

# THE RADIO RECORD

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## Wireless as the Bond of Empire

**A** COMPREHENSIVE survey of the part played in Empire stability by full and rapid means of communication is given in "World Radio" by the Director-General of Post and Telegraphs, Australia, Mr. H. P. Brown, M.B.E. In this Mr. Brown pays tribute to the rapid progress now being made by various phases of wireless development, and stresses the importance of ready commercial communication. Recently he had the unique experience in London of hearing by radio his daughters converse in Melbourne!

**T**HE great progress being made by beam wireless in cheapening communication is indicated in the daily Press by the rumours of mergers with the cable companies. Our illustration below shows the English end of one of the beam services. A service with Melbourne has proved of great convenience and value.

**L**ATELY an opportunity has been afforded me of studying the developments which are taking place in the United Kingdom in all spheres of communication, including broadcasting (if one may be permitted the latitude of regarding that as a communication service).

A close contact with the work which is being done by the engineers and scientists opens up a vista of possibilities, the realisation of which must have far-reaching influences in all kinds of Empire relationships.

Association with the work of the Imperial Cable and Wireless Conference has contributed still further to my earlier convictions that our Commonwealth of Nations must seek to strengthen its commercial and economic structure by pursuing a vigorous policy in the improvement and extension of its communication and transportation systems. It must be realised that these matters are vital. They affect every one of us. It is our duty to take an interest in the subject and see that public opinion is adequately informed so that it may exercise its wholesome influence. We must strive to bring about a greater intimacy between the units of Empire by taking advantage of every opportunity which will enable us to annihilate space and time by bringing within the reach of all the facilities to be derived from great scientific discoveries in their practical application.

**I**N present circumstances only the comparatively wealthy can afford to send messages of a social character for overseas transmission. Those who have been separated from their friends and relatives by great distances will realise most the drawbacks and anxieties inseparable from an absence of information concerning current events. The post is a great boon, and one would not minimise its blessings, but when weeks must elapse before a reply can be received to some inquiry of a personal and intimate nature, it has to be admitted that that mode of communication falls short of what we are entitled to expect in these progressive days. Even in business transactions there are severe restrictions, imposed by cost, on the free use of expeditious means of communication which, if they could be made available, would be an inestimable benefit.

The mail services of the Empire are remarkably good, and were it not for the fact that Britain is one of the world's greatest carriers, we could not enjoy the advantages of those services which are now available to us. Many of the large shipping companies have shown a commendable enterprise and have taken considerable risks in expending capital for the improvement of their services, anticipating that the provision of a facility will bring in its train increased business and a development of the resources of the countries which it serves.

### AERIAL COMMUNICATIONS

**T**HE Australian Government has been responsible for opening up somewhat extensive aerial routes within the Commonwealth, and is at present endeavouring to bring into operation a further link which

will prove a great boon to travellers and will speed up the mails to and from the Homeland. The plan is to have a regular service over the 2000 miles stretch between Perth and Adelaide, the flights conforming to a time-table which will link up the overseas steamers and reduce the transportation time of travellers and freight destined for the eastern States by many days.

Whatever may be accomplished in the direction of accelerating actual transportation, there will still remain the necessity to develop telegraphic communication. It may be taken as a corollary that as the time of transportation is reduced there must be an increasing need to improve the telegraphic services. It will be an urgent problem for those responsible for overseas telegraphic communications to develop new classes of traffic and procure for the peoples of the Empire the great benefits which can be afforded by a comprehensive exploitation of the means now available for the rapid transmission of intelligence. An enormous traffic capacity is avail-

proved so efficient and so rapid that they have created a revolution in the sphere of overseas telegraphic operations. Facsimile transmission has gone beyond the stage of laboratory experimentation and is now being applied daily in commercial practice. It is being operated over land-line circuits and also over wireless channels in the ether. He would be a bold man who ventured to predict the limitations of this latest achievement. Drawings, pictures, manuscript and printed matter can now be transmitted at great speeds and faithfully reproduced at their destination. Refinements in the process are continually being introduced, and the method of transmission is being closely studied so that the liability to failure may be almost eliminated, or at any rate reduced to a point comparable with that appertaining to the transmission of morse characters for ordinary telegraphic communications over land lines. Moving picture transmission has reached an almost incredible degree of efficiency. It has been my privilege to witness transmissions, over a short distance certainly, but of almost perfect quality.

