprano solo—Ninon Vallin, "Air Des Bijoux" (Gounod), (Parlophone record AB1002).
 Organ solo—G. T. Pattman, "Liebestraum" (Liszt), (Columbia record 01103).
 Baritone solo—Ricardo Stracciari—"Toreador's Song" (from "Carmen"), (Bizet), (Columbia record 04173).
 Violin solo—Renee Chemet, "Serenade" (Toselli), (H.M.V. record DA955).
 Contralto solos—Miss Mona Carrick, (a) "Beloved It is Morn" (Aylward); (b) "Vale" (Russell).
 Instrumental—Mascotte and Dajos Bela Orchestra, (a) "The Flower's Dream"; (b) "Whispering of the Flowers" (Parlophone record A2559).
 Tenor solos—Mr. Edwin Dennis, (a) "Give a Man a Horse He Can Ride" (Galbraith); (b) "The Moon Drops Low" (Cadman).
 Selection—H.M. Coldstream Guards, "The Shamrock" (Myddleton), Columbia record 02542).
 God Save the King.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, JANUARY 13.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 5.30: Children's song service.
 6.15: Hymn and carol chimes.
 6.30: Relay of service from the Church of Christ, Moorhouse Avenue. Preacher, Rev. J. Crawford. Organist, Miss E. Hepburn. Choirmaster, Mr. H. Ames.
 7.45: Studio programme.
 Overture—Berlin State Opera Orchestra, "The Mastersingers" (Wagner), (Parlophone records A4029/30).
 7.57: Baritone solo—Mr. Robt. Anderson, "Nearer My God to Thee" (Carey).
 8.2: Bagpipe solo—Argyle Reel and Strathspey Band, "Braemar" (Parlophone record A2453).
 8.10: Mezzo-contralto solo—Mrs. Jean Anderson, "Angels Guard Thee" (Godard).
 8.14: Piano and orchestra—Alfred Cortot and London Symphony Orchestra, "Concerto in A Minor," Op. 54 (Schumann), (1st Movement—Allegro Affettuoso), (H.M.V. records DB1059/60).
 8.30: Contralto and baritone duet—Mr. and Mrs. Robt. Anderson, "Nocturne" (Denza).
 8.34: Tenor and choir—Jno. McCormack, "The Palms" (Faure), (H.M.V. record DB984).
 8.38: Orchestral—Chicago Symphony Orchestra, (a) "Xerxes" (Largo), (Handel); (b) "Slavonic Dance in G Minor" (Dvorak), (H.M.V. record D1432).
 8.46: Baritone solo—Mr. Robt. Anderson, "The Living God" (O'Hara).
 8.50: Contralto solo—Mrs. Jean Anderson, "How Lovely are Thy Dwellings" (Liddle).
 8.56: Tenor with orchestra—Tito Schipo, "Ave Maria" (Schipo), (H.M.V. record DB873).
 9.0: Piano with orchestra—Alfred Cortot, "Variations Symphoniques" (1st, 2nd and 3rd Movements), (Poco Allegro-Allegretto quasi andante-Molto piu lento), (Franck), (H.M.V. records DB1069/70).
 9.16: Boy soprano with organ—Master Lough, "Hear Ye, Israel" (Mendelssohn), (H.M.V. record B2627).
 9.24: Military band—National Military Band, "Weymouth Chimes" (arr. Hare), (Zonophone record 5119).
 Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, JANUARY 13.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from Moray Place Congregational Church. Preacher, Rev. Albert Mead, M.A.

Week-all Stations-to Jan. 20

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- 8.0: Relay from St. Kilda of concert by the St. Kilda Band.
9.15: God Save the King.

Monday, January 14

1YA, AUCKLAND (333 METRES)—MONDAY, JANUARY 14.
SILENT DAY.

2YA, WELLINGTON (420 METRES)—MONDAY, JANUARY 14.

- 3 p.m.: Chimes of the G.P.O. clock.
3.1: Selected gramophone items.
4.30 and 4.55 p.m.: 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.
7.40: Lecturette—Mr. H. C. South, "Books Grave and Gay."
8.0: Chimes of the G.P.O. clock, Wellington.
8.1: Overture—The Orchestra, "Orpheus in der Unterwelt" (Offenbach).
8.11: Soprano solo—Miss Alma Clegg, "The Young Nun" (Schubert).
8.15: Pianoforte solo—Miss Marjorie Bolton, (a) "Study in A Minor" (Chopin); (b) "O Star of Eve" (Wagner).
8.29: Violin solo with orchestral accompaniment—Miss Ava Symons, "Caprice Viennois" (Kreisler).
8.37: Contralto solo—Miss E. M. Friend of Sydney, (a) "Ombra mai Fu" (Handel); (b) "Lullaby" (Cyril Scott).
8.42: Chorus—La Scala Chorus, "Anvil Chorus" (Verdi) (Columbia Record 01032).
8.47: Elocutionary—Miss Effie Brice, "Packing" (Carter).
8.52: Tenor solo—Mr. James Fordie, "Lorraine" (Sanderson).
8.56: The Orchestra—Repeat item.
9.4: Weather report and announcements.
9.6: Soprano solo—Miss Alma Clegg, "Five Eyes" (Gibbs).
9.9: Chorus—Opera Comique, Paris, "Carmen" (March and Chorus, Act 4) (Bizet) (Parlophone Record A4028).
9.12: Symphony—The Orchestra, "Unfinished Symphony in B Minor" (Schubert).
9.19: Baritone solos—Mr. John Prouse, (a) "Non e ver" (Matti); (b) "Tomorrow will be Friday" (Molloy).
9.26: 'Cello solo—W. H. Squire, "The Broken Melody" (Dunkler—Squire) (Columbia Record 04180).
9.30: Contralto solo—Miss E. M. Friend, "The Erl King" (Schubert).
9.36: String quartet—Lener String Quartet, "Quartet in D—Andante Cantabile" Tschalkowsky (Columbia Record I1803).
9.40: Elocutionary—Miss Effie Brice, "Orange Blossom" (Rohmer).
9.45: Tenor solo—Mr. James Fordie, "When Shadows Gather" (Marshall).
9.53: Ballet music—The Orchestra, "Meyerbeer Ballet Music" (Kretschmer).
10.3: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—MONDAY, JANUARY 14.

- 3 p.m.: Afternoon session—Selected studio items.
4.25: Sports results.
4.30: Close down.
6.0: Children's hour.
7.15: News session.
7.30: Talk by Mr. Chas. Buckett on "Physical Culture: Its Aims and Objects."
8.0: Chimes.
Band programme presented by Derry's Military Band (J. Scott, conductor) and assisted by 3YA artists.
8.1: March—The Band, "The Paramount" (Restorff).
8.11: Foxtrot—The Band, "Me and My Shadow" (Jolson).
8.11: Contralto solo—Miss Mary Taylor, "My Ain Folk" (Lemon).
8.15: Banjo solos—Len Phillis, (a) "Uncanny Banjo"; (b) "Banjoviality" (Phillis and Bright) (Columbia Record 0990).
8.19: Humorous song—Mr. Phil Jones, "As a Porcupine Pines for its Pork" (Paganucci).
8.24: Intermezzo—The Band, "After Sunset" (Pryor).
8.30: Mezzo-soprano solo—Madame Aileen Johns, "The Spirit Song" (Haydn).
8.34: Instrumental trio—Christchurch Broadcasting Trio, "Blue Danube Waltz" (Strauss).
8.44: Baritone solo—Mr. F. C. Penfold, "Song of the Volga Boatmen" (Chaliapin—Koenaman).
8.48: Meanderings of Monty—"The Near East" (Hayes) (Columbia Record 03233).
8.52: Three step waltzes—The Band, (a) "Birds of Spring" (Williams); (b) "The Skaters" (Waldteufel).

- 9.1: Weather report and announcements.
9.4: Overture—Court Symphony Orchestra, "The Gondoliers" (Sullivan) (Columbia Record 979).
9.8: Contralto solos—Miss Mary Taylor, (a) "Coming Home" (Willeby); (b) "Husheen" (Needham).
9.15: Hawaiian—Clark's South Sea Islanders, "Good-bye, Hawaii" (Bories) (Columbia Record 01225).
9.19: Jazz song—Mr. Phil Jones, "Get Out and Get Under the Moon" (Larry Shay).
9.24: Selection—The Band, "Our Miss Gibbs" (Moncton).
9.33: Mezzo-soprano solos—Madame Aileen Johns, (a) "Lament of Isis" (Bantock); (b) "Oony Oon" (Campbell).
9.40: Instrumental trios—Christchurch Broadcasting Trio, (a) "Syncopation" (Kreisler); (b) "Londonderry Air" (Kreisler); (c) "March Viennois" (Kreisler).
9.49: Baritone solos—Mr. F. C. Penfold, (a) "When a Mounting Skylark Sings" (Lohr); (b) "Spanish Gold" (Fisher).
9.53: Comedian—Frank Crumit, "The Song of the Prune" (Crumit) (H.M.V. Record EA366).
9.57: Gavotte—The Band, "The Way to the Heart" (Lincke).
10.0: Close down.
March—The Band, "The Great American Favourite" (De Ville).

4YA, DUNEDIN (463 METRES)—MONDAY, JANUARY 14.
SILENT DAY.

Tuesday, January 15

1YA, AUCKLAND (333 METRES)—TUESDAY, JANUARY 15.

- 3 p.m.: Afternoon session—Selected studio items.
4.0: Literary selection by Announcer.
4.8: Further studio items.
4.25: Sports results to hand.
4.30: Close down.
6.0: Children's hour, conducted by Uncle Pat.
7.15: News and market reports, book review.
8.0: Chimes.
8.1: Overture—The Orchestra, "Orpheus in der Unterwelt" (Offenbach).
8.10: Concerted vocal—Miss Alma McGruer and Lyric Four, "Hail Bright abode," from "Tannhauser" (Wagner).
8.14: Violin solo—Fritz Kreisler, "From the Land of the Sky-Blue Water" (Cadman) (H.M.V. Record DA745).
8.18: Vocal duet—Messrs. A. Ripley and H. Richards, "Fickle Hearted Mimi," from "La Boheme" (Puccini).
8.22: Humour—Mr. Alan McElwain, "The Scene Shifter's Story" (Strickland).

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- 8.27: Pianoforte solo—Mr. Eric Maxwell, "Fantasie Impromptu" (Chopin).
 8.31: Vocal duet—Miss Alma McGruer and Mr. A. Ripley, "Night of Hymen," from "Romeo and Juliet" (Gounod).
 8.35: Orchestral—The Orchestra, (a) "Coronach"; (b) "In the Silence of the Night" (Rachmaninoff).
 8.45: Novelty—The Lyric Four, "In an Officers' Club" (arr. Lyrics).
 8.50: Relay from Majestic Theatre Orchestra, under the direction of Mr. Whiteford Waugh.
 8.55: Weather report and announcements.
 8.57: Talk—Mr. A. H. Chappell, M.A., "The Maori—His Notable Customs."
 9.12: Bass solo—Mr. Ernest Thomas, "The Calf of Gold" (Gounod).
 9.16: Chorus with orchestra—Light Opera Company, Gems from "Princess Flavia" (Smith-Romberg) (H.M.V. Record EB22).
 9.20: Soprano solo—Miss Alma McGruer, "Nobil Signor," from "Les Huguenots" (Meyerbeer).
 9.25: Novelty—The Orchestra, "In a Monastery Garden" (Ketelby).
 9.31: Vocal trio—Miss A. McGruer and Messrs. Ripley and Thomas, "Marriage Scene," from "Romeo and Juliet" (Gounod).
 9.37: Pianoforte solo—Mark Hambourg, "Liebestraume" (Liszt) (H.M.V. Record C1307).
 9.41: Some humour—Mr. Alan McElwain.
 9.45: Tenor solo—Mr. Herbert Richards, "The Devout Lover" (White).
 9.49: Concerted vocal—Miss A. McGruer and Lyric Four, Excerpts from "The Pink Lady" (Carlyle).
 9.55: Ballet Suite—The Orchestra, "Ascanio Ballet Music, Part 2 (Saint-Saens):—
 1. Love appears to Psyche.
 2. Ensemble of Phoebe, Diane, Erigone, Nicoea and Bacchus with the Muses, Nymphs and Bacchantes.
 3. Variation—Love theme.
 4. Entrance of the Dragon of Hesperides carrying the Golden Apple.
 5. Goddesses, Bacchantes, Nyads and Dryads.
 10.5: God Save the King.

2YA, WELLINGTON (420 METRES)—TUESDAY, JANUARY 15.

- 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 Uncle Jim, assisted by pupils of Mrs. Theo Mills.
 7.0: News session, market reports and sports results.
 7.40: Lecturette by representative of Agricultural Department, "For the Man on the Land."
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—The Orchestra, "Finlandia" (Sibelius).
 8.10: Soprano solos—Miss Eva Bennett, (a) "The Pipes of Pan" (Moncton); (b) "The Flower Song" (Gounod).
 8.17: Hawaiian instrumental—Palmer's Hawaiian Trio (a) "Plantation Lullaby"; (b) "Girl of My Dreams."
 8.24: Song at the Piano—Mr. R. T. Robertson.
 8.31: Mandolin solos—Mr. Lad Haywood, (a) "Rain" (Ford); (b) "I Can't Do Without You."
 8.38: Tenor solo—Mr. G. Austin Blackie, "Mary of Argyle."
 8.42: Scottish comedian—Will Fyffe, "I Belong to Glasgow" (Fyffe) (Columbia Record 961).
 8.46: Mezzo-soprano solos—Mrs. C. H. Wood, (a) "Rose in the Bus" (Forster); (b) "One Fleeting Hour" (Lee).
 8.53: Suite—The Orchestra, "Suite le Cid" (Massenet).
 9.3: Weather forecast and announcements.
 9.5: March medley—H.M. Grenadier Guards Band, "Martial Moments" (arr. Winter) (Columbia Record 9065).
 9.9: Tenor solo—Mr. G. Austin Blackie, "Mary" (Richardson).
 9.13: The Orchestra—Repeat item.
 9.21: Song at the Piano—Mr. R. T. Robertson.
 9.28: 'Cello solo with orchestral accompaniment—Mr. George Ellwood, "Pre-lude et Clair de Lune" (Massenet).
 9.34: Mezzo-soprano solos—Mrs. C. H. Wood, (a) "Fleurlette" (McGeogh); (b) "Beautiful Garden of Roses" (Schmidt).
 9.41: Hawaiian Instrumental—Palmer's Hawaiian Trio, (a) "Honolulu Bay Waltz" (b) "Get Out and Get Under the Moon."
 9.48: Novelty—Miss Eva Bennett and Mr. Lad Haywood, (a) "Ramona" (Wayne); (b) "Jeanine, I Dream of Lilac Time" (Shilkret).
 9.54: Suite—The Orchestra, "Four Indian Love Lyrics" (Woodforde-Finden), (a) "Temple Bells"; (b) "Less than the Dust" (c) "Kashmiri Song"; (d) "Till I Wake."
 10.4: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—TUESDAY, JANUARY 15.

SILENT DAY.

4YA, DUNEDIN (463 METRES)—TUESDAY, JANUARY 15.

- 3 p.m.: Town Hall chimes.
 3.1: Gramophone concert.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's hour, conducted by Big Brother Bill.
 7.15: News session.
 7.30: Talk on Tourist Resorts by Mr. R. W. Marshall of the Government Tourist Office.