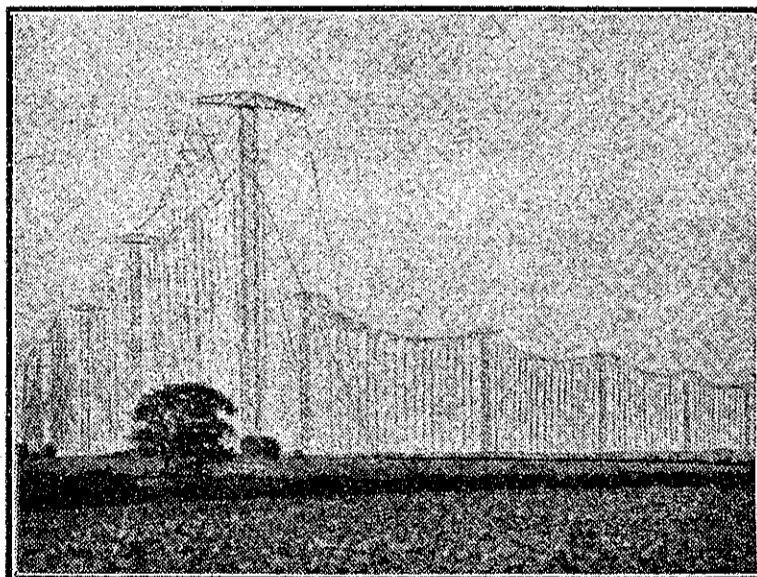
**I**N telephony also the developments have been astounding. It is an every-day occurrence to transmit the human voice with perfect articulation and the retention of its individual characteristics over distances of 3000 or 4000 miles. In Australia the Post Office is in the position of rendering commercial services between points separated by 3000 miles and is developing plans to link up the furthestmost points separated by some 5000 miles. In Europe and America almost equivalent distances are being covered.

The association of land-lines with wireless links for the transmission of telephonic speech is a development in the past few years which has now been incorporated in regular commercial services. Rapid progress is being made in the improvement of long-distance wireless telephone transmission, and the means which are being adopted are of a character which will render long-distance wireless service much less costly than transmission over land-lines. I should be surprised and disappointed if the intensive work which is now being undertaken does not result in commercial services being established between the most remote parts of the Empire within the next two or three years.

### A BROADCASTING THRILL.

**A** FORTNIGHT ago, during one of the experimental long-distance transmissions attempted by the broadcasting station in Melbourne (3LO), my own daughters, whom I had not seen for nine months, were able to speak to me in London, and although there were periods of fading, their voices were as clear as though they had been transmitted by telephone from an adjoining room. There was not the slightest distortion that the human ear could detect—not the loss of a single characteristic in their speech. The thrill of that experience has only to be felt to bring home to one the marvellous achievement of modern science and the benefits which will follow from its commercial exploitation.

**I** HAVE been permitted to see some of the work which is being done by the British Broadcasting Corporation, including the long-distance transmissions which are being made daily in co-operation with the Marconi Company from station 5SW. It is earnestly to be hoped that all the Dominions will heartily co-operate in this work, for it is only by joining forces that rapid progress can be made in bringing these marvels of science to such a stage that they can be placed permanently at our disposal for everyday use.



What a modern beam receiving station looks like. This view depicts the masts and aerials of the Marconi Beam Receiving Station at Dorchester, England.

able by the existing cable and wireless services, and when this is absorbed further channels can be provided at comparatively small cost. Use must be made of every device which will reduce the expense of long-distance communication. We cannot countenance an artificial restriction because of adherence to old ideas and of being wedded to old methods of commercial enterprise. The achievements of scientific workers must be applied to the utmost by enlightened administrators who will have the vision to make themselves worthy of the unstinted and very frequently unselfish work of our scientists.

### WIRELESS PICTURE TRANSMISSION.

**T**HE readers of this journal are probably well acquainted already with advances which have been made during the past few years. The capacity of submarine cables has been increased manifold; improvements in apparatus used for the transmission of morse signals are of a very substantial character; long-distance morse-operated wireless services have been established and have

## "Cape Town Calling"

### SCREENING DIFFICULTIES

#### THREE STATIONS IN SOUTH AFRICA

IT was on September 15, 1924, that broadcasting of the professional variety was born in Cape Town. Since that time a great deal has happened.

Johannesburg was the first centre in South Africa to start real broadcasting; Cape Town came second shortly afterwards, and Durban made up the trio about a year later. There has always been friendly rivalry among the three stations, for until last year, when the African Broadcasting Company, with Mr. I. W. Schlesinger at the head, came along and took over the trio under one management, each station was under separate control. Competition was not altogether harmful. It prompted each station to look to its own laurels and blaze its own trail.

Taking the three centres separately, one can truthfully say to-day that each station has made astonishing progress. With limited power and unlimited space, however, one can do little with three broadcasting stations, each separated from the nearest by something like 1000 miles. Thousands of South Africans have never heard real broadcasting. The radio problem of South Africa is vast distances, scanty and scattered populations, and abnormal atmospherics. Three small stations working along different lines could never hope to serve the country adequately. Experts prophesied that it could never be done on a remunerative commercial basis; but then Mr. Schlesinger appeared on the scene. He believed it could be done. He formed a company and bought up everything, lock, stock, and barrel, as a nucleus. Since that time he has been steadily moving. How exactly he intends to energise the isolated farmstead aeris from Namaqualand to Zululand with the necessary power to give intelligent speech, pure music, and "astatic" entertainment remains to be seen; but he has certainly made a beginning. Johannesburg is to have a super-station of 25 kw. ready within the next few months, and the old JB outfit will go to Bloemfontein.