- 8.0: Town Hall chimes. Concert by the St. Kilda Band, under the conductorship of Mr. James Dixon, and assisting artists.
 8.1: March—The Band, "Shuniadinska" (Mirovitch).
 8.5: Selection—The Band, "Welsh Beauties" (Greenwood).
 8.14: Bass solos—Mr. W. B. Lambert, (a) "Floral Dance" (Moss); (b) "Shipmates of Mine" (Sanderson).
 8.21: Entertainer—Will Gardner, "That's Another One Gone" (Darewski) (Zonophone Record 5079).
 8.29: Mezzo-soprano solo—Miss Dorothy Sligo, "The Bird with a Broken Wing" (Golson).
 8.33: Waltz—The Band, "Ramona" (Wayne).
 8.37: Recitals—Mr. Lester Moller, (a) "History of a Musicbox" (Roberts); (b) "The Vampire" (Kipling).
 8.46: Hawaiian—Marimba Orchestra, (a) "Down Hawaii Way" (Heagney) (Zonophone Record 3852); (b) "When it's Love Time in Hawaii" (Heagney).
 8.54: Tenor solo—Mr. R. A. Mitchell, "Eleanore" (Coleridge-Taylor).
 9.0: Weather forecast and announcements.
 9.3: Overture—The Band, "Zitella" (Haigh).
 9.12: Baritone and quartet—John Goss and Cathedral Male Voice Quartet, "Shenandoah" (arr. Terry) (H.M.V. Record B2646).
 9.16: Bass solo—Mr. W. B. Lambert, "Coral Singers" (Bennett).
 9.20: Cornet solo with band accompaniment, "When You Come Home" (Squire).
 9.25: Intermezzo—The Band, "Evening Revels" (Ham).
 9.33: Mezzo-soprano solos—Miss Dorothy Sligo, (a) "June is in My Heart" (Vaughan); (b) "I Love the Moon" (Rubens).
 9.38: Chorus with orchestra—Sullivan Light Opera Company, Gems from "The Mikado" (Sullivan) (H.M.V. Record EB5).
 9.42: Waltz song—The Band, "De Pte" (Thurban).
 9.50: Recital—Mr. Lester Moller, "Mrs. McGregor at the Movies."
 9.54: Wurlitzer organ—Jesse Crawford, "Dancing Tambourine" (H.M.V. Record EA301).
 9.58: Tenor solos—Mr. R. A. Mitchell, (a) "Sea Fever" (Ireland); (b) "Long, Long Ago" (old English).
 10.4: March—The Band, "Elephant" (Hume).
 10.8: God Save the King.

Wednesday, January 16

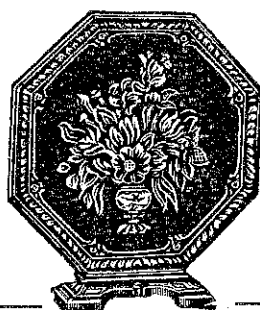
1YA, AUCKLAND (333 METRES)—WEDNESDAY, JANUARY 16.

- 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 Hobo.
 7.15: News and market reports.
 7.45: Talk by Mr. Norman Kerr on Physical Culture.
 8.0: Chimes.
 8.1: March—Auckland Salvation Army Congress Band, "Courage" (Marshall).
 8.9: Vocal duet—The Hazell-Sutherland Duo, "The Voyagers" (Sanderson).
 8.13: Humour—John Henry and Blossom, "Blossom's Film Scenario" (Henry and Reeve) (H.M.V. Record B2384).
 8.17: Selection—Auckland Salvation Army Band, "Love's Manifestation" (Kitching).
 8.27: Baritone solo—Mr. Hartley Warburton, "Fisherman, Thy Bait Now Lower" from "La Gioconda" (Ponchielli).
 8.32: Cornet solo with band accompaniment—Bandsman Goffin, "Silver Threads" (Arr. Twitcher).
 8.40: Contralto solo—Miss Phyllis Hazell, "Longing For You" (Fisher).
 8.44: Humour—"Golf" (Clapham and Dwyer) (Parlophone A2524).
 8.48: Reverie—Auckland Salvation Army Band, "Home, Sweet Home" (Arr. Leiden).
 8.56: Bass solo—Mr. Frank Sutherland, "Keep on Hopin'" (Heron-Maxwell).
 9.0: Weather forecast and announcements.
 9.2: March—Auckland Salvation Army Band, "Red Shield" (Goffin).
 9.10: Entertainer—Will Gardner, "That's Another One Gone" (Darewski) (Zonophone Record 5079).
 9.14: Contralto solo—Miss Phyllis Hazell, "Keep Inchin' Along" (Burleigh).
 9.18: Bass quartet—Salvation Army Band, "The Daughter of the Regiment" (Arr. Round).
 9.24: Baritone solos—Mr. Hartley Warburton, (a) "At Santa Barbara" (Russell); (b) "The Bandelero" (Stuart).
 9.31: Selection—Salvation Army Band, "American Melodies" Part 2. (Arr. Broughton).
 9.41: Male Chorus—The Revellers, "Was It a Dream?" (Coslow) (H.M.V. Record EA402).
 9.45: Bass solo—Mr. F. Sutherland, "A King's Man" (William).
 9.49: Air—Salvation Army Band, "My Homeward Journey" (Venderkam).
 9.54: Vocal Duet—Hazell-Sutherland Duo, "In Springtime" (Newton).
 9.58: March—Salvation Army Band, "Golden Stairs" (Ball).
 10.3: God Save the King.

2YA, WELLINGTON (420 METRES)—WEDNESDAY, JANUARY 16.

SILENT DAY.

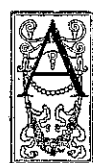
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WELLINGTON

3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, JANUARY 16.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's hour.
 7.15: News session.
 7.30: Addington stock market reports.
 8.0: Chimes.
 8.1: Overture—National Symphony Orchestra, "Orpheus in Hades" (Offenbach) (Zonophone Record EF16).
 8.7: Tenor solos—Mr. T. G. Rogers, (a) "Mary"; (b) "To Mary" (Voerge).
 8.13: Cornet solo—Jas. Compton, (a) "Because" (Tschmaker); (b) "Absence" (Glen and Metcalf) (Columbia Record O1169).
 8.17: Mezzo-soprano solo—Miss Lucy Fullwood, "Like to the Damask Rose" (Elgar).
 8.21: Orchestral selection—The Studio Orchestra (conductor, Mr. Harold Beck), "Zampa" (Herold).
 8.31: Recital—Rev. B. Dudley, "Old Boggies the Crossing Sweeper."
 8.38: Contralto solo—Miss Nellie Lowe, "Three Fishers" (Hullah).
 8.40: Selections—The Orchestra, (a) "Adieu" (Karganoff); (b) "Minuet" (Karganoff).
 8.47: Baritone solo—Mr. C. L. Richards, "The Lute Player" (Allitsen).
 8.52: Flute Quartets—London Flute Quartet, (a) "Carnival of Venice"; (b) "Variations on Scottish and Irish Airs" (Arr. Stainer) (Columbia Record 4155).
 8.56: Weather forecast and announcements.
 8.58: Talk on Astronomy—Rev. B. Dudley, F.R.A.S., "Telescopes and Observations."
 9.13: Harpsichord solo—Anna Linde, "Pastorale" (Scazzatti) (Parlophone Record E10524).
 9.17: Tenor and contralto duet—The Dulcet Duo, "Arise O Sun" (Day).
 9.21: Mezzo-soprano solos—Miss Lucy Fullwood, (a) "Ici Bas" (D'Hardelet); (b) "Butterfly Wings" (Phillips).
 9.27: Selection—The Orchestra, "Sullivan Selection."
 9.39: Tenor solo—Mr. T. G. Rogers, "If You Were Here" (Squire).
 9.43: Instrumental Trio—Edith Lorand Trio, "Melody in F" (Rubinstein) (Parlophone Record E10639).
 9.47: Contralto solo—Miss Nellie Lowe, "A Summer Night" (Thomas).
 9.51: Male Quartet—John Goss and Cathedral Male Quartet (a) "Shanadooah"; (b) "Rio Grande"; (c) "Billy Boy" (Arr. Terry) (H.M.V. Record B2646).
 9.55: Baritone solo—Mr. C. L. Richards, "The Devout Lover" (M.V. White).
 9.59: Chorus—La Scala Chorus of Milan, "Anvil Chorus" (Verdi) (Columbia Record O1032).
 10.3: God Save the King.

4YA, DUNEDIN (463 METRES)—WEDNESDAY, JANUARY 16.

- 7 p.m.: Town Hall Chimes.
 7.1: Request gramophone concert.
 7.40: News session, Burnside stock sales report.
 8.0: Town Hall Chimes.

Presentation by the 4YA Harmonists, under the direction of Mr. T. J. Kirk-Burnnand, of Sir Edward German's comic opera, "Merrie England."

Soprano Miss Mae Matheson
 Mezzo-soprano Miss Mollie Andrews
 Tenor Mr. H. A. Johnston.
 Baritone Mr. F. M. Tuohy.

Act I.**Opening Chorus**

Tenor and Baritone duet—"We are Two Proper Men."
 Hornpipe (chorus).
 Mezzo-soprano solo—"She Knoweth Better Now."
 Soprano and tenor duet—"Come to Arcadie."
 Baritone solo with chorus—"Yeomen of England."
 Mezzo-soprano solo with chorus, "O Peaceful England."
 Baritone solo with chorus—"King Neptune."
 Finale, Act I.

Act II.

Quartet—"In England, Merrie England."
 Tenor and baritone duet—"When its Played on a Big Brass Band."
 Soprano and tenor duet—"Tis There I'll Dream."
 Chorus and piano solo—"The Queen of May."
 Tenor solo—"Dan Cupid Hath a Garden."
 Baritone and chorus—"Two Merry Men a Drinking."
 Soprano solo—"O Who Shall Say That Love is Cruel."
 Baritone solo—"Perhaps You Don't Imagine."
 Egyptian Dance with Duet—"Ah."
 Finale, Act II.

- 8.50: Waltz—International Concert Orchestra, "The Skaters" (Waldteufel) (Zonophone Record EF6).
 9.0: Weather forecast and announcements.
 9.3: Bass solos—Mr. Neil Black, (a) "The Song of Hybrias the Cretan" (Elliott); (b) "Sleeping Camp" (St. Quentin).
 9.11: Pianoforte solo—Miss Aileen Young, "Album Leaves, 1 and 2" (Schumann).
 9.14: Salon Orchestra, "Glow Worm Idyll" (Lincke) (H.M.V. Record B2169).
 9.22: Recital—Miss Madge Yates, "Admiral's Orders."
 9.26: Maple Quartet—The Rounders, "Chlo-E" (Song of the Swamp) (H.M.V. Record EA402).

- 9.30: Violin solos—Miss Eva Judd, (a) "Serenata" (Moszkowski); (b) "Legende Op. 17" (Wieniawski).
 9.40: Bass solo—Mr. Neil Black, "The Mountains of Mourne" (Collinson).
 9.44: Recitals—Miss Madge Yates, (a) "My Financial Career" (Leacock); (b) "Kings" (Galsworthy).
 9.51: Violin solo—Miss Eva Judd, "Canzonetta" (d'Ambrosio).
 9.55: Foxtrot—Nat Shilkret's Orchestra, "Fascinating Vamp" (Missbaum) (H.M.V. Record EA367).
 10.0: Close down.

Thursday, January 17**1YA, AUCKLAND (333 METRES)—THURSDAY, JANUARY 17.**

- 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 Uncle Mack.
 7.15: News and market reports.
 8.0: Chimes.
 8.1: March—"Pomp and Circumstance," Pt. 1 (Elgar) (H.M.V. Record D1102).
 8.9: Baritone solo—Mr. Thomas Bradley, "Bird Songs at Eventide" (Coates).
 8.13: Instrumental trio—Auckland Trio, "First Movement, Trio No. 4" (Mozart).
 8.22: Contralto solo—Madame Irene Ainsley, "My Ships" (Barrett).
 8.27: Waltz—International Concert Orchestra, "La Spagnola" (The Spanish Dancer) (De Chiara) (Zonophone Record EF15).
 8.31: Elocutionary—Miss Gladys Gammon, "England's Emblem."
 8.36: Violin solo—Miss Ina Bosworth, "Berenice Minuet" (Handel).
 8.40: Choral with orchestra—Chorus and London Symphony Orchestra, "For we are Afar in the Dim Ages Lying" (Elgar) (H.M.V. Record D1347).
 8.48: Tenor solo—Mr. Jack Maddox, "My Dreams" (Tosti).
 8.52: Instrumental trio—Auckland Trio, "Serenade" (Widor).
 9.1: Weather forecast and announcements.
 9.3: Orchestral—Royal Opera Orchestra, "Sylvia Ballet": (1) Intermezzo and Valse Lente; (2) Prelude (Delibes) (H.M.V. Record C1417).
 9.7: Elocutionary—Miss Gladys Gammon, "Death of Minnehaha."
 9.12: Soprano solo—Mrs. H. Millburn, "Solveig's Song" (Grieg).
 9.16: Presentation of excerpts from "Merrie England" (German), produced under the direction of Madame Irene Ainsley.
 (The story of "Merrie England" is laid in the glorious days of Queen Elizabeth, who, together with those famous personages of her reign, the Earl of Essex and Sir Walter Raleigh, appear in the opera, the scene of which is laid in the heart of mediaeval England, by the Thames near Windsor.)

Cast:

Contralto Madame Irene Ainsley
 Soprano Mrs. H. Millburn
 Tenor Mr. J. Maddox
 Baritone Mr. Thomas Bradley

Quartet—"Love is Meant to Make Us Glad."
 Ballad—"She Had a Letter from Her Love."
 Duet—"When True Love Has Found a Man."
 Baritone solo—"Yeomen of England."
 Chorus—"God Save Elizabeth."

Entr'acte—"Merrie England" (German) (H.M.V. Record).
 Contralto solo—"O Peaceful England."
 Quartet—"It is a Tale of Robin Hood."
 Duet—"It is the Merry Month of May."
 Song—"Dan Cupid hath a Garden."

Entr'acte—"Sylvia Ballet" (Delibes) (Pizzicato and Procession of Bacchus).
 Waltz song—"O Who Shall Say?"
 Quartet—"In England, Merry England."
 10.0: God Save the King.

2YA, WELLINGTON (420 METRES)—THURSDAY, JANUARY 17.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's hour—Aunt Gwen, assisted by pupils of Mrs. MacKay and Miss Ivy Hoare.
 7.0: News session, market reports, and sports results.
 7.40: Lecture—Mr. Alfred Blaxall, "Health and Happiness Through Right Living."
 Studio concert by the City Silver Band (Conductor, Mr. H. Baker) and assisting artists.
 8.0: Chimes of the G.P.O. clock.
 8.1: March—City Silver Band, (a) "Heroes of Liberty" (Rimmer); (b) "La Gipsy" (Rimmer).
 8.16: Mezzo-soprano solos—Madame Aileen Johns, (a) "The Last Song" (Rogers); (b) "Wake Up" (Phillips).
 8.23: Baritone solo—Mr. Ray Kemp, "The Mountains of Mourne" (Collinson).