In 1924 a wealthy citizen offered to present the Mother City of the Union with a transmitting outfit, which the City Council refused. Those were hectic days. Everybody wanted wireless, but nobody would take on the broadcasting job. Suddenly there emerged certain courageous individuals who, as heads of the Cape Peninsula Publicity Association, talked wireless from morning till night. Seeing a novel medium through which to advertise "The Glorious Cape" afresh, they persuaded everybody that broadcasting should be done by them. The idea was generally accepted, and away they went. No profits were made and everyone rallied round to help. Our public-spirited friend did not exactly make a present of the transmitter to the city, but he helped the C.P.P.A. very considerably by way of a substantial advance.

It must be mentioned that the Cape Town Broadcasting Station is one of the comparatively few which never uses a lettered call sign. "Cape Town calling" was the first call. It is still the call to-day.

CAPE TOWN, it must be remembered, nestles at the foot of Table Mountain, and is flanked on either side by Devil's Peak and Lion's Head. The mountainous Peninsula running south

## Indian Broadcast

### INFINITE POSSIBILITIES

#### COMMUNAL LISTENING SET

IN writing on broadcasting in India it is the future which dominates the position, says Mr. Eric G. Dunstan, general manager, Indian Broadcasting Company, in "World Radio"; there is little past to talk about, and the present is not altogether happy.

A beginning was made in 1927, when towards the end of the year a service was started from two stations, one at Bombay and one at Calcutta, and that service continues, although it has received a temporary check owing to lack of finance. But neither station has ever ceased to transmit programmes, and now that steps are being taken to provide the extra capital necessary, the programmes will shortly be restored to a full basis, and we hope the service will soon be extended to two more stations.

British Broadcasting Corporation tradition and example have provided the foundations on which we have to build, and the quality of the programmes has been surprisingly high; an unexpected supply of artists and material for broadcasting has materialised, and on the Indian side of the programmes we have only just begun to discover the talent and material; the demand is creating the supply.

At the end of February we had about 7000 licenses, and at present there must be nearly 10,000; and now that the Government have started prosecuting "pirates," the figures will probably improve more rapidly. But in a vast country like India one cannot expect to achieve great things in under a year, with so new an invention as broadcasting, which, even to us sophisticated Westerners, seems a miracle, and to an Eastern is incredible magic—until he has heard it with his own ears. With only two small stations, over a thousand miles apart, in a country the size of Europe, exclusive of Russia, and with a population of over 300 millions speaking more than 200 different languages, it will be some time before any but a small proportion of the population will hear broadcasting for themselves.

But when we have got a hold, when we have got the stations to give a real service to the whole of India, what a

for forty-five miles lies behind the Table, so that a great part of the Peninsula is badly screened from Cape Town. Away to the north there is an unbroken view for forty miles across the Cape Flats (not a thickly populated area), and on the distant horizon the Hottentots Holland Mountains raise their peaks to the sky. Beyond is deep land. So it will be seen that to house a transmitter in the city itself suggested a very limited range for good reception. But it had to be done. The transmitter is at the top of a five-storied building on the main street, and there, after many months of experiment to find a suitable "earth," and eliminate screening from neighbouring iron roofs, it settled down to a steady radiation, which is now more or less constant. Purity is studied before power. There are many listeners in the South Peninsula who get very poor reception, but this cannot be remedied. Think for a moment of a mountainous triangular Peninsula with a broadcasting station tucked away at one end. Draw a fifty-mile ring round Cape Town, and you will find three-quarters sea and one-quarter land, and most of that quarter is mountainous. That is Cape Town, where 99 per cent. of the total subscribers to the broadcast station are within the city and immediate vicinity. The area of this station, however, wherein listeners are called upon to pay, is much bigger than the whole of the British Isles, where there are twenty-odd stations. True, there is a zoning system—3s. per annum nearby, down to 2s. 6d. in the back of beyond—but most people pay willingly. Several times the suggestion has been made to remove the Cape Town transmitter out on to the Cape Flats, but whether this would improve matters to such an extent as to warrant the expense is doubtful. If power were increased in so doing is another story.

THE detailed working of the Cape Town studio is thoroughly as up-to-date. Transmissions have been as successful, as varied, and numerous as any station anywhere. The bulk of the spade work has fallen on the shoulders of the present studio director, Mr. R. S. Caprara, who is a remarkable genius at his job, his right-hand man, Mr. R. J. Borthwick (station engineer), "Auntie Lex," of the children's hour, and the announcer, Captain Gordon Bird, who has earned the reputation of being the breeziest wit and cleverest announcer in Africa. These four have carried the burden.

Things have changed with the advent of the A.B.C., but in the minds of the old staff the problem is the same: How to improve programmes and transmission, to give a better service to those who get good reception, and to extend that service to the vast open spaces beyond the hills—Rhodes's great Hinterland.

While there was no money this vision was obscure. To-day, with money, it is still obscure. We hope it will not be so for long.

magnificent prospect there is for broadcasting in a country where 95 per cent. of the population is illiterate and consequently learns all it knows through eyes and ears!

#### The Communal Listening Set.

ONE of the first and most important developments will be the communal listening set, installed in every village within reach of the transmitter and maintained by Government assistance and perhaps paid for by some instalment plan.