- 8.27: Cornet solo—Bandsman V. McPherson, "The Nightingale" (Moss).
 Selection—City Silver Band, "Songs of Sentiment" (Balfe).
 8.44: Contralto—Miss Rita Arnold, "Trees" (Rasbach).
 8.47: Elocutionary—Mr. J. S. Webb, "Waterloo" (Byron).
 9.2: Tenor solo—Mr. E. W. Robbins, "Cara Mia" (Russell).
 9.58: March—City Silver Band, "Galvini" (Lithgow).
 9.1: Weather report and announcements.
 9.3: Soprano solos—Madame Alleen Johns, (a) "Gretchen at the Spinning Wheel" (Schubert); (b) "An Indian Lullaby" (Orlando Morgan).
 9.10: Vocal duet—Miss Rita Arnold and Mr. Ray Kemp, "Nocturne" (Denza).
 9.14: Hymn—City Silver Band, "Nearer My God to Thee."
 9.19: Tenor solos—Mr. E. W. Robbins, (a) "Birds in the Nest" (Choveaux); (b) "Serenata" (Toselli).
 9.25: Contralto solo—Miss Rita Arnold, "My Dreams" (Tosti).
 9.29: Waltz—City Silver Band, "River of Pearls" (Rimmer).
 9.36: Elocutionary—Mr. J. S. Webb, "Introduction to Ginger Mick" (Dennis).
 9.41: Baritone—Mr. Ray Kemp, "Five and Twenty Sailors" (Coleridge-Taylor).
 9.45: Selection—City Silver Band, "Knight Errant" (Lithgow).
 March—City Silver Band, "Powerful" (Carter).
 10.0: God Save the King.

3 CHRISTCHURCH (306 METRES)—THURSDAY, JANUARY 17.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's hour.
 7.15: News session.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington (conditions permitting).
 8.7: Vocal quartet—The Melodious Four, (a) "If All the Seas Were One Sea" (from "Nursery Rhymes"); (b) "Trotter Little Tune" (Davies).
 8.12: Violin solo—Miss Irene Morris, "Air" (Goldmark).
 8.16: Soprano solo—Miss Frances Hamerton, "Shepherdess of the Fields" (Tiersot).
 8.20: Pianoforte solo—Miss Dorothy Davies, "Scherzo in C Sharp Minor" (Chopin).
 8.25: Tenor solos—Mr. Russell Sumner, (a) "Blow, Blow" (Quilter); (b) "Take, O Take Those Lips Away" (Quilter).
 8.30: Instrumental trio—Christchurch Broadcasting Trio, "Presto from 3rd Trio" (Lalo).
 8.40: Contralto solos—Miss Belle Renaut, (a) "None but an Aching Heart" (Tchaikowsky); (b) "A Little Birdie" (Puccini).
 8.44: Selection—San Francisco Symphony Orchestra, "Caprice Viennois" (Kreisler) (H.M.V. Record D1272).
 8.48: Baritone solo—Mr. T. D. Williams, "The Song of the Breakers" (Gordon).
 8.52: Grand organ solo—G. T. Pattman, "Prelude in C Sharp Minor" (Rachmaninoff) (Columbia Record O2686).
 8.56: Soprano and baritone duet—The Dolce Duo, "A Lake and a Fairy Boat" (Lehmann).
 9.0: Weather report and announcements.
 9.1: Overture—Grand Symphony Orchestra, "Light Cavalry" (Suppe) (Parlophone Record A4001).
 9.6: Vocal quartet—The Melodious Four, "Dame Durden" (Harrington).
 9.10: Violin solo—Miss Irene Morris, "Allegretto" (Bocherini—Kreisler).
 9.14: Soprano solos—Miss Frances Hamerton, (a) "A Lullaby" (Arnold Bax); (b) "Blackbird" (Fritz Hart).
 9.19: Selections—New Light Symphony Orchestra, (a) "Barcarolle" (Offenbach); (b) "Intermezzo from Cavalleria Rusticana" (H.M.V. Record B2377).
 9.23: Tenor solo—Mr. Russell Sumner, "Barbara Allan" (Quilter).
 9.27: Instrumental trios—Christchurch Broadcasting Trio, (a) "Minuet in G" (Beethoven); (b) "Valse of the Flowers" (Tchaikowsky).
 9.35: Contralto and tenor duet—The Melodious Duo, "The Suit of Russet Brown" (Rowley).
 9.39: Instrumental octet—J. H. Squire Celeste Octet, "La Serenata" (Angels' Serenade) (Braga) (Columbia Record 9116).
 9.43: Contralto solo—Miss Belle Renaut, "Thou Art so Like a Flower" (Liszt).
 9.47: Selection—Philadelphia Symphony Orchestra, "Hungarian Rhapsody No. 2" (Liszt) (H.M.V. Record D1296).
 9.51: Baritone solo—Mr. T. D. Williams, "Linden Lea" (Williams).
 Followed by Vocal quartet—The Melodious Four, "Cradle Song" (Brahms).
 Close down.

4YA, DUNEDIN (463 METRES)—THURSDAY, JANUARY 17.

SILENT DAY.

Friday, January 18

1YA, AUCKLAND (333 METRES)—FRIDAY, JANUARY 18.

- 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 Nod and Aunt Jean.
 7.15: News and market reports.

- 8.0: Chimes.
 8.1: Overture—"Der Freischutz" (Weber), the Orchestra.
 8.10: Vocal quartet—Clarion Quartet, "The City Choir" (Parks).
 8.14: Bass solo—Mr. Duncan Black, "Hail, Caledonia" (Old Scottish).
 8.18: Pianoforte concerto—Ignaz Friedman, "Concerto in A Minor—1st Movement" (Grieg) (Columbia Records 02702/3).
 8.32: Vocal duet—Miss Beryl Smith and Mr. J. Simpson, "Wicked Cupid" (Trotter).
 8.36: Violin solo with orchestral accompaniment—The Orchestra, "Hymn to The Sun" (Rimsky-Korsakov).
 Orchestral—The Orchestra, "Sleeping Beauty" (Tchaikowsky).
 8.44: One Act Play, Auckland Comedy Players, under Mr. J. F. Montague, "The Banns of Marriage" (Lee).
 9.14: Weather report and forecast.
 9.16: Soprano solo—Miss Alma McGruer, "A Bowl of Roses" (Clarke).
 9.20: Ballet Suite—"Ballet Egyptien" (Luigini), The Orchestra.
 9.29: Tenor solo—Mr. James Simpson, "Youth and Spring" (Steinel).
 9.33: Pianoforte solo—Mr. Cyril Towsey, "Nocturne in F Sharp Major" (Chopin).
 9.37: Vocal duet—Miss Alma McGruer and Mr. D. Black, "Allan Water" (Newton).
 9.41: One Act Play, Auckland Comedy Players, "The Right Touch."
 9.55: Contralto solo—Miss Beryl Smith, "The Carpet" (Sanderson).
 9.58: Vocal quartet—Clarion Quartet, "The Angelus" from "Maritana" (Wallace).
 10.2: Musical comedy—The Orchestra, "Maid of the East" (Morgan).
 10.10: God Save the King.

2YA, WELLINGTON (420 METRES)—FRIDAY, JANUARY 18.

- 3 p.m.: Chimes of the G.P.O. clock, Wellington.
 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 sporting results.
 7.40: Lecturette—Mr. W. J. Fergie, "The People's Railways."
 Special programme by the Strollers Concert Party
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—The Orchestra, "Pique Dame" (Suppe).
 8.9: Twenty minutes' entertainment by the Strollers.
 Chorus—The Company, "Pretty Little China Girl" (Kerker)
 Song—"One Hour" (Longstaffe).
 Song—"Looking for a Boy" (Gershwin).
 Sketch—"Some Nonsense."
 8.29: Novelty—The Orchestra, "Voice of the Bells" (Thurnan).
 8.37: Vocal trio—"Climbin' Up De Golden Stairs" (Dalhart) (H.M.V. Record EA382).
 8.41: Bell solo—Billy Whitlock, "The Joker" (Parlophone Record A2503).
 8.45: Further entertainment by the Strollers.
 Chorus—"We're Getting Away With It" (Tierney).
 Song—"Drake Goes West" (Sanderson).
 Solo—"Indian Love Call" from "Rose Marie" (Friml).
 9.0: Weather report and announcements.
 9.1: The Orchestra, Repeat Item.
 9.9: Chorus—Sullivan Light Opera Company, "Gems from the Student Prince" (Romberg) (H.M.V. Record EB7).
 9.14: Clarinet solo with orchestral accompaniment—Mr. A. H. Wright, "Open Thy Blue Eyes" (Massenet).
 Cornet solo with orchestral accompaniment, "Roberto O Tu Che Adoro" (Meyerbeer).
 9.22: The Strollers.
 Solo—"There is a Lady" (Purcell).
 Sketch—"The Parting" (Peach).
 Solo—"The Fishermen of England" (Phillips).
 Light vocal—"Honolulu Blues" (Goldstein).
 9.42: Entr'acte—The Orchestra, "Humoresque" (Dvorak).
 9.46: Duet for two piccolos—"Rippling Streams" (Gemmin) (Columbia Record 02575).
 9.50: Selection—The Orchestra, "Genevieve de Brabant" (Offenbach).
 10.0: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—FRIDAY, JANUARY 18.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's hour.
 7.15: News session.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington (conditions permitting).
 8.6: Vocal quartet—The Valencia Quartet, "Sweet and Low" (Barnby).
 Soprano solo—Miss Renetta Rings, "The Pipes of Pan" (The Arcadians) (Monekton).
 8.13: Cello solo—Mr. Harold Beck, "Melodie" (Purcell).
 8.17: Tenor solo—Mr. W. Bradshaw, "Believe Me, if all Those Endearing Young Charms" (Boosey).
 8.21: Humorous talk—Mr. George Titchener, "A Few Moments of Mirth" (MS.).
 8.25: Contralto solo—Miss Anita Graham, "Good-day, Said the Blackbird" (Geehl).

- 8.29: Instrumental trio—Christchurch Broadcasting Trio, (a) "Russian Valse Hornpipe, and Military March" (Frank Bridge).
 8.39: Soprano and bass duet—The Valencia Duo, "Barcarolle" (from "Tales of Hoffman" (Offenbach)).
 8.43: Wurlitzer organ solos—Jesse Crawford, (a) "Dancing Tambourine"; (b) "Mary" (Donaldson) (H.M.V. Record EA301).
 8.48: Humorous songs—Mr. Jock Lockhart, "Pennsylvania" (Weston Lee).
 8.53: Baritone solo—Mr. F. A. Millar, "The Young Royalist" (Adams).
 8.57: Weather report and announcements.
 8.58: Overture—National Military Band, (a) "National Emblem March" (Bagley); (b) "Stars and Stripes Forever" (Sousa) (Columbia Record 01153).
 9.6: Vocal quartette—The Valencia Quartet, "The Catastrophe" (Sprague). Soprano solo—Miss Renetta Rings, "The Waters of Minnetonka" (Lieurance).
 9.13: Cello solo—Mr. Harold Beck, "Mazurka" (Popper).
 9.17: Tenor solo—Mr. W. Bradshaw, "Come into the Garden Maud" (Balfe).
 9.21: Humorous talk—Mr. George Titchener, "A Few More Mirthful Moments" (MS.).
 9.25: Contralto and tenor duet—The Valetta Duo, "Home to our Mountains" (from "Il Trovatore") (Verdi).
 9.29: Instrumental trios—Christchurch Broadcasting Trio, (a) "Chant D'Automne" (Tschalkowsky); (b) "Hungarian Dance in G Minor" (Brahms).
 9.37: Contralto solo—Miss Anita Graham, "When Maybells Ring" (Newton).
 9.41: Balalaika Orchestra—Kirilloff's Balalaika Orchestra, (a) "Shining Moon"; (b) "Song of the Volga Boatmen" (H.M.V. Record EA48).
 9.46: Humorous songs—Mr. Jock Lockhart, (a) "The Grizzly Bear" (Whelan); (b) "Treacle Pudding" (Weston and Lee).
 9.54: Baritone solo—Mr. F. A. Millar, "True Till Death" (Scott Gatty).
 9.58: Waltz—Symphony Orchestra, "Blue Danube" (Strauss) (Columbia Record 9218).
 Close down.

4YA, DUNEDIN (463 METRES)—FRIDAY, JANUARY 18.

- 3 p.m.: Town Hall chimes.
 3.1: Gramophone concert.
 3.30: Afternoon tea music from the Savoy.
 3.40: Studio music.
 4.0: Music from the Savoy.
 4.10: Gramophone items.
 4.25: Sporting results.
 4.30: Close down.
 6.0: Chimes. Children's hour—conducted by Auntie Sheila and Big Brother Bill.
 7.15: News session.
 7.30: Book reviews by Mr. H. Greenwood, of the Dunedin Athenaeum.
 8.0: Town Hall chimes.
 8.1: March—Royal Opera Orchestra, "March Militaire" (Schubert) (H.M.V. Record C1279).
 8.9: Contralto solos—Miss Irene Horniblow, L.R.A.M., (a) "Home, Little Maori Home" (Hill); (b) "Maori Slumber Song" (Te Rangī Pahi).
 8.15: Violin, flute and harp trio—Neapolitan Trio, "Simple Aven" (Thome) (H.M.V. Record B2404).
 8.19: Baritone solo—Mr. Murray Hood, "Friend" (Davis).
 8.22: Violin solo—Jascha Heifetz, "Ave Maria" (Schubert) (H.M.V. Record DB1047).
 8.26: Mezzo-soprano solos—Miss Evelyn Sheppard, (a) "Charming Chloe" (German); (b) "Now Sleeps the Crimson Petal" (Quilter).
 8.32: Pianoforte solo—Miss Aileen Young, "Poupee Valsante" (Poldini).
 8.36: Contralto solo—Miss Irene Horniblow, "Little Coon's Prayer" (Hope).
 8.39: Orchestral—San Francisco Symphony Orchestra, "Caprice Viennois" (Kreisler) (H.M.V. Record D1272).
 8.47: Baritone solos—Mr. Murray Hood, (a) "I Am Safe" (Hamblin) (b) "My Prayer" (Squire).
 8.53: Chorus—Victor Mixed Chorus, "Anvil Chorus" (Verdi) (H.M.V. Record EA89).
 8.57: Mezzo-soprano solo—Miss Evelyn Sheppard, "Damon" (Strang).
 9.0: Weather forecast and announcements.
 9.3: March—Royal Opera Orchestra, "Marche Hongroise" (Berlioz) (H.M.V. Record C1279).
 9.11: Relay of dance music from the Savoy.
 10.0: God Save the King.

Saturday, January 19

1YA, AUCKLAND (333 METRES)—SATURDAY, JANUARY 19.

- 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: Orchestral—"Maritana" (Wallace) (Columbia Record 02682).
 8.9: Vocal duo—Bohemian Duo, (a) "Charmaine" (Leazer); (b) "Since I Found You" (Woods).

- 8.17: Instrumental trio—Auckland Trio, "First Movement, Trio No. 1" (Beethoven).
 8.26: Medley waltz—Rio Marimba Orchestra, "My Isle of Golden Dreams" (Blaufuso) (Columbia Record 02685).
 8.30: Soprano solo—Miss Sophie Vivian, "Ma Curly-Headed Babby" (Clutsam).
 8.35: Humour—Monty, "The Near East" (Milton Hayes) (Columbia Record 3233).
 8.39: Cello solo—Miss Molly Wright, "Adagio" (Bargiel).
 8.44: Vocal duo—Bohemian Duo, (a) "Just Wondering" (Henderson); (b) "Behind the Clouds" (Hooper).
 8.52: Male chorus—Goodrich Silverton Quartet, "Under the Clover Moon" (Healy) (Columbia Record 01192).
 9.0: Weather forecast and announcements.
 9.3: Monologues—Miss Sophie Vivian, (a) "Five Little Piccaninies" (Bowles); (b) "If You Hadn't Gone Away" (Henderson).
 9.11: Soprano and male quartet—Norah Blaney and the Ramblers, "Sweet Suzanne" (Leslie and Gilbert) (Columbia Record 01170).
 9.15: Instrumental Trio—Auckland Trio, "Humoresque" (Grieg).
 9.24: Programme of Dance Music.
 11.0: God Save the King.