At present the women in purdah have no touch with the world outside their own zenana quarters, and consequently have little opportunity for education, or even amusement. Broadcasting will bring to them what it has brought to the blind and bed-ridden in England: release from the bondage of their own little rooms, and a share in the life and happenings of the community from which they were previously barred.

A people who, in the main, can neither read nor write, can make little use of newspapers, and rumour is their only purveyor of information, and seldom tells the truth; but a service of broadcasting will bring news into every town and village of India, not in the form of rumour, but as an authenticated, truthful, non-propagandist news bulletin.

By far the largest proportion of India's people are agriculturists, and to them the weather is of paramount importance; news of the imminence of the monsoon, the annual rains, or even of casual rains, is news of a fresh supply of life-blood to them. Weather reports and forecasts will be one of the most valuable features of broadcasting in India.

#### The Only Means of Education.

IN many of the outlying villages there is nothing in the nature of schools or education, because either it is impossible to get the teachers to go and teach there, or it is too expensive; but when the communal listening set becomes an established fact, broadcast education will be better than none.

There are large numbers of Europeans and Indians who pass their lives in districts entirely cut off from the world. To them broadcasting means the end of their isolation.

The majority of Indians can afford little from their meagre incomes for entertainment or enjoyment, and the establishment of broadcasting will mean a new era for them, and must change their whole outlook on life.

In fact, taking the whole world, I doubt whether it is possible to find any other country where there is such a tremendous future for broadcasting, the possibilities are infinite. Nothing can prevent the progress of Indian broadcasting, which can so easily, so effectively, and so economically fill many gaps in the average Indian's life.

#### Service in Ceylon.

CEYLON was determined not to be out of the running in the broadcasting race, and, as the result of the report of a Government Committee appointed to inquire into the matter, the chief engineer of the Telegraph Department was authorised in August, 1924, to proceed with the work of establishing a broadcasting station. Broadcasting was started officially in December, 1925, when the station was opened by H.E., the Governor (Sir Hugh Clifford). Prior to this, however, a limited service was given by an improvised transmitter of about 3 kw. power. Good though its results were, the power was not great enough to ensure good reception throughout the island.

The power of the permanent station is 1.75 kw. input to the oscillating circuits. The aerial masts are 300ft. high and 600ft. apart. A wave-length of 800 metres was decided on after due consideration of the radiation efficiency of the aerial. The main studio is situated in University College, Colombo, and a small one for talks and news is in the Central Telegraph Office.

The great problem of providing programmes was, if not solved, at least rendered less difficult, by the ready provision of the services of talented amateurs, who deserve all credit for their valuable gratuitous work. In spite of the immense difficulties of the situation a broadcast service of about 1000 hours per annum has for some time been given, and every effort is being made to increase the popularity and usefulness of broadcasting in the island.

#### HIGH POWER STATION

##### COMING FOR CANADA.

OCCASIONALLY—very occasionally—the British settler, thousands of miles from his homeland, can for a few brief moments bridge half a continent, and an ocean, and listen to the familiar strains of some old English ballad broadcast from the Motherland. As improvements are made, and difficulties overcome, Canadian wireless enthusiasts look for the day when London and the rest of the Empire can be tuned in at will.

CECA, one of the oldest broadcasting stations in the Dominion, is understood to be negotiating for the erection of new apparatus which will make it one of the most powerful stations in Canada. At present its transmissions, with a power of 0.5 kw., reach both coasts consistently, but when, at the end of the present year, it moves into new quarters on top of the twenty-two story building now being erected for a Toronto newspaper, it is understood on good authority that a completely new station will go "on the air."

## Radio in Malaya

### FIELD FOR WIRELESS

#### A QUESTION OF TIME

IN one department, at least, of radio matters, Malaya has achieved world importance, says Mr. Hubert S. Banner, in "World Radio." In 1925, as the result of representations made by an emissary of the League of Nations, Singapore was made the site of a central epidemiological bureau, which aimed at the co-ordination of the maritime public health legislations of the various Far Eastern administrations. Before the end of 1926 weekly telegraphed epidemiological returns were coming in from nearly 150 Eastern ports within four days after the end of the week to which they bore reference. The Governments of Indo-China and of the Netherlands Indies, by courteously undertaking to broadcast the collated reports each week without charge, brought the costs of the scheme to a minimum.

Private wireless in Malaya, however, has had to struggle under severe difficulties. With very limited means at its disposal the Wireless Society of Malaya carried on amateur broadcasting for a period of over two years, putting out bi-weekly concerts. In the middle of 1927 a Johore member, with a Reinartz circuit detector and two stages of low frequency, with semi-vertical aerial of 24 feet, listened to London. This was the first recorded occasion, though late in the previous year a Singapore enthusiast had called together a large gathering of people to listen to 2L.O., only to find out, after all, that it was 3L.O., the Australian station!

IN March, 1927, it was definitely announced that in accordance with the recommendations of the Malayan Wireless Committee approved by the Government, an exclusive broadcasting license would be issued to one company for a period of five years. The company would have the right to broadcast advertising matter to the amount of 10 per cent. of the total daily broadcast time. The company was floated under the title of The Malayan Broadcast, Limited, with headquarters at Kuala Lumpur, Selangor.

It can only be a question of time before Malaya takes its place among the most important broadcasting centres of the Empire, for it is a country whose prosperity in relation to area and population is nothing short of phenomenal. Covered with jungle a bare half-century ago, Malaya to-day—and in area it approximates only to England (without Wales)—shows an annual total of imports and exports between £200,000,000 and £300,000,000. Indeed, the country's whole history is one of extremely rapid progress.

THE oldest European settlement in Malacca, whose ancient buildings, still standing, can tell a story as romantic as any in the world. Taken by the Portuguese under d'Albuquerque in 1511, it passed into Dutch hands in 1641. It surrendered to the British in 1795, was handed back to the Dutch in 1818, and came finally into British possession in 1824. The first seat of British Government, however, was established at Penang in 1786, whence it was transferred early in the following century to Singapore, founded by Sir Stamford Raffles in 1819.

From the time of federation onwards progress has gone ahead by leaps and bounds. Where formerly there were no means of transport, save rivers and perilous forest paths, to-day there is a network of 4000 miles of excellent metalled roads and a railway system extending over 1200 miles and linking up with the State Railways of Siam. More than 2,000,000 acres of the jungle have been cleared and planted with rubber, putting Malaya in a position to supply approximately half of the world's rubber supply.

Another department in which great progress has been made is tin mining. It is on record that as early as the fifteenth century Chinese miners were working the Malayan deposits, and it was in order to adjust the quarrels between rival gangs of Chinese miners that Britain first interposed in the affairs of what are now the Federated Malay States. Since then rapid advances have taken place, and to-day, with up-to-date machinery and methods, Malaya supplies about one-third of the world's tin requirements.

In a country, then, of such unparalleled prosperity and future promise, it may surely be prophesied that one day broadcasting will truly come into its own. Merely as a sidelight, to indicate that matters are moving in the right direction, it may be mentioned that imports of electrical apparatus into Malaya in 1927 totalled £235,101, as compared with £493,289 during the preceding year.

SEVERAL European stations employ a ticking clock or metronome as a means of identification. The Vienna metronome, for instance, ticks 44 times in ten seconds. The Frankfurt metronome ticks at the rate of 32 per ten seconds, whilst at Breslau the rate of ticking is 40 times in ten seconds.

## Canada and Radio

### THE BOON OF WIRELESS

#### DRYNESS FAVOURS DX WORK

IN no country more than Canada has wireless broadcasting revolutionised the life of a large section of the community. To the lonely farmer, trapper, and prospector in the vast prairies and northlands, wireless has meant a link with the outside world. There is scarcely a farmhouse from coast to coast without the magic little cabinet that sets the miles at naught. Music and entertainment from the great cities during the long winter evenings—market reports, weather report, and the like during the day, are eagerly looked for by the thousands who in former years made the annual trip to town merely to renew old contacts.

Undoubted blessing that it is, wireless, so far as Canada is concerned, has brought with it its share of problems. Canada's great southern neighbour, the United States, has established broadcasting stations at strategic points between the Pacific and the Atlantic, the large majority of which can be heard by Canadian listeners. Thus Canadian stations have been forced to improve the quality of their programme to attract listeners, but with the wireless enthusiasts there is always the lure of distance. To many, the quality of the programme is but a secondary consideration, the primary consideration being the distance from which it is heard. In Canada long-distance reception is possible with amazing clarity—perhaps due to the dry, cold air in winter.

A POWERFUL chain of broadcasting stations is maintained by the Canadian National Railway, stretching from Moncton, New Brunswick, in the east, to Ottawa; thence across the Great Lakes to Winnipeg; and finally to Vancouver. Wireless has become an integral part of Canadian national life. Political speeches from both sides are broadcast during election campaigns, particular care being taken to give each side a fair hearing. So far, the question of broadcasting Parliamentary debates has not been seriously mooted, but even that may come.

Of the practical uses of wireless in Canada there are many. Ottawa is kept in daily communication with the far-flung northern police outposts situated in Canada's Polar domain—one within a few hundred miles of the Pole itself. Men of the Royal Canadian Mounted Police who return from a year's vigil in these solitary northern wastes, where winter is perpetual night, are unanimous in saying that wireless has in recent years been the one factor that makes life worth living for them. At Christmas powerful broadcasting stations send them seasonable wishes and messages from their loved ones, sometimes in the form of actual verbal greetings. One of the grimmer uses to which wireless has been put, has been in aiding the police in the capture of criminals. To-day, the mounted policeman, no less than last century, "gets his man," for with a chain of wireless stations scattered strategically over the northland there is small chance of escape for the evildoer.



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## Glossary of Wireless Terms

UNDER this heading we will give regularly sections of the glossary of wireless terms which is a prominent feature of the N.Z. Radio Listeners' Guide. In that book, although set in the smallest type, it occupies some 13 pages, and is definitely in our opinion the most comprehensive and complete glossary on modern lines which has been made available in the Dominion. For the benefit of our readers the glossary will be reprinted in our columns.

**COUNTERPOISE.**—A system of wires (usually insulated and placed directly under an aerial), which is employed as a substitute for an "earth." A counterpoise is frequently used in conjunction with transmitting aerials in order to reduce the effective resistance, and in receiving broadcasting to afford greater selectivity and to reduce power-line and other electrical interference.