2YA, WELLINGTON (420 METRES)—SATURDAY, JANUARY 19.

- 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 Uncle Toby and Aunt Gwen.
 7.0: News session, market reports and sporting results.
 8.0: Chimes of the G.P.O. clock.
 8.1: March—The Orchestra, "Ole South" (Zamecnik).
 Waltz—The Orchestra, "The Skater's Waltz" (Waldteufel).
 8.9: Quartet—The Melodie Four, "Peter the Cat" (Eastman).
 8.13: Saxophone solo—Rudy Wiedoft, "Sax-o-phun" (Wiedoft) (Columbia Record 4087).
 8.17: Tenor solo—Mr. Frank Bryant, "A String of Pearls" (Phillips).
 8.21: Contralto solo—Mrs. P. M. Jackson, "Hills of Donegal" (Sanderson).
 8.23: Hawaiian—Xylo Rimba Orchestra, (a) "Sweet Hawaiian Dreams"; (b) "Sunny Smiles of Hawaii" (Columbia Record 3921).
 8.29: Quartet—The Melodie Four, "Slow River" (arr. Crowther).
 8.33: Xylophone with orchestra—W. W. Bennett and Bournemouth Orchestra, "Gee Whizz!" (Brooke) (Columbia Record 02575).
 8.37: Humour—Mr. Jack Wilkinson, "Bachelors" (Shand).
 8.43: Baritone solo—Mr. R. S. Allwright, "The Village Blacksmith" (Weiss).
 8.47: Novelty—The Orchestra, "A Southern Wedding" (Lotter).
 9.0: Weather forecast and announcements.
 9.2: Chorus—Zonophone Light Opera Company, "Gems from 'The Pirates of Penzance'" (Sullivan) (Zonophone Record A332).
 9.6: Tenor solo—Mr. Sam Duncan, "When C'her Lips" (Balfe).
 9.10: The Orchestra—Repeat item.
 9.18: Contralto solo—Mrs. P. M. Jackson, "Absent" (Metcalf).
 9.22: Wurlitzer organ solo—Reginald Foort, "By the Blue Hawaiian Waters" (Ketelby) (H.M.V. Record C1459).
 9.26: Musical comedy selection—The Orchestra, "Waltz Dream" (Strauss).
 9.36: Humour—Mr. Jack Wilkinson, "I'm a Dadda" (Pleasants).
 9.42: Bass solo—Mr. W. W. Marshall, "The Jungle Song" (Hiscocks).
 9.46: Quartet—The Melodie Four, "Home, Little Maori, Home" (Hill, arr. Barnes).
 9.50: The Orchestra—Foxtrot novelties.
 10.0: Dance programme.
 11.0: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—SATURDAY, JANUARY 19.

- 3 p.m.: Afternoon session—Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's hour.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington (conditions permitting).
 10.0: Dance music.
 Weather report and announcements.
 11.0: Close down.

4YA, DUNEDIN (463 METRES)—SATURDAY, JANUARY 19.

- 7.15: News session.
 8.0: Town Hall chimes.
 8.1: Orchestral music relayed from the Octagon Theatre.
 8.11: Humorous Scottish songs—Mr. J. Paterson, (a) "The Picnic" (Lauder); (b) "When McKie Started to Learn to Play the Bagpipes" (Fyffe).
 8.19: Foxtrots—Paul Whiteman's Orchestra, (a) "Dixie Dawn" (Trent and De Rose) (H.M.V. Record EA386); (b) "Louisiana" (Razaf).
 8.27: Popular song—Miss Betty Roberts, "If Winter Comes" (Tennent).
 8.30: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.
 8.40: Orchestral overture under the baton of Monsieur Henri De Rose, Mus. Bac., relayed from the Octagon Theatre.
 8.55: Old popular songs—Mr. Norman Scurr, (a) Hello, Hello, Who's Your Lady Friend? (Fragson); (b) "You Great Big Wonderful Baby" (Ayers).
 9.3: Weather forecast and announcements.

- 9.5: Waltz—International Concert Orchestra, "Gipsy Love" (Lehar) (Zonophone Record EP17).
 9.9: Popular song hit—Miss Minna Ahlers, "Anything You Say" (Donaldson).
 9.13: Foxtrot—Paul Whiteman and his orchestra, "My Pet" (Ager) (H.M.V. Record EA378).
 9.17: Humorous Scottish song—Mr. J. Paterson, "We All Go the Same Way Home" (Lauder).
 9.21: Hawaiian—Clark's South Sea Islanders, "Uluwehi O Kaala" (Beautiful Kaala) (Bories) (Columbia Record 01225).
 9.24: Popular song numbers—Miss Betty Roberts, (a) "Beside the Babbling Brook" (Donaldson); (b) "Caring for the Rose" (Sharp).
 9.31: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.
 9.41: Old popular song—Mr. Norman Scurr, "All Aboard for Dixie" (Cobb).
 9.45: Saxophone solo—Rudy Wiedoft, "Sax-o-phun" (Wiedoft) (Columbia Record 4087).
 9.49: Popular song hits—Miss Minna Ahlers, (a) "You Wore a Tulip, and I Wore a Big Red Rose" (Wenrishi); (b) "Fair Hawaii."
 9.54: March—Columbia Symphony Orchestra, "March of the Toys" (Herbert) (Columbia Record 02651).
 10.0: God Save the King.

Sunday, January 20

1YA, AUCKLAND (333 METRES)—SUNDAY, JANUARY 20.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.8: Further studio items.
 4.30: Close down.
 6.0: Children's hour—conducted by Uncle Leo.
 6.55: Relay from Pitt Street Methodist Church of evening service (Preacher, Rev. Lionel Dalby; organist, Mr. R. B. Bickerton; choir-master, Mr. W. Leather).
 8.30: Orchestral—"Lilac Time" (Schubert) (Columbia Record 02699).
 8.38: Baritone solo—Mr. Norman Day, "King Charles" (White).
 8.42: Pianoforte solo—"Rosamunde Ballet Music" (Schubert) (Columbia Record 04172).
 8.46: Vocal duet—Mr. Norman Day and Madame Cora Melvin, "A May Morning" (Denza).
 8.50: Orchestral—"In a Monastery Garden" (Ketelby) (Columbia Record 02688).
 8.58: Soprano solos—Madame Cora Melvin, (a) "Will o' the Wisp" (Spross); (b) "Sing, Joyous Bird" (Phillips).
 9.3: Weather forecast and announcements.
 9.6: Trio and chorus—"Toreador's Song" from "Carmen" (Bizet) (Columbia Record 04173).
 9.9: Pianoforte solo—"Liebestraume" (Liszt) (Columbia Record 04097).
 9.13: Baritone solo—Mr. Norman Day, "Lindy" (Spross).
 9.17: Orchestral—"In a Fairy Realm" (Ketelby) (Columbia Record 02694).
 9.25: Vocal duet—Mr. Norman Day and Madame Cora Melvin, "For You Alone" (Geell).
 9.30: God Save the King.

2YA, WELLINGTON (420 METRES)—SUNDAY, JANUARY 20.

- 3 p.m.: Selected gramophone items.
 4.30: Close down.
 6.0: Children's song service conducted by Uncle George, assisted by St. Matthew's Sunday School Choir.
 7.0: Relay of evening service from St. John's Presbyterian Church (Preacher, Rev. J. R. Blanchard, B.A.; organist and choir-master, Mr. C. W. Kerry).
 8.15 (approx.): Studio concert.
 Prelude—London Symphony Orchestra, "Prelude to 'Lohengrin'" (Wagner) (H.M.V. Record D1258).
 Baritone solo—Mr. Charles Clark, "The Glory of the Sea" (Sanderson).
 Violin solo—Albert Sammons, "Londonderry Air" (Columbia Record 03525).
 Mezzo-soprano solo—Miss Ngaire Coster, "What a Wonderful World It Would be" (Lohr).
 Choral—Royal Philharmonic Society of Sydney, "Thanks Be to God," from "Elijah" (Mendelssohn) (Columbia Record 02532).
 Soprano solo—Miss Eileen Kimbell, "Lord of Our Chosen Race," from "Ivanhoe" (Sullivan).
 String quartet—Elman String Quartet, "Quartet in A Minor" (Schubert) (H.M.V. Record DB652).
 Contralto solo with 'cello obbligato—Sophie Braslau, "Yohrzeit" (Silberta) (H.M.V. Record DB164).
 March—Symphony Orchestra and Chorus, Act 4, "Carmen" (H.M.V. Record D1047).
 Tenor solo—Browning Mummery, "Now Sleeps the Crimson Petal" (Quilter) (H.M.V. Record B2355).
 Mezzo-soprano solo—Miss Ngaire Coster, "Lullaby" (Brahms).
 Choral—Royal Philharmonic Society of Sydney, "O Gladsome Light" (Sullivan) (Columbia Record 02532).
 Baritone solos—Mr. Charles Clark, (a) "Melisande in the Wood" (Goetz); (b) "Parted" (Tosti).
 Pianoforte solo—Poulshnoff, "Caprice in G Major" (Paderewski) (Columbia Record 03527).

- Soprano solos—Miss Eileen Kimbell, (a) "Swift the Hours" (Mabey); (b) "A Memory" (Park).
 Trio—Caruso, Journet and Scotti, "Duel Scene" from "Faust" (Gounod) (H.M.V. Record D0100).
 Band—Band of H.M. Coldstream Guards, "Conqueror March" (Ord Hume) (H.M.V. Record B1447).
 God Save the King.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, JANUARY 20.

- 3 p.m. Afternoon session—Gramophone recital (electrically reproduced).
 4.30: Close down.
 5.30: Children's song service.
 6.30: Gramophone recital (electrically reproduced).
 7.0: Relay of evening service from Holy Trinity Church, Avonside (Preacher, Rev. O. Fitzgerald; organist, Mr. Arthur Lilley, A.R.C.O.).
 8.15 (approx.): Studio programme:
 Overture—Columbia Symphony Orchestra, "Poet and Peasant" (Suppe) (Columbia Record 02618).
 8.23: Mezzo-soprano solos—Mrs. G. L. Bull, (a) "In the Dusk" (Tate); (b) "All Roads Lead Home" (Tate).
 8.27: Organ solo G. T. Pattman, "Humoresque" (Dvorak) (Columbia Record 02686).
 8.35: Contralto solo—Miss Elizabeth Vass, "Out on the Rocks" (Sainton Dolby).
 8.39: String quartet—Lener String Quartet, "Quartet in D—Andante Cantabile" (Tschalkowsky) (Columbia Record L1803).
 8.47: Mezzo-soprano solos—Mrs. G. L. Bull, (a) "Oh, But I Express in Song" (Malashkin); (b) "Stay With Me, Summer" (Morris).
 8.53: Violin solo—Jascha Heifetz, "Ave Maria" (Schubert) (H.M.V. Record DB283).
 9.1: Contralto solos—Miss Elizabeth Vass, (a) "Beloved, Sleep" (Slater); (b) "Homeland" (Drummond).
 9.5: Selection—Band of H.M. Grenadier Guards, "Near, My God, to Thee" (Dykes) (Columbia Record 0967).
 9.8: Tenor solo—Turner Layton, "Were You There?" (negro spiritual) (Columbia Record 1248).
 Vocal duet—Layton and Johnson, "Ev'ry Time I Feel the Spirit" (negro spiritual) (Columbia Record 1248).
 9.13: Selection—Chicago Symphony Orchestra, "Valse Triste" (Sibelius) (H.M.V. Record ED5).
 9.17: Chorus—Opera Comique, Paris, "Opening Chorus from 'Cavalleria Rusticana'" (Mascagni) (Parlophone Record A4028).
 9.21: 'Cello solo—"Slumber Song" (Squire) (Columbia Record L1759).
 9.25: Baritone solo—Fraser Gange, "Slumber On, My Little Gipsy Sweetheart" (Columbia Record 02574).
 9.29: March—Royal Opera Orchestra, "Marche Militaire" (Schubert) (H.M.V. Record C1279).
 9.33: God Save the King.

4YA, DUNEDIN (463 METRES)—SUNDAY, JANUARY 20.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from Hanover Street Baptist Church (Preacher, Rev. A. H. Wallace).
 8.0: Relay from St. Kilda (weather permitting) of concert by the St. Kilda Band.
 9.15: Weather forecast and announcements.
 9.17: God Save the King.

The Cathedral and the Popular Feature in Australian Broadcasting

TIME was when men would build their city around the massive pile of the cathedral or the parish church, in such wise that the House of God towered high above all the town and all the countryside, and the houses of men, clustered around, seemed by their relative lowliness to be paying reverence to its dignity and sanctity. Thereby, consciously or unconsciously, our forefathers expressed in symbolic fashion the place which worship and the service of God must occupy in every ordered life, as the force which should dominate, pervade, elevate, sanctify all the manifold activities of men. Our modern civilisation prefers to rear its cities around the factory chimney; and perhaps this too is a symbol, a sign of the changed view of life in which God and His supreme claims find little place.—The Rev. W. T. C. Sheppard, Liverpool.

NICHOLAS ROBINS, the well-known Wurlitzer organist, who arranges many popular recitals from the Arcadia Theatre, Chatswood, which are broadcast by 2BL Sydney, hails from Queensland. In the northern State he was a very busy man in matters musical, being actively engaged in church work and teaching.

SINCE coming to Sydney in 1921, Mr. Robins has become one of the most popular of our "air" organists. He has many compositions to his credit, and his work, which is of a high artistic standard, is always anticipated with pleasure. His recital on Sunday afternoon last provided listeners with an hour's musical treat.

MILAN has one of the best broadcasting stations in Europe. It transmits on two wave-lengths and has a power of 20 kilowatts.

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.

Suggestions for Call Signs.

I ALSO notice a letter giving suggestions for call signs of the New Zealand stations. To begin with, I consider a short, snappy distinguishable sound made by the touch of a button, would be the most appropriate. 1YA seems to be able to raise some big fires; why not an electric siren? 2YA, plenty of motor-traffic passing the studio; why not an auto-horn preferably of the saxophone type. 3YA wants bells, being the cathedral city; why not an electric auto-bell? Chimes would be little better than the ordinary announcement from a time-saving viewpoint. As for 4YA I leave that to some South Islander, but perhaps the following may be helpful. First study the jazz band effect rack, comprising bass drum, side drum, rattle, baby-cry, growler, triangle, cymbal, cow-bell, cock-crow, cuckoo, ("one-man jazz") kazoo, nightingale, and swanee whistle. There are hosts of whistles and motor-horns of different sounds. Perhaps Mr. Announcer may be of the jovial type and would prefer to laugh into the "miko." Trusting that if the above are not suitable, they may lend ideas for further suggestions.—A.B. (Dannevirke).

R.B.C. Service Appreciated.

I HAVE for some time had a mind to write you a word of congratulation to the R.B. Company, on the increasing excellence of their broadcasting service, and the splendid fare provided by their four stations. Of course 2YA hold premier position, still the other stations provide attractive programmes, which only lack the power to put them over to distance listeners. I have often wished I could shake hands with many performers and congratulate them. I had not intended to mention any particular performance as one and all with few exceptions provide first-class items, but I cannot resist handing a bouquet to the 2YA orchestra on the general excellence of their items. This letter is written after reading your article on "Ready to Raid Listeners' Funds." Your article is timely and to my mind states the case very fairly, and I believe you will receive the backing of all unprejudiced listeners.—T. WALKER (Winton).

An Appreciation.

THOUGH rather late, I am writing to tell you how very much we enjoyed the most beautiful music given by 2YA, Wellington, Sunday, December 22, by the choir of St. Mary of the Angels. It was just perfect—a very great treat, such exquisite rendering and very lovely music! I do not think we have ever enjoyed anything so much before and hope very much that we may be privileged to hear the choir of St. Mary of the Angels again. I should also like to tell you how very much we all enjoy your afternoon concerts. We live in the country and all look forward immensely to the afternoon and Wednesday is a sad day! All are glad when it's over. We do congratulate you very heartily on the announcing of 2YA. It's quite the best we hear—always clear and well given. With congratulations.—I. J. BLYTH (Dannevirke).

Mr. Dawson's Lectures.

I WISH—and I feel sure many others do—that you could see your way to publish the remaining lectures of Mr. Dawson's on "Valves," set down for October 27, and November 24. I found those that were published of particular interest and was looking forward to the final ones, to which I presume the first three were more or less introductory. It is of course impossible to absorb the matter of a lecture of that sort in one hearing or for the matter of that, at one reading and one likes to be able to refer back to the articles at some future time.—ORIGINAL SUBSCRIBER (Christchurch).

[Circumstances have caused Mr. Dawson to temporarily suspend these valuable lectures but listeners can be assured that they will be shortly completed. In accordance with our practice they will appear later in the "Radio Record."—Ed.]

QUITE recently, a marine service company in California inaugurated a regular radio-telephone service hourly between the Los Angeles harbour and a fleet of steamers and tugboats operating in the Southern California waters.

Broadcasting the Second Test Match

Keen Interest in Australia.

THE second Test Match between England and Australia gave the New South Wales Broadcasting Company Limited, another opportunity of establishing a record. This was the first occasion on which every ball bowled in one of these historic matches was described, and some idea of what a colossal task this covered may be gathered from the fact that 3035 balls were bowled during the game.

Commencing at 12 o'clock on the Friday morning, the Company's Stations—2FC and 2BL—were made available at alternate periods on each day right up to the close of the match on the following Thursday afternoon. The switch from one station to another was made during the interval between the overs, thus every ball bowled throughout the game was accounted for on the air. It was not alone in local broadcasting that this match created a record for, at different periods, no less than four States were broadcasting the description from the Sydney Cricket Ground.

Other records attached to this game were created by the number of traders who operated continuous services outside their establishments and the number of letters and messages of congratulation, received by both the Company's studios.

Intense Interest Displayed.

SEVERAL examples of the intense interest that is created in sport by broadcasting might be cited. At the District Court held in Grafton, slips of paper were being constantly passed around among the various officials, the Counsel and the Judge. This caused a good deal of conjecture as to what urgent messages were being so conveyed. At last it was found that somebody outside the court was operating a wireless set and the slips of paper bore progress results as received on the air. Leyland, who has been chosen twelfth man for the English team, was taken ill suddenly but through the thoughtfulness of one of the Radio firms in Sydney, this English player was able to hear every ball of the match described, in his bedroom at the hotel. In hospitals and nursing institutions right throughout the State where wireless is installed, the receiving sets were worked continuously right throughout the match.

Is Attendance Affected?

AT the present time a controversy is being waged in Victoria as to whether broadcasting from Sports Grounds has a tendency to interfere with attendances. Whatever evidence there may be in favour of this contention in the Southern State, it certainly does not exist in New South Wales. The attendance and gate receipts of the recent test match created records. It has been felt for some time that descriptive broadcasting has a tendency to improve afternoon attendances, and this was

Historic Microphone Autograph by Noble and Hobbs

THE 2FC engineer displayed a characteristically enterprising spirit on Saturday afternoon, when he "seized opportunity by the fetlock" and got Hobbs and Noble to autograph the microphone. The pencil signatures were "chiselled in" with meticulous care, and the control room at 2FC now proudly displays the little marble square, which will go down to posterity as the famous broadcasting medium in the second Test match.

Classical Programme

MUCH controversy has raged around the all-important topic—"diversity in broadcasting." There are those listeners who frankly prefer popular music, and in deference to their wishes they consider radio entertainment should be in lighter vein. On the other hand, lovers of the classics protest against really good music rubbing shoulders with a jazz composition of the most frivolous order. The New South Wales Broadcasting Company has decided to devote Wednesday of each week to an entirely classical programme, which will delight the hearts of music lovers, and on the same night a programme arranged along popular lines will be carried out through the service of 2BL. The first of the classical series has been undertaken by Oliver King, and this is set down for Wednesday night, January 9.

When on Holiday

IF you are taking or have taken your radio set away for the holidays be sure to notify the P. and T. Department, and have your license endorsed. Failure to do this may lead to expensive and annoying Police Court proceedings.

very strongly demonstrated during Wednesday's play. When Richardson's wicket was lost late on the Tuesday evening, there was a feeling abroad that Australia was about to fall once more. This considerably affected the attendance on the Wednesday morning, but after Hendry and Woodfull had settled down and a description of their play was broadcast up till the lunch adjournment, so great was the interest created that the crowd again poured to the ground to view the afternoon's play.

Series of Talks.

ANOTHER successful feature of the test match was the series of progressive talks given by the ex-International player, Mr. M. A. Noble, who at the lunch and tea adjournments and again at night time, gave his impressions of the day's play. Throughout the whole test match every facility to make the transmission a feature was extended to the Company's representatives by the trustees and groundsmen at the Sydney Cricket Ground, and this contributed very much to the successful broadcasting.

Sonora

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Arrange for a demonstration TO-DAY

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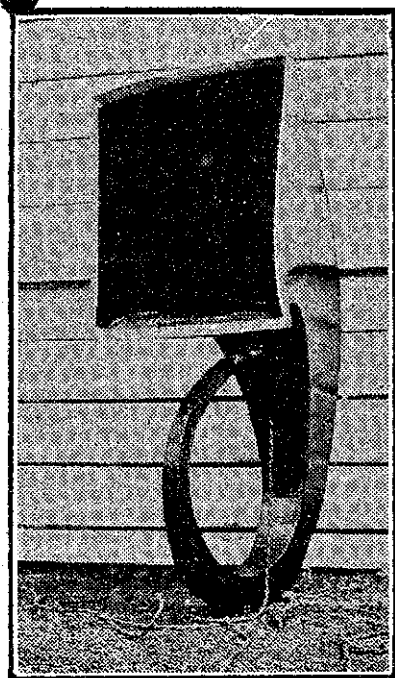
The Exponential Horn

A Successful Adaptation



CORRESPONDENT, "Reproduction," writes: Being interested in pure reproduction from my radio set, I constructed about fifteen months ago the six-foot exponential horn described in the "Radio News" by Mr. Millar, and which was recently published in the "Record."

I found the reproduction from this horn with a good unit surpassed anything I had previously heard at that



time. About nine months later a friend of mine installed a Ferranti pushpull power amplifier with two Mullard P.M. 256's in the last stage, and the production from this with the 6ft. horn is the best I have ever heard outside a dynamic speaker, and is better than some makes of these which I have heard.

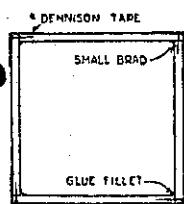
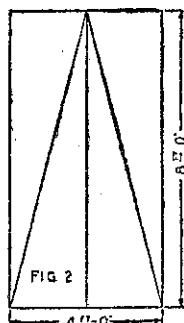


Fig. 2 shows how the wall board is cut, the four pieces necessary taken from the same sheet. Fig. 3 illustrates the method of making the corners of the square horn airtight.



The only fault I had to find with the 6ft. horn was its bulkiness, so I tried to devise a method of reducing and still keep the tonal properties. The photo I enclose shows how I effected this. The total height of the speaker is 42 inches, the width 20 inches, and the depth 22 inches.

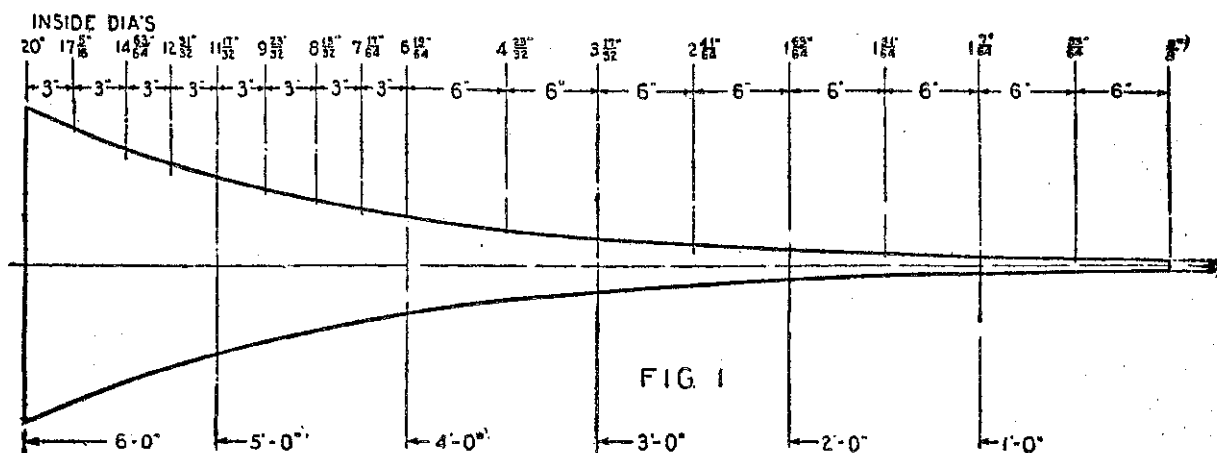
Constructional Details.

It is made from a sheet of wallboard 10ft. x 4 ft. This is divided into two pieces, 6ft. x 4ft. and 4ft. x 4ft. respectively. The 4ft. x 4ft. was subdivided into two pieces, 2ft. x 4ft. On one of these pieces a line was drawn

three sections. All cracks were then filled with glue from the outside, and after the horn was completely airtight the whole was given three coats of shellac all over. A piece of conduit was then glued in the small end, and the unit connected with a rubber connection. As I intend to install the

speaker in a console I left it in this state, but if it is not desired to place it in a cabinet, it may be papered to match the wallpaper of the room.

I know of two other horns which have been built from these measurements by a friend of mine, and they are giving every satisfaction. The tonal properties are identical with the straight horn, and has the advantage of taking up far less space.



Dimensions of the original Exponential Horn.

6ft. long, representing the centre of the curved side. This was divided up into 6 ft. sections. The diameter of the horn was then scribed, using the same measurements as published in the "Record" for the straight horn. This was then cut out with a keyhole saw and used as a template for the other side, which was then cut out.

The 6ft. x 4ft. piece was divided as in "Radio Record" for straight horn, thus giving four pieces about 6ft. long and 20 inches wide, in the wide end.

The length of the outside of the curved side was then measured and found to be about 7ft. 4in. This was divided into six parts of 14in. each. A centre line was drawn on one of the pieces 6ft. long, and divided into five sections of 14in. each. The diameter was then scribed with the same measurement as for the straight horn, only using the 14in. sections instead of the 12in. ditto. To these diam. are added the thickness of the insides.

From one of the other six-foot pieces a piece was scribed 14in. long to follow on from the other to complete the outside. These were then cut out with a keyhole saw. The length of the inside of the curved side was then measured and found to be 5ft. 3in. On one of the remaining 6ft. pieces a centre line 5ft. 3in. was drawn and divided into six equal parts of 10 1/2 in. Using the same diameters, the inside was marked out, allowing the thickness of the board at both edges so as to keep the inside measurement correct.

Finishing the Speaker.

THE assembly was then started. The inside was put on in sections and fastened with 1in. brads. The whole was then glued from the inside and given several coats of shellac. The outside was then coated with shellac on the inner side, and fastened in the same manner. This was put on in

Storm Causes Disorganisation

ON November 14 London experienced the severest storm for years past. Much damage was suffered to shipping and property. Wireless broadcasting programmes all over the country were seriously interrupted. An official of the B.B.C. reported:—

"The first trouble occurred when telephone lines between Daventry and Birmingham were blown down this afternoon. Both the Daventry stations, 5GB and 5XX, had then to take the London programme. But at 4.55 p.m. the last of the telephone lines used by the B.B.C. between London and Daventry were thrown out of order, and a special wireless receiver had to be used at Daventry to pick up the 2LO transmission from the ether. Seventeen of our stations are isolated to-night. The only three we are connected with by telephone are Leeds, Bournemouth and Gloucester. The others are presumably picking up the Daventry transmission from the ether, and rebroadcasting the London programmes. That means that the interferences caused by electrical disturbances are magnified, resulting in considerable deterioration of the quality of the reception."

Our Railways

Family Concession Tickets

IT is not generally known that the Railway Department grants a liberal concession to parents travelling, accompanied by their children, for journeys of not less than 20 miles. The price of three adult second-class return fares provides tickets for father, mother, and ALL their children under sixteen years of age.

The following examples are typical of the substantial savings made possible by the concession rate: Two parents and four children, aged 14, 13, 10 and 9 years, may make the return journey between Wellington and Napier at a cost of £6 5s. 6d.—saving £4 3s. 8d. on the ordinary fare. A family of similar proportions travelling between Christchurch and Dunedin would pay £4 16s. 8d. less than the ordinary rates.

The provision of such a liberal concession will doubtless be a boon to many families, who would otherwise be debarred from the benefits of an occasional holiday jaunt.

A SERIES of regular clicking or plopping noises in a set generally indicates that a grid leak of too high a value is being used.

Burgess Batteries are used in all big events.

Why?

**BURGESS
RADIO
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More Burgess Batteries are sold in New Zealand than any other.

Why?

Practical Hints on Neutralising

Considerations when Building

By "Pentode"

IN a previous issue of "Radio Record" the writer gave a short article on the various methods employed for reducing the feed-back produced by interaction between grid and anode coils in a receiver. This article will describe, in, it is hoped, understandable language, the effect and remedy of feed-back due to the close proximity of the valve electrodes.

If a receiver was designed and built, taking great precaution to shield and isolate the grid and plate coils, it would still be very unstable and would oscillate furiously whenever the tuning systems were in resonance.

Oscillation cannot occur without a feed-back, whether inductive or of a capacity, and excluding possible causes through the various battery leads common to both coils, we only have the small capacity existing between the grid and plate inside the valve. It is this small capacity forming a coupling between the grid and plate coil through which the feed-back takes place. This has been realised for years and has given food for thought to many radio engineers.

Controlling Oscillation.

PERHAPS the easiest way to understand the present methods employed to overcome this difficulty is to recapitulate the various courses practised during the past few years.

Assuming that the reader has already read the article in last week's issue, it will be remembered that a valve will start to oscillate if the field of the grid and plate coils interact. This is known as an inductive coupling. Methods were given for overcoming this interaction by placing the coils at certain angles and also by screening. Also a method was given for suppressing oscillations by the addition of damping resistances.