**COUPLER, LOOSE.**—A convenient form of tuning instrument in which two coils are used, energy being transferred from one to the other electro-magnetically; if very close together they are "tight-coupled"; if far apart, "loose-coupled." Usually the primary is fixed in position and the secondary, being of smaller diameter, slides in or out of the primary, thus varying the degree of coupling. The tuning of the primary and secondary may be accomplished by taps, sliding contacts, or external condensers, or by the fact that the secondary sliding inside the primary not only alters the coupling but also the self capacity and therefore the tuning.

**COUPLING.** Represents the means by which energy is transferred from one circuit to another. A "direct" coupling refers to a condenser or inductance coil, being common to both circuits, thereby linking them together. An "indirect" coupling refers to no actual connection between the two other than by magnetic induction due to the proximity of two coils, one being included in each circuit. A "tight" or "loose" coupling refers purely to the quality of coupling in a given set of circumstances. Thus, an indirect coupling may be made very tight, while a direct coupling can be quite loose. The amount of linkage between the two circuits is known as the "mutual inductance," where the circuits are indirectly linked.

**CRYSTAL DETECTOR.**—A detector which depends for its action upon the fact that the contact between a crystal and a metal, or between two crystals, will only carry an appreciable current in one direction. Thus trains of high-frequency oscillations can be converted into trains of unidirectional impulses, which produce an audible sound in a receiver telephone. The "crystal set" is the most inexpensive form of radio receiving equipment, but it has generally only an exceedingly limited range for broadcast reception and, as a rule, will

receive only local broadcasting, unless valve amplifiers are employed in conjunction with the crystal. Crystals capable of performing the necessary function of rectification are of many forms. While there are some quite as efficient as valves in this respect, the valve has the advantage that it simultaneously amplifies the feeble signals.

**CURRENT.**—An electric current is a movement of negative electrons, driven by an electro-motive force. A current cannot flow unless there is an electro-motive force to drive it, and a conducting path for it to flow along. The unit of electric current is the ampere. Current is a distinctive effect representing quantity at a given moment. To obtain a measure of power, the current or quantity for a given time must be considered as well as the voltage or pressure. Pressure multiplied by quantity gives power in "watts." A direct current (D.C.) is one which flows continuously in a given direction. See "Alternating, Oscillating, and Impulsive Currents."

**CYCLE.**—See "Alternating Current"; also "Kilohertz."

**DAMPING.**—When resistance is introduced by any means into a circuit for the purpose of simplifying tuning or to render the circuit less liable to burst into oscillation, the circuit is said to be "damped." Damping tends to flatten tuning and to reduce signal strength, thus reducing the general efficiency, and should be resorted to only as a last desperate remedy for undesirable super-selectivity or uncontrollability. See "Aperiodic."

**D.C. (DIRECT CURRENT).**—See "Current."

**D.C.C. WIRE (DOUBLE COTTON-COVERED WIRE).**—A very usual abbreviation referring to the type of insulation covering a particular gauge of copper wire.

**DEAD-END.**—Considerable loss is occasioned by the use of a large coil for low wavelengths, the greater proportion of the coil being unused. Unless this unused portion or "dead-end" is short-circuited, it tends to absorb much of the signal strength.

## RECORDS OF BROADCASTS LATEST AMERICAN IDEA

FOR the first time, gramophone records of an American radio broadcast programme are offered to the public in the United States. A well-known gramophone company has the distinction of pioneering in this direction, and the first example is a set of three double-sided records of the ceremonies connected with the national welcome to Colonel Lindbergh, the Atlantic flyer, at Washington.

On these records you have the voice of President Coolidge, the interspersed announcements of Graham McNamee, a short address by Colonel Lindbergh, and his longer speech at the National Press Club. It's all there, and if you close your eyes it is not hard to imagine that the events are actually taking place. The cheers of the crowd, the applause interrupting the speakers, the blare of the bands, and the quiet, unruffled voice of Lindbergh.

It is time that more of the historic events which are now being offered to the radio listener with impressive regularity were preserved in permanent form. The few records already made being a rather belated start in the right direction.

## EMPIRE BROADCASTS DIFFICULTY IN RECEPTION

A QUESTION asked recently in the British House of Commons dealt with the establishment of a broadcasting service for receiving at moderate cost in such places as West Africa and East and Central African Colonies, where thousands of British citizens were in remote and lonely stations and where a broadcasting service would be a great boon to them. The reply given was that the difficulty in providing such a service lay not in the transmission but the reception. The British Broadcasting Corporation had been conducting daily transmissions from its short-wave station, 5SW, ever since December 12 last, and from time to time programmes had been heard in Africa and elsewhere. The British Broadcasting Corporation, however, had stated that prolonged experiments under varying conditions were necessary before a definite receiving set policy could be evolved. It was suggested that the Government could give help in the matter, and Colonial Governments were co-operating by forwarding reports on local reception.

IT was announced recently that the Paris Eiffel Tower broadcast station intended to offer listeners prizes for competitions, taking the form of three flats of three rooms each, the rent of which will be paid for three years.