Yet another method which should have been enumerated in the previous article is the circuits employed in potentiometer control. Just why this controls the valve will interest many readers, and the reason really lies in the fact that when the grid of a valve is given a positive potential the resistance is susceptible to variations of grid bias, accomplished by connecting a high resistance, usually 200 or 400 ohms, directly across the filament leads and arranging a sliding arm to run along this resistance. To this arm is connected the grid return.

Future Constructional Articles.

Next Week "Pentode" will describe

"The 'Pentode' Three."

An Excellent Receiver which should fill the Requirements of a Large Number of Constructors.

Another Future Article of Considerable Interest

"The Screen Grid Six."

A Set for Distance Quality and Volume.

ance of the grid-filament coil is greatly increased. By resistance the high-frequency resistance is meant.

Consider for a moment, the resistance between the filament and grid electrodes inside the valve. When the grid is negative the resistance is infinite; when positive, the resistance decreases dependent upon the potential applied to the grid. By referring to the circuit of any high-frequency amplifying valve it is at once apparent that any resistance, or should we say, partial conductor, between the grid and filament electrodes is directly across the two ends of the grid coil. Thus, with a positive potential on the grid a damping resistance is intro-

In practice the grid is made more positive until a balance is reached. The damping introduced exactly balancing the energy fed back by either interaction between anode and grid coils, or the small interelectrode capacity of the valve itself. It can always be remembered that reaction or feed-back is merely a lowering of the resistance of the grid coil. If, therefore, resistance is added to more than compensate any feed-back present, the circuit will be quite stable. But to introduce any form of damping lowers the efficiency of the circuit, and the greatest possible amplification per stage is not obtained.

The Neutrodyne Principle.

LATE in 1925 the neutrodyne principle was introduced, and is still the most popular method of stabilising a high-frequency amplifying valve. It must be stressed here that the neutrodyne principle merely overcomes the feed-back due to the small capacity existing between the grid and plate electrodes and connections thereto, and does not remedy any inductive coupling that may exist between grid and anode coils. To obtain a perfectly stable receiver by this means, the two

coils will have to be completely isolated by any of the methods enumerated.

The neutrodyne principle depends for its action on the application of an equal capacity to that of the valve electrodes and connections only in the opposite direction. The current flowing through the added capacity is out of phase with that flowing through the valve. This is known as neutralising or balancing the valve.

This was first accomplished in the well-known tuned anode circuit by taking the B positive lead from a tapping in the middle of the anode coil, and connecting a very small condenser across the free end of the coil and grid of the preceding valve. This circuit held the ground for many months, but suffered from several drawbacks. It was extremely unselective, and hand capacity was very marked in manipulating the anode coil and user.

These disadvantages were overcome by using a high-frequency transformer in which the primary impedance could be matched with that of the valve used and the tuning condenser of the secondary coil was at earthed potential. It is this arrangement, split primary high-frequency transformer that has been universally used throughout the world and is as popular to-day as ever.

The Elstree Six.

IN November, 1926, the Elstree Six was described and became a very notorious receiver in England at that time. This receiver, which later took third prize in the Radio World's Fair at New York, has three stages of neutralised high-frequency amplification, only in this case it is the grid coil which is tapped and connected via a small capacity to the plate of the valve itself.

Evolving from this arrangement, numerous circuits were published in English journals using the split secondary method of neutralising. This method, found in perhaps fifty per cent. of receivers of an English design, is undoubtedly the easiest way to effect neutralisation, but it suffers from one drawback: It is not quite as sensitive as the circuit employing the split primary. The voltage applied to the grid is in effect halved, due to the filament connection being in the middle of the grid coil.

The Screen Grid Valve.

IN the development of the high-frequency amplifying valve, the most

The Gift that Cheers!

Are you looking for an acceptable Christmas Gift—one that gives cheer not for a few weeks but for years? If so give a...

BROWNIE CRYSTAL SET

12/6 each

OBTAINABLE FROM ALL RADIO DEALERS.

Philips P.C.J.J. Speaker Units

As Specified in the Rotorua Portable, 47/6. Postage Paid.
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efficient is undoubtedly the new screened grid valve. In this valve the plate and grid are separated by the use of an earthed screen interposed between the two electrodes. No neutralising is here necessary as the capacity inside the valve has been reduced to practically nothing. Also the grid and plate leads are brought out to pins on either end of the valve, so that in the wiring of the receiver the capacity from wire to wire is practically negligible.

Practical Hints.

NOW that a general outline of the various methods used to obtain stability have been enumerated, the writer will mention a few practical hints that may be of use to builders who experience trouble in this direction.

Preference to potentiometer control, neutralise the valve by any of the ways suggested.

With some receivers the capacity needed to neutralise may be in excess of that obtainable on the neutralising condenser. If the receiver is most stable with all this capacity in, then the condenser is not large enough. Extra capacity can be obtained by connecting short lengths of insulated wire to each terminal of the neutralising condenser and twisting together. Similarly, the minimum capacity of this midget condenser may be too large. As a remedy increase the capacity of grid-plate leads by twisting insulated wire as before, only connecting in this case to grid and plate terminals of valve socket.

Neutralising a Receiver.

PERHAPS there are some readers who cannot neutralise their receivers and have given up the job in disgust. To these constructors the following suggestion may be useful. If the receiver is of the split primary, only use one half of the coil. Instead of connecting the filament to the bottom end of the grid coil, tap this coil in the middle and connect to the filament via a high-frequency choke or resistance, say 10,000 ohms. The tuning condenser still bridges the whole of the coil. Now connect the neutralising condenser between the P terminal of valve socket, and the lower end of secondary or grid coil and balance in the usual way. Sensitivity will not be so good, but the receiver will more easily neutralise. A marked improvement in quality of reproduction should also be noticed.

When adjustments on the neutralising condenser make apparently no difference to stability, the trouble usually lies in a feed-back taking place between the coils. No amount of neutralisation will remedy this and the constructor is recommended to either shield the coils or check the angles they lie with respect to each other.

It is as well to remember that it is the valve capacity which is neutralised and the substitution of different values invariably means re-neutralising the set.

Run-down B batteries is the cause of many sets becoming unstable after a few months' use. A remedy can be effected by connecting a 1 or 2 m.f.d. condenser across the B positive radio frequency leads to earth, or B negative terminal. The high frequency currents are given a path to earth instead of being choked back by the resistance of the battery.

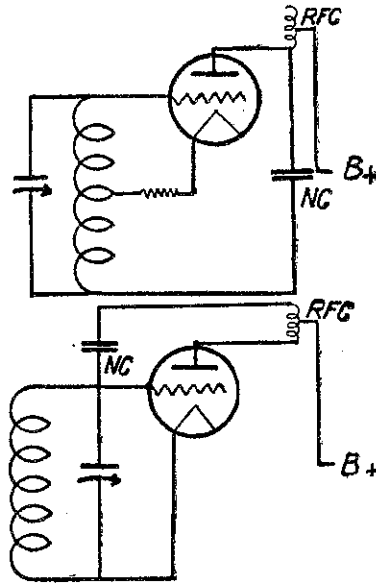
Satisfied.

"I HAVE constructed the full wave crystal set described in the 'Radio

Record' of December 14, and must say that it works very satisfactorily when using one crystal detector. One thing however, that I cannot understand is that when one catwhisker is applied and then the other, the second one tends to decrease the volume. Trusting that you will be able to inform me how this fault may be overcome.—'SATISFIED'."

[Correspondents using a nom de plume must sign their names and state their addresses.—Tec. Ed.]

REPLY.—Your inability to obtain more volume when using the two crystals in conjunction may be due to one or two small faults. First of all, try



Methods of Neutralizing.

reversing one of the crystal detectors. Just disconnect both terminals and turn the detector round so that the crystal is connected to the wire on which was previously connected the catwhisker. Reverse only one crystal detector, as to reverse both together would only result in a similar circuit to the one you have now. Make sure, also, that both detectors are working 100 per cent. One faulty detector would bring the other to its level.

See that both coils are tuned correctly and if the condensers are gauged try incorporating a small balancing condenser across either of the secondary coils.—PENTODE.

The Crystal and Valve

"I HAVING constructed this set, would be pleased if you would answer my few queries," writes "E.J.D." (Lower Hutt). "My list of stations is:—1YA, 2YA, 3YA, 4YA, 3ZC, 2FC (Sydney); all these stations have been heard at 'phone strength, the call-signs in each case being given. There are also many stations which I have not heard the call-sign, but heard talking and music. Now with the question:—

"(1) On January 2, while listening to Auckland and Christchurch, found that on putting one finger on the grid leak that volume was much increased. 1YA and 3YA and some station which I heard music about 10.30 p.m. especially, this station not being 2FC.

"(2) On testing my B battery I found that it contained only 9 volts, though Wellington came through at fair speaker strength. Would the volume of all these stations be increased if I renewed the battery to a 45-volt?"

(1) In all probability the grid leak is too small; try a higher value, say, $\frac{1}{2}$ or $\frac{3}{4}$ megohm or a H.F. choke. The station may possibly have been 2ZF, Palmerston North.

(2) Most certainly increase the voltage on the plate; 9 volts is far too small, although, as you say, 2YA comes in on the speaker. The B battery should not fall below 30 volts.—PENTODE.

Tips and Jottings

Setting Out Panels.

WHEN marking panels, prior to drilling, paste a sheet of paper over the face, and mark lightly with a pencil. After drilling, this paper can be

washed off, leaving no marks or scratches. A pencil line on ebonite forms a conductor, and if run between terminals or screws, may cause a loss of sensitivity.

Calculating Bias.

WHEN no particulars are available, a rough guide as to the correct grid bias to be used can be easily calculated if the amplification factor of the valve is known. Multiply the amplification factor of the valve by two, and divide into the B voltage available for that valve.

Allow for Voltage Drop.

IN the case of a valve, in the anode of which is a resistance, such as the arrangement in a resistance-coupled amplifier, the voltage applied to the plate is considerably less than that of the B battery, due to the voltage drop across the resistance. This is of more importance when using a valve of low impedance, as the drop will be greater. Allowance must be made for this drop when applying grid bias.

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The Variometer Crystal Set

RECENTLY we have had inquiries regarding the variometer, and its application to the crystal set.

This is a variation from the ordinary method of tuning, good volume and compactness being its principal features. Variometer tuning is not particularly selective, but it offers a satisfactory method of getting good volume from the local station with a smooth control equal to that of a tuning condenser at much less cost, though it entails a little more work than the making of a plain solenoid. Those who care for the construction will find this an interesting piece of work that with a little care and patience will give good results. The panel, $4\frac{1}{2}$ inches wide by 6 inches high, may be of ebonite of 3-ply, and the base of 3-8in. rimu, is $4\frac{1}{2}$ by $4\frac{1}{2}$ inches. A cover can be made in the same way.

The Variometer.

THE essential part of this set is the variometer, which consists of two parts, the stator or fixed portion, and the rotor or moving portion, which is provided with a spindle fixed in such a way that the rotor may be turned round within certain limits inside the stator. Turns of wire are wound upon both the rotor and stator, a space being left in the centre of the windings, on each, to clear the spindle. The first construction is a former for the rotor, and this is made of wood to the dimensions shown, the corners being neatly rounded off. Now a strip of thin celluloid (about 20 mils) is required not less than 11 by $1\frac{1}{2}$ inches. This is placed round the outside of the former, pulling tight, and overlapping in the centre of one of the long sides. The overlap is cemented with celluloid cement made by dissolving small chips of celluloid in liquid acetone, which may be obtained at the chemist's.

The celluloid dissolves in about two hours. A very small bottle may be used. This should be kept corked. When the joint is made, the whole

should be tightly bound with many turns of twine and left a few hours to set.

Winding the Wire.

THE lap joint being set solid, the twine is removed and winding proceeded with. The wire recommended is 22's enamelled, but 24's may be used. A turn less is wound upon each of the four groups of winding. A small

Components Required.

$\frac{1}{2}$ lb. 22's enamelled wire
Crystal
Knob or dial
2 terminals
Wood, celluloid, brass
Approximate cost 7/6

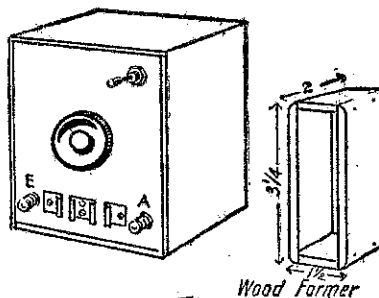
hole is made at the edge of the celluloid, which should be slid off the former 1-8in. at one side. With this edge to the left, the end of the wire is passed through this hole and turned sharply back to hold during the winding.

The turns are now put on in the direction shown in the diagram of rotor, commencing at A and winding in the direction of the arrow. It should here be mentioned that the spindle to be used must be a straight wooden penholder about $\frac{1}{4}$ in. long and a little over $\frac{1}{16}$ in. thick. Fourteen turns of 22's wire are wound on with the

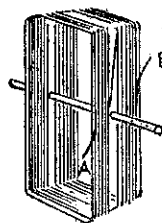
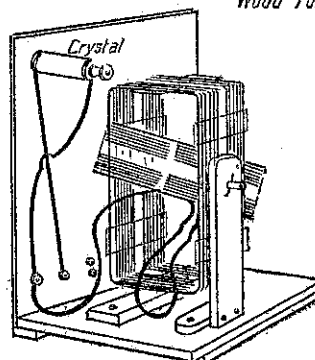
Our Crystal Corner

By "Galena"

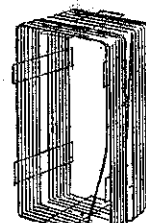
turns close together, then a space equal to the thickness of the spindle is left, the wire crossed over this diagonally, and the winding of 14 more turns proceeded with, the finishing end being cut off with 5in. to spare and temporarily secured with twine. The turns of wire are now to be secured with celluloid cement, especially the outer and inner turns of each group, as these will hold the others. When this



Wood Former



Rotor



Stator

stator proceeded with in exactly the same way as for the rotor, the beginning of the wire being temporarily secured to a small nail driven into the wooden former.

Fifteen turns are wound on each side, the space for spindle to be quite free, being left in the centre. Now two of the remaining pieces of celluloid are slipped under the twine and windings, one above the position of spindle and one below on each side. The turns of wire now cemented to each of the celluloid strips and left to set.

Now the formers have to be removed, and the easiest way to do this is to chip away one of the small ends of wooden former with a chisel. Then this will come away and the cardboard packing may be removed. The two parts of the variometer are now separate. The central position of the spindle must now be marked on each side of the rotor, and the holes made to be a tight fit for the spindle. One end of the spindle should now be thinned to fit the knob or dial to be used.

Fitting the Variometer.

THEN the rotor is inserted into the stator with the commencing end A near the end C on stator, and the spindle is pushed into place, through the spaces in the stator and through the celluloid of the rotor.

At the same time a washer of cardboard or other suitable material not less than 1-16in. thick is to be put over the spindle to separate rotor and stator at each side to keep them from touching. Two 1-8in. holes for small screws have to be made in the celluloid between the two windings at what is to be the bottom end of stator.

Now the whole is stood on a piece of wood $\frac{1}{4}$ in. thick on baseboard, and the best working position found and spindle height marked on back of panel for drilling. The back bearing for spindle is now made of wood as shown, the height 3 inches or so, 1in. wide, screwed to a small cross-piece to screw to baseboard.

The back end of spindle is drilled 1-16in. to take a small nail as a cotter on each side of the bearing.

When this has all been got into smooth working order, the last part is to get the stator into place so that it allows the rotor to move freely. The stator is screwed to the stand-piece by two $\frac{1}{4}$ in. brass screws through the celluloid. It may be necessary to pack the stator up with strips of card, to get the necessary position, and all is O.K. the stator stand-piece can be screwed into position.

Final Details.

PANEL arrangements are the same as for previous crystal sets, 28's brass sheet being curled up for telephone clips if terminals are not used. The terminal on the left is the earth connection and that on the right for the aerial.

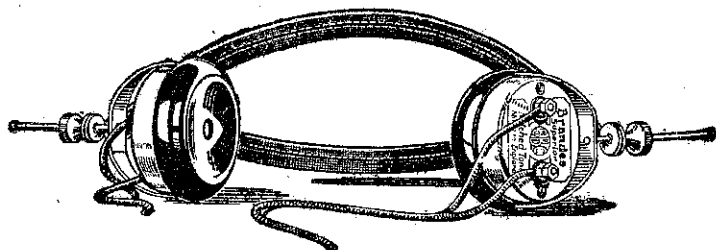
Ends A and C of variometer windings are connected together by 5in. of thin flexible wire, and end B is connected inside to a short piece of the same flexible, which is brought through the rotor and connected to the back of the aerial terminal, which also connects to back or one end of crystal. End D of stator connects to earth terminal and is "tied" to connect to phones at that side. Be careful to thoroughly scrape off all enamel from wires where a connection is to

work has set, a small amount of cardboard is required. Sixteen-ounce strawboard, about 18 to the inch, will suit. A number of squares of this are cut, 1 5-8in. by 1 7-8in., to make two lots each $\frac{1}{4}$ in. thick. Two pieces are to be cut 3 5-8in. by $\frac{1}{4}$ in. The $\frac{1}{4}$ in. lots are placed one at each end of the rotor, resting on the windings, and a single piece is placed at each side over the wires. The whole is now bound together with a couple of turns of twine in the same direction as the windings, but outside the cardboard, the twine to be exactly over the centre of the space between the two windings.

Six pieces of celluloid are now to be cut about $\frac{1}{4}$ in. by 2in. One of these is slipped under the twine at each end of the former, and the winding of the

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be made. Soldered joints are best, using resin-cored solder.

Any type of crystal can be used, but if a cat's-whisker type is preferred it could be placed on the baseboard.

Tuning is accomplished by turning the knob until full volume is obtained. The fewer the turns of wire put on the lower the wavelength that can be received, but lowering the range in this way cuts off higher wavelengths. The construction allows of turns being easily taken off both sides of stator and rotor if found necessary. The materials required are specified on previous page, approximate cost also being given.

Good Record.

I GET with a crystal set and two-stage amplifier six Australian and six New Zealand stations, total 12 stations to its credit, yet since I have bought a new B battery I have not heard an Aussie. What is the cause of this?

If all the batteries are connected up to the set and left alone for a few days will the batteries run down? I use a C battery, as I find it helps a great deal.

Also, I used to get 2YA on 30 on the dial and now I get it best at O, and I would be very pleased if you could help me in any way, as the set has functioned very well up till the present. It also whistles when I shift the detector, if I try to tune in Australians. — E. POWELL (Christchurch).

ANSWERS: The failure to log the Australians is due in all probability to the very adverse atmospheric conditions at the present time (see notes by "Switch").

Provided the filament circuit is broken by a rheostat or switch batteries will not run down if not disconnected. You are wise in using a C battery; it adds materially to the quality of the music.

It appears that your coil is too long for 2YA. Try taking off a few turns. This should bring 2YA in at a position other than O and with added strength. The alterations in dial reading may be due to a new valve, aerial or earth changes, or the dial slipping.

Request for Circuits.

I WONDER if you could supply me with a few good crystal circuits in the "Radio Record"? I have a crystal set, but do not think it is a good one. I wish to compliment you on the way you set about giving crystal owners information in your special "Crystal Corner" in the "Record." — K. A. DIXON (Paekakariki).

ANSWER: In essence there is no difference in crystal circuits. Adaptations are made merely to satisfy some particular requirement. In volume II, No. 24, a few of these were discussed. Other adaptations will be given from time to time.

Reception in Paekakariki.

AFTER following your instructions as far as possible I still find no results. My apparatus is now as follows: Aerial, height about 20ft. mast end and 11ft. high lead-in end. The length is now just on a 100ft. I am using two insulators each end. The aerial runs parallel to the beach, which is north and south. Is this right? The lead-in is at the south end. Does this make any difference? Earth, a kerosene tin filled with water, buried just a little below the surface of the sand, with a wire con-

Long and Short Aerials

Comprehensive Research by Correspondent

A. E. ELLESTON, writing from Reefton, states his conclusions on the use of long and short aerials for broadcast work. Many valuable conclusions have been arrived at, and listeners who desire the best results can do no better than to consider the results obtained by Mr. Elleston.

IN looking through the pages of the "Radio Record," I have noticed writers wishing to know of practical results achieved with equipment not used in the ordinary way for wireless reception. I am therefore writing you of results which I have obtained with long aerials. I do not pose as an authority on aerial systems, the results of my experiments are given for what they are worth, and in the spirit that we learn from one another, either verbally or recorded.

The Long and Short Aerials.

FOR nearly four years now I have had two aerials, one 512ft. long and the other 125ft., the former is 7/22 copper and the latter No. 16. The aerials are at right-angles to one another, and are directional, the long one to Sydney, the other to the New Zealand stations.

The set used in the experiments is a three-valve reflex, aerial coming direct to the grid, and is tuned by a .00035 variable condenser. In addition, there is a variable neutralising condenser of two plates, the plates are very close together, and for safety sake are painted with an insulating substance.

The aerial on which the experiments were made is, as stated, above 512ft. long, it is supported by an iron pipe mast 50ft. high at the receiver end.

The other mast, 36ft. high, is on an abrupt hillside, the top of this mast is 116ft. higher than the other.

The first thing was to note the difference in condenser readings between the long and short aerials, using one ground, and that having a fixed condenser in it. Readings were three degrees less on 1, 2, and 3YA. Signals as a general rule are a great deal louder

nected to the top of the tin, and straight in through window to set. I also tried varying the tapping.

I wish to make the crystal and valve, but do not want to until I know that I will be able to use it.

Thanking you for your information in the last number of the "Radio Record" and hoping that this time I will be satisfied. — K. A. DIXON (Paekakariki).

ANSWER: The aerial could yet be raised several feet, say, until 30ft. above the ground, while the earth should be sunk well below the sand. Owing to the sandy nature of the soil there may be a difficulty in getting a good ground connection. This may possibly prevent 2YA being heard in Paekakariki. Then there is the shielding effect of the hills to contend with.

With the crystal and valve, however, the case would be different. If this were carefully constructed there should be no difficulty in putting 2YA on the speaker.

than on the short aerial, it being more marked on days when signals are weak and in daylight reception. More noise is picked up.

On the day of the Heeney-Tunney fight, the short aerial provided better reception than did the long one, though in many cases it has been vice versa. At times, the long aerial provided entertainment when nothing could be heard on the other.

There is a certain amount of broad tuning, in my case it does not intrude very much. When noises are absent, the long aerial is an advantage. The long aerial is a great advantage to a set using a crystal detector.

My set is designed for selectivity and volume, so far I have not required a wave-trap.

Effect of a Ground.

I THEN tried the effect of a full ground on each end of the long aerial, making the length 550 feet, and direct to grid. The effect was that of a gigantic loop.

As I have an eliminator with a condenser in the ground lead, I tried that way for a start; the set refused to function. I then replaced the eliminator with dry batteries, there was then no difficulty in getting it to function, that is with two complete ground wires. The set became more difficult to work, with a wider swing for the neutralising condenser; it did not respond to this condenser so well in the lower as in the higher wavelengths.

Clarity was much better with two grounds than when the aerials were worked under ordinary conditions. Tuning was broad, volume was much

RADIO DIRECTORY

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the same as under ordinary conditions, but greater volume could be had before distortion was reached, than under ordinary conditions.

Dial readings on aerial condenser were the same on high wavelengths, and three degrees less on low wavelengths. The secondary condenser was not affected.

Daylight reception at noon of 2YA was at loudspeaker strength, but the noise was also loud. The absence of noise was an advantage of the short aerial; dial readings were three degrees less in daylight.

I have tried the Beveridge plan with high resistances from 2 megohms down, but find full grounds results best.

My observations in the constant use of long and short aerial with one ground, over a number of years, has shown me that it is an advantage to have two aerials, short and long. They can be used in the country where there is room, and freedom from interference, and power line noises. Another thing is that country people retire early, and at this time of the year the long aerial will, in most cases, give the necessary loudspeaker volume.

Concerning Long Aerials.

THE following excerpt is from a well-known authority in a letter to me concerning long aerials.

"The pick-up value of an aerial depends partly on the fact that it is an open condenser, with associated inductance. Maximum effect is produced by tuning to resonance. Losses are avoided by keeping the capacity as open as possible (height), insulation, low R.F. resistance, and keeping conductors out of the field. But there is another consideration generally overlooked.

"The mere length of an aerial may have an appreciable effect owing to increased collecting surface, and a more important effect owing to the occurrence of stationary waves with nodes and anti-nodes on the aerial itself. This will be a maximum when the length

is such that a voltage node occurs at the ground, and a current node at the open end of the aerial. Obviously this effect will be most pronounced when the aerial, measured simply as a long conductor, is approximately quarter wave-length, three-quarter wave-length, one and a-quarter wave-length, etc.

"Other things being equal, then, we should get an improvement up to quarter wave-length, a falling off up to half wave-length, further improvement up to three-quarter wave-length, and so on. Owing to the double tuning effect, however, the resonant peaks will probably be flatter.

"I certainly do not condemn long aerials, except on the ground of expense and difficulties in the way of maintaining efficiency."—"Proton," "Lyttelton Times.")

With the Browning Drake.

I have used the long aerial with one ground on various sets. A portable B.D. used by an agent of a well-known firm, was tried on 2BL. It was not strong on 'phones with the short aerial, but gave good loudspeaker strength with long aerial, as well as tuning sharply.

I have not experimented with long aerials on short-waves, but have been given to understand that they are used in commercial stations. In the near future the writer will replace his first valve with a screened grid, and the third valve with a 5 electrode in his reflex circuit, and will carry out further experiments with long aerials.

I consider the "Radio Record" a very fine little paper, with much of interest in it.

Auckland Notes

AUCKLANDERS cannot complain of the service which has been given them over the air during the holidays. All tastes were thoroughly and efficiently catered for. The main interest, of course, centred in the

seven days' racing carnival, which, despite the restrictions so strangely imposed by the Racing and Trotting Conferences, was handled expeditiously by the officials at 1YA. In the rain of the earlier days they must have been working under tremendous disadvantages, yet they "got there" every time, and though the announcer was unable to give much in the way of detail, he "produced the goods" as far as results were concerned, so that the whole province knew immediately after the horses passed the post what had won the Cup and the Derby.

The whole of the racing broadcast again demonstrated how ridiculous and how futile too is the ban which has been placed upon this phase of broadcasting. The radio public is now far too large and too influential to be ignored. They want descriptions, full and free, of sporting events, and in almost all cases they are getting them. The half measures that circumstances enforce in connection with gallops and trots surely cannot last much longer.

MR. J. BALL, of the headquarters staff of the Radio Broadcasting Company, is at present in Auckland, and his efforts in several directions should be all to the benefit of local listeners. It is probable that, as the result of his visit, still more interest will be galvanised into Auckland programmes and transmissions. On several occasions Mr. Ball took his place at the 1YA microphone, his cheery and pleasing voice being at once recognised by those who are accustomed to tune in Wellington. Mr. Ball is confident of a big accession to the ranks of listeners after March 31 next, and is seeing that nothing is left undone to assist the movement for a big increase in licenses, which naturally will benefit every individual who owns a set.

THERE was a cheeriness about the Old-New Year programme from 1YA that put everybody in good spirits for the approach of the first minute of 1929. A breezy description of street scenes in Auckland was in progress, and listeners by the thousand were awaiting the ferry clock chimes which would foretell the dawn of the New Year.

Unfortunately a microphone fault developed in the final minute of 1928 and the chimes were missed, but the studio quickly stepped into the breach, and the countryside knew from its clock and the voice of the announcer that 1928, a year of great radio achievements, was dead.

ONE requires to travel far away from civilisation to realise the full benefits which radio brings to those who are far removed from city life. Numbers of holiday-makers were gathered at the Bay of Islands for the Christmas season, but radio receivers were few and scattered. Still, they were not too scattered to provide with the latest news for all who were so anxious to hear it.

Yachtsmen rowed ashore to inquire at a boarding-house, up to date because it had an aerial, what had won the Cup. One small party came right across the bay, through wind and rain, also on the same quest. The fortunate owner of the set was able to gratify their curiosity and to convince them that radio to-day is no luxury and no plaything.

WITH the appearance of a new quartet party, the presentation of a debate by university students, more

operatic gems, and a varied programme by the orchestra, next week's offerings from 1YA are a good augury of what will be forthcoming during 1929. Every week brings something new into our programme, and each new effort marks a further step forward.

Hawke's Bay Notes

THE outstanding feature of the Hawke's Bay Radio world this week has been the official handing over to the Hawke's Bay Hospital Board of the radio equipment which the Hawke's Bay Radio Society has installed in the Hastings Memorial Hospital. The handing over was done at a very pleasing little function in the nurses' home. His Lordship, the Bishop of Aotearoa, who is president of the society, presenting the outfit to the Hospital Board, through the Mayor of Hastings, G. A. Maddison, Esq.

Usually on such occasions one has to make all sorts of excuses for static or distorted reception, but this time everything went off wonderfully well. Hardly a blast of static was heard, and the items came through in good style. Specially appreciated by those present were the congratulatory remarks put over from 2YA, and for these the Radio Society says "Thank you" to the announcer. Not one word of this was lost, and the speaker's fine voice created a very favourable impression.

WITH the hospital set now off its hands, the Radio Society will once more be confronted with the problem of a local broadcasting station, and the question to be answered is whether the Radio Society should take the thing up or leave it to a private firm which is contemplating such a move. In view of the experience of the past when the proposal was mooted, there are many members who will not support the Society in any move unless the money and the necessary staff to run the station are clearly in sight, and their idea is to leave it to the firm. On the other hand, others are keen for the Society to go on with the proposal and have promised good support, so a big argument is likely before a decision is reached.

There is no doubt that something in the way of a local station is wanted in Hastings, for this part of the district is badly served—just as badly in fact as is New Plymouth—the screening effect of the Havelock Hills being no doubt the cause. The move made in New Plymouth has set local heads thinking, and it is suggested that the Radio Broadcasting Company might be approached to assist a station in Hastings on similar lines to New Plymouth. This is worth thinking about, too. In this connection it is worth noting that a certain Hastings firm actually offered to the Radio Society, free of cost for three years, a room suitable for a studio and also a cheque for £20 to furnish the place, and it is possible that this offer is still open. At any rate, all are agreed that something should be done, whether it be by private enterprise or by the Radio Society, and the sooner a definite decision is reached the more satisfied local listeners will be.