## Auckland Notes

(By Listener.)

AUCKLAND is certainly fortunate in its "children's hour" service. An enthusiastic body of "Uncles" hold juvenile attention nightly, and to know how much these radio relatives are appreciated one has to visit a home where there are kiddies—and a radio set. Dinner-table conversation is not considered good form by the youngsters, who before, during and after the meal hang on to every word that comes from the loud-speaker. "I often desire to switch the thing off," said a father, "so that I may talk to the family myself, but they would far rather listen to 'Uncle' than to parent. He is much more interesting than I am, they tell me, and when I realise the benefits my children are deriving from their radio hour, I am content to listen too, and frequently, to enjoy."

ON Sunday evening last the officials at IYA substituted a gramophone recital for the fortnightly organ recital. The change was an appreciated one, for it provided that variety for all tastes which our Sunday evening organ recitals seem to lack.

Our station came to light with the bad tidings of the All Black debacle on Sunday morning, and it was surprising to find out later how many listened in to hear the news. There are thousands in the city and suburbs who possess a receiver but not a telephone, and to them the broadcast rendered a signal service. There will be much dependence on IYA for the result of the next test, but an earlier hour of announcement would be welcomed, if the opinions of a number of listeners are to be relied on.

TO what extent the radio pirate exists in Auckland it is hard to say, though two cases have been brought under the notice of the Local Listeners' League, which has duly reported them to the proper quarters. But there is another form of piracy that is rife in the city, and that requires observation and checking. This is the unlicensed quasi-amateur home constructor and repairer who, if all reports are to be believed, is doing quite a big business, to the detriment of legitimate traders and of licensing revenue. It is very difficult to locate such folk, and still more difficult to secure grounds for their prosecution, but their existence is due largely to the short-sightedness of their patrons. The man who wants a set assembled or repaired should realise that, in having dealings with an unlicensed constructor he may be saying a pound or two, but he is getting all too frequently an unreliable service, and he is deliberately hindering the improvement of broadcasting by depriving the company of revenue which will be spent for his entertainment.

THE announcement that the establishment of a full studio orchestra has been postponed has been received locally in the spirit in which it was made. Though there have been one or two grumblers, listeners generally realise that the service cannot stand unlimited expenditure, and as a body they feel satisfied to wait for the inevitable increase in licenses that will finance the project. A correspondent in the local press suggests that by increasing the number of gramophone records used sufficient might be saved in programme expenditure to defray the cost of an orchestra. His suggestion has brought favourable comment on the idea, but he and other correspondents seem to forget that even with gramophone records a heavy royalty has to be paid when they are put on the air.

THE forthcoming extracts from light opera, which are to be featured on Saturday evenings, are being keenly anticipated. There is a fascination

## Television

### IN A POPULAR FORM

#### "A LONG WAY OFF"

TELEVISION in practical everyday form is a long way off, says Mr. L. M. Clement, chief engineer, Radio.

The "wrong impression" is created upon the layman when he is led to believe that television is here. In a sense, it is true that television is here, but there is a vast difference between television in what we engineers call the experimental stage and its practical application.

To explain further, an invention may be perfect technically and yet still be in the experimental stage in the sense in which I am now using the word. All old-timers in radio know that radio itself was an engineering fact a long time before it became a practical matter put to practical uses, so far as the general public was concerned.

To-day television, even in the laboratory, is practical only in what is known as a limited area. I shall explain that, but before doing so, I want to agree with the director of the Radio Manufacturers' Association and our own general manager, both of whom recently pointed out that television must in reality be a separate piece of mechanism from what we to-day visualise as a radio receiver. Most people have the idea that television will be accomplished by a simple attachment for a present-day radio set. Not so at all. As Mr. Richmond and Mr. Klein pointed out in viewing the commercial possibilities of television, not only does television at the moment involve a costly and elaborate equipment, but the very nature of television means distinct apparatus.

As I see it, real television requires a speech channel, a picture channel capable of handling modulation frequencies up to 30,000 cycles and either a synchronising channel or a crystal control synchronising equipment. In addition to the radio equipment, amplifiers and control equipment are required.

I do not mean to belittle television. It is coming, and will some day—five years or more from now, possibly more—be in more or less general use, but there are erroneous opinions about it, and those who have rushed into print, in many cases in half-baked fashion, are responsible to some considerable extent for the impression that has been created in the minds of the laymen of the world.

#### Limited Area Drawback.

I SHALL now try to explain in non-technical language, the limited area feature, which, fundamentally, is the most striking reason why television does not now, nor will it for a long time be able to, catch up with the imagination of its well-wishers. At present the effective area for the transmission of "sight" radio is limited. That is to say, at the present stage of development, from a practical standpoint, you could not "send" a ball game, a play, or even a single scene

for all tastes in the lifting refrains which we have heard from many a musical comedy, and even devotees of jazz, who rare against anything savouring of the classical, delight in listening to favourite selections from the "Belle," "The Country Girl," "The Merry Widow," and other comic operas. The complete production of one of these, though an ambitious effort, would make a great hit if it could be arranged without excessive demands for royalty.

from a play, much less a prize fight or any event encompassing an extended line or area of vision for the looker-on. Consider for yourself the practical demonstrations of television at this time mean a vision area of, say, two or three feet square. Not that this, theoretically, cannot be extended, and, indeed, there is nothing to prevent a much greater spread, but the fact remains that in its present stage, television represents the transmission of very limited areas even in the experiments being conducted.