CONGRATULATIONS to the Broadcasting Company for its Christmas broadcasts. Its timetable was greatly

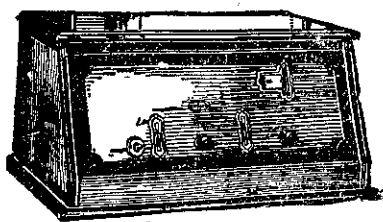
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Notes and Comments

BY
"SWITCH"

THE Sunday afternoon gramophone concerts by 2YA, Wellington, have brought to light an increasing interest in the selection of the items. A gramophone enthusiast claimed to "Switch" the other day pride of place among exponents of the "Prologue" to "Pagliacci" for Laurence Tibbett, the Californian baritone. His record of this operatic number is said to be the premier H.M.V. effort of 1927. In his own words, "Switch's" informant stated "Tibbett has the richest baritone voice of the purest and most even quality I have yet heard from the disc." This critic said he thought some of the Sunday items were far below the average public taste.

A WELLINGTON city business man who is a discriminating critic of broadcasting and music stopped "Switch" in the G.P.O. the other night to tell him how much he enjoys the Sunday afternoon concerts from 2YA, Wellington. "There is no session from the local station to compare with the Sunday afternoon concert," he said. "Owing to the electrical method of reproduction and the fact that I use a crystal detector I get the effect of the gramophone artists being actually in the studio. I prefer the pick of the world's talent to local performers."

WELLINGTON listeners who sit up late may be able to hear 6WF, Perth, during the next winter. The Australian Government have purchased 6WF and will carry on the station till the Government's plan for taking over all the "A" class stations is completed. 6WF at present operates on such a long wavelength that the ordinary set in vogue in New Zealand cannot tune it. The probabilities are that the wavelength of 6WF will be reduced to within the standard wave band.

"R.T.S." (Christchurch) sends details of a method of overcoming the interference on the short-waves experienced by a Wellington listener, who, as mentioned in these columns recently, cannot eliminate 2YA, Wellington. The particulars have been passed on, and if they are a success publicity will be given to them.

COINCIDENCE occurred in connection with the paragraph in last week's "Radio Record" which

appreciated. Personally, the writer was rather disappointed to find no carols from 2YA in the early morning of Christmas Day, for last year this early morning Christmas music was very impressive.

THE unsettled weather seems to have interfered with reception in general, and this can be taken as one of the worst summers on record for all-round reception. Even the New Zealand stations have been patchy, but strangely enough, 2YA is always found with wonderful volume and clarity in the afternoons. At night there is a different story to tell. The "Aussies" also have had "fit" and starts, but on Friday night last were heard with great gusto.

mentions the habit of the mason bee which, on capturing a spider, paralyzes it and stores it up as food for its young. A Wellington listener's son showed the writer a large black spider which he had rescued from a mason bee. The spider, although quite paralysed, was manifestly alive, and on being placed in a bottle of spirits gave just the slightest reaction with its limbs.

THE inventor is an individual who should not be lightly discouraged, but when he comes along with a "static eliminator at a cost of a few shillings" it is time to reach for one's shotgun. A budding Marconi approached the writer recently with such an allurement, and a try-out on "Switch's" equipment was reluctantly agreed to by the writer. It was the same old story—a reduction of static was obtained only by a corresponding reduction in signal strength. The inventor was not discouraged, however, for he departed with an undertaking to perfect his idea!

"LISTENERS' TALES" and "fishermen's tales" are now regarded as synonymous expressions. A Wellington listener was enthusing the other day on the "good loudspeaker strength" with which he brought in 2BL, Sydney, on the previous evening for the entertainment of a few guests. "Switch" was sufficiently curious to question one of the guests whom he met later. The "good loudspeaker strength" as interpreted by the said guest was faint audibility, ten feet from the loudspeaker! The truth is that the Australians have been under a cloud for several weeks. "J.L." (Hastings), writing in last week's "Radio Record" tersely reports "Aussies inaudible," and we accept his word.

QUITE a number of Wellington listeners mention having lately received 2GB, Sydney (316 metres) at greater strength than 2BL, Sydney, and 2FC, Sydney, on some evenings. This has also been observed by the writer, and he has frequently preferred to tune in 2GB, when it is at its best, than to pursue the other Australians. 2GB employs only 3000 watts power as compared with 5000 watts, the power of 2BL and 2FC. 2GB was the first Australian broadcast station to embody crystal-control of its wavelength, and is the only Sydney station so equipped.

LISTENERS residing in the Mount Victoria area are again being troubled with some kind of man-made electrical interference. It has not been very constant, but when it breaks loose interference is severe from about 371 metres downwards, and on the shorter wavelengths it increases in intensity until it fairly roars in. There is almost continuous interference on the shorter wavelengths, although of a mild character, from a pulsating noise, in the same area.

VARIOUS radio friends endorse the statement published in these columns recently regarding the unsatisfactory quality of the tone obtained

from carefully constructed exponential horns. If "R.R." (City), "S.N.G." (Petone) and "Diaphragm" (Kilbirnie) tested various units they would probably find one that would suit the acoustical properties of their home-built exponentials. So far the best results heard by "Switch" were obtained from an American unit specially designed for exponentials.

AN enthusiastic advocate for gramophone broadcasts writes: "I am pleased to observe the recent advocacy of the inclusion of some of Alessandro Valente's tenor records in the programmes from 2YA, Wellington. He is a recently discovered Italian operatic star who promises to succeed Caruso, and, owing to his voice being electrically recorded I believe his items are superior to Caruso's. Two discs of Valente's voice have been released. They comprise one 'La Tosca' solo, one 'Pagliacci' solo, and the other disc comprises two excerpts from the last Puccini opera, 'Turandot.' He was the first to record 'Turandot' tenor solos. All his records are accompanied by a magnificent Italian operatic grand orchestra."

BROADCAST station KGO Oakland, California, formerly heard far and wide in New Zealand, in the good old golden age of reception, and now picked up by a privileged few, has at last put its finger on a reverberation in its studios which has caused no end of trouble to the station staff. This particular resound seemed to trace itself to the piano, but even after several exchanges had been made the elusive noise remained. An expert piano tuner trying to catch the noise finally summoned all the KGO pianists. Eva Garcia, the station's stellar

artist, was found guilty. Miss Garcia no longer wears beads, for sensitive microphones picked up a note in pitch with them and sent the vibrations over the air!

ONE can now tune in the Australian stations, faint as they are, with very little interference from howling valves. Apparently those who are responsible for the howling nowadays soon realise that the Australian stations are impossible, and after a few minutes' vain endeavour to tune them in close down for the night. If static could be induced to take nights off, also, things would be much more endurable.

THE most disappointed people owing to the poorness of reception in New Zealand this summer are the radio traders and purchasers of high-priced receiving sets. One trader informed "Switch" that he had lost the sale of several sets because they were unable to bring in the Australian stations with sufficient volume to satisfy his prospective clients during this summer. Beginners are not disposed to accept the true explanation that reception from across the Tasman was much below that of the average summer.

ONE of the "old-timers"—a broadcast listener of the 1923 vintage—remarked to the writer that he does not remember the Australian stations being so consistently weak since he first went in for broadcast listening. This summer, he said, filled him with astonishment. He has heard six New Year's celebrations broadcast from Australia, and this year's reception of these celebrations was not one-third as loud as the worst he had previously listened to.

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The Railway Department carries parents and ALL their children under 16 years of age for the price of three adult second class return fares. Learn all about this big concession.

Full particulars from any Stationmaster,
Central Booking Office, Passenger Agent, or
District Manager.

MR. F. SELLENS (Northland) writes:—

The following items of interest to short-wave listeners are from recent issues of "Wireless World."

For Germans Overseas.

"A 'WORLD PROGRAMME' is to be broadcast in February next from a new short-wave station now under construction by the German Post Office at Königswurterhausen. The station will apparently be a second 5SW, its object being to enable Germans living abroad to keep in touch with the homeland by means of relatively simple receiving sets."

Soviet's Short-Wave Project.

"RUSSIA is constructing new short-wave stations. According to a Moscow message, the People's Commissariat for Posts and Telegraphs has decided to build several new short-wave radio stations in Middle Asia, namely, in the Pamiro, Khorog, and Hassan-Kuli. It may be assumed that these are for administrative use and not for broadcasting."

A WRITER in "Modern Wireless" says:—"There are several very powerful German broadcasting stations testing on various wavelengths between 25 and 45 metres, and if they start up with full programmes we may expect some good things."

WITH the new regulations under the Washington Conference, which came into effect on January 1, certain alterations will be made to call signs and wavelengths of broadcast stations.

Philips short-wave station will now be known as PCJ instead of the well-known PCJJ. WGY's short-wave experimental stations are still 2XAF and 2XAD, but with a W as a prefix. The wave of the latter station is also altered to 19.56 metres.

The old "R" system of signal strength will be superseded by the figures 1 to 5, used without the letter "R," and signifying:—

- 1—Hardly perceptible; unreadable.
- 2—Weak; readable now and then.
- 3—Fairly good; readable, but with difficulty.
- 4—Good; readable.
- 5—Very good; perfectly readable.

Thursday, December 27.

7LO was R2 at 6 a.m. Static very bad. Big Ben through 5SW was R5. The talk that followed was not readable on account of rapid fading. 2ME was tuned in at 10 p.m. just as they were concluding a test with Suva. Strength was R8. The latter station had closed before I had a chance to change coils. Radio

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.

Paris (Ici Paris) was heard after at good volume.

Friday, December 28.

MR. WILSON, of 5SW, and Mr. Prescott, of W2XAD, were having a yarn at 5.45 a.m. Afterwards two officials of the Y.M.C.A. spoke from Schenectady, followed by several boys and a girl, who appeared to appreciate the importance of being able to talk to a person in England "over the air" and have several questions answered, chiefly about the weather. 7LO was very weak. PCJJ commenced at 6 a.m. at R3-4 and dropped

Short Wave Notes

IT is regretted that Mr. Sellens will not be able to supply his valuable notes for a few weeks. However, there are a large number of short-wave enthusiasts among our readers who could no doubt supply the page with interesting notes on this side of listening-in. Notes on the reception of the short-wavers and other matter pertaining to short wave will be welcomed.

to R2 by 7.30 a.m. W2XAD started a television test at 6.30 a.m. which lasted till 7 a.m. Music and talks followed. 5SW was R4. A talk on "New Novels" followed the striking of Big Ben.

Saturday, December 29.

At 7.15 a.m. 5SW was R4. Rapid fading spoilt reliability of talks. W2XAD could not be located. PCJJ was first heard at 3.30 p.m. at R3 volume, slowly increased to R5 at 6 p.m., when they concluded with "Wishing you all a happy and prosperous New Year; hope you are satisfied with what we are giving out," etc., etc. KDKA were transmitting dance music from the Italian room of the William Penn Hotel, closing down at 5.18 p.m. at R7.

Sunday, December 30.

KDKA sent messages to members of the Byrd Expedition after their musical programme, concluding at 4.30 p.m. Strength R7. The latter part of W2XAD's transmission was dance music from the Band Box, — Hotel, Albany. R5 when signing off at 5.1 p.m. Both stations were very weak till toward the end of their respective transmissions.

Monday, December 31.

At 6 a.m. 7LO, Nairobi, was R3-4, and the clearest heard for some time. There was not any sign of 3LO. Melbourne, this morning. RFM were very good during the evening at R9. Their orchestral items came through well.

Tuesday, January 1.

5SW opened up at 12.25 a.m. with their call wavelength at R4. At 12.30 a.m. Big Ben chimed the half-hour. Orchestral music followed. At 1 a.m. the latest bulletin of the King's health was read. ANH and ANE were transmitting the same talk and music. "Hullo, Kootwijk, here is Bandoeng," was called till PCIL replied with, "Hullo, Bandoeng," followed by duplex telephony.

The Java stations were R8. The Dutchman R4-5. Each were perfectly clear and steady. At 5.45 a.m. 5SW and W2XAD, both R7, were carrying out their bi-weekly test. On concluding it was mentioned that the General Electric Company had two stations transmitting the test. W2XAD and 2XO. 5SW reported hearing only the carrier of the latter station. No mention was made of its wavelength while I was listening.

7LO at R3 was free from static and Morse interference, for a wonder. KDKA was too weak to bother about during the afternoon. W2XAF was also weaker than usual, but reached R4 by 4.30 p.m. A special New Year's Eve performance was given. At 5 p.m. (midnight, New York) the clock was heard striking twelve. This was followed by "God Save the King" and other tunes on the bells from Old Trinity Church, Broadway, New York. They signed off at 17½ minutes past midnight with, "Good night and good morning." In reference to tune of our National Anthem being played in America: I presume that this is also an American national air. Does any reader know?

Wednesday, January 2.

6.55 a.m., 7LO were transmitting dance music. They closed down at 7.9 a.m. with the call, "7LO, Nairobi, Kenya Colony, closing till 7 o'clock to-morrow night." 5SW was R5. Rapid fading spoilt intelligibility. KDKA could not be heard in the afternoon. W2XAF were only just readable when signing off at 5 p.m. after half an hour's television test. Both 2XAF and 2XAD were transmitting, but did not hear the latter station.

Thursday, January 3.

7LO, Nairobi, at 6 a.m. was R5, best volume yet. Several fox-trots were heard. 2XAD were picked up at

6.30 a.m., just as they were concluding a musical session. This was followed by a television test. 5SW was R5 at 7 a.m. Talk was about 50 per cent. readable.

Friday, January 4.

W2XAD and 5SW were testing duplex telephony till just after 6 a.m. Strength, R5 and R7 respectively. The American was on again later with a lady talking. PCIL on 38.5 meters at R7-8 were on duplex telephony, very clear and steady. The other station could not be located. 7LO at R3 was spoilt by static and Morse. PCJJ started at 6 a.m., strength R8.

It was announced that their call from now on will be PCJ. This call was used during the rest of that session. This transmission was the last heard for some time. Strength remained constant till just before 7.30 a.m., when it decreased slightly. 5SW was R7 from 7 a.m., when Big Ben was heard, followed by an orchestra without any announcement. W2XAD was heard just before 7.30 a.m. at R4-5 on its old wavelength. RFM was R8 at 10 p.m. Static very bad.

Saturday, January 5.

At 6 a.m. a station on about 27 metres at R7 was heard calling, "Sumara, Bandoeng," etc., several times. Morse on top spoilt possibility of hearing the call. The call appeared to be Dutch.

A German (?) on about 47.5 metres was heard at R3. All talk. 7LO, Nairobi, R3. PCJ started at 6 a.m. at R4 with the Dutch National Anthem. Strength was weak all through. 5SW was also very weak, being only just audible at 7.30 a.m.

PCJ was first heard again at 4 p.m., when they were R2. They reached R5 at 5 p.m., and increased to R7-8 by 6 p.m. The concert concluded with the National Anthem. In signing off the announcer said: "Not 'good-bye,' but 'So long' till next Saturday. Good afternoon, it is afternoon with you and early morning with us." KDKA was faintly audible, while not a sign of W2XAD was heard.

The Sportsman's Prayer

THE following is a copy of the "Sportsman's Prayer," which hangs in the King's private room at Sandringham:—

Teach me to observe the rules of the game;
Teach me neither to cry for the moon, nor over spilt milk.
Help me to distinguish sentiment from sentimentality, cleaving to the one and despising the other.
Help me neither to proffer nor receive cheap praise.
If I am called upon to suffer, let me be like a well-bred beast who goes his way and suffers in silence.
Teach me to win when I may.
If I may not win, then above all I pray, make me a good loser.

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