While television is a fit subject for the engineering world to discuss and work on, there is, as I have said, a misunderstanding on the part of the general public through no fault of its own. I might go on and delve into the technicalities of the matter, but what has been explained about the area of present laboratory transmission is, perhaps, the best method of visualising for the lay citizen the fact that television as a practical proposition has not arrived.

#### Features are Explained.

CERTAIN phenomena of television, as in the case with our present-day radio, are highly interesting to the lay observer, as well as to the engineer. For example, some types of static on the "illuminated screen" of television apparatus look like handfuls of sand being thrown, or drops of water, being dashed against the surface.

An English publication, devoted to television, and said to be "the world's first television journal," says editorially: "We might, perhaps, be criticised as being premature in introducing a journal devoted solely to a subject which has as yet hardly emerged from the laboratory, but television, while it is not yet available to the general public, has long since emerged from the realm of theory," etc. No one can rightly deny this statement, for it sums up the situation very accurately, but one can with justice take exception to statements that would place television at this moment alongside of radio as we know it in the receivers of to-day. To say that such talk is premature is putting it mildly.

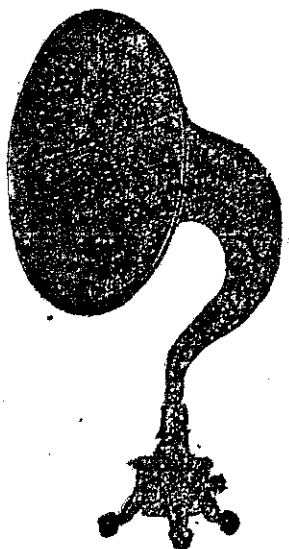
## AUTOMATIC ALARM

### SOS FOR SHIPPING.

ONE of the latest features of wireless equipment for ships is an automatic callbell apparatus called the auto-alarm, which has recently been perfected and passed by the navigation authorities. The apparatus is designed for use when the operator is off watch aboard ship. It is so designed that it will pick up a pre-arranged signal, consisting of four dashes, each of about one second's duration. This operating alarm bell is in the wireless-room, operator's sleeping quarters, and on the bridge, thus calling the operator to receive the distress call. This pre-arranged signal is sent out preceding the usual SOS signal used by ships when in distress. Special safeguards are provided on the auto-alarm so that in the event of the valves burning out, or the batteries dropping below a safe minimum working voltage, the alarm bells are set ringing, thus ensuring the operator being called and the fault rectified. The auto-alarm responds only to the prearranged signal, disregarding ordinary signals sent by other stations.

Auto-alarm sets have already been installed on the steamships Ferndale and Fordsdale, by Amalgamated Wireless (A/Asia), Ltd., and orders have been received for the steamships Minderoo and Gascoyne, of the West Australian Steam Navigation Co., Ltd.; Centaur, of the Ocean Steamship Co., Ltd.; Change and Taiping, of the Australian Oriental Line; Tandra, Arara, and St. Albans, of the Eastern and Australian Steamship Company.

## THE CELEBRATED ETHOVox Loud Speakers



This is the well-known Ethovox Loudspeaker which has become so popular because it reproduces speech and music with such remarkable purity and freedom from distortion. Its tone is deep and mellow, and it will deal with considerable volume. The demand for this model is so great that we have been able to effect economies in manufacture, and so reduce the price. The instrument is 26 inches in height, and the diameter of the diaphragm is 15 inches. The magnet-system is adjustable. Rubber studs on the feet prevent the loudspeaker damaging delicate surfaces on which it is placed. The graceful mahogany-coloured swan-neck and diaphragm give the Ethovox a handsome appearance.

Ethovox 3000 ohms, with Metal Horn  
Price £5 5s. 0d.

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For use in conjunction with Power Valves.  
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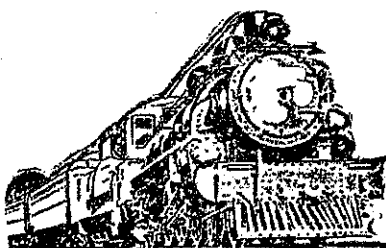
The Ethovox is manufactured by Messrs. Johnson & Phillips, Ltd., Charlton, London.

If not obtainable at your Radio Dealers please write to the New Zealand Representatives—

**Tolley & Son,  
LTD.**

Electrical Engineers,  
25 HARRIS ST., WELLINGTON.

Branches at:  
Arauc Avenue, Auckland; Water Street, Dunedin; East Mitchell Street, Christchurch.



## The Alpine Fairland

A new and happy experience for Wellingtonians. Secure your ticket now for the alluring Week End Excursion to Otira Gorge.

£3

Tickets are obtainable NOW at Railway Central Booking Office, Dominion Buildings.

## Week End Excursion

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TO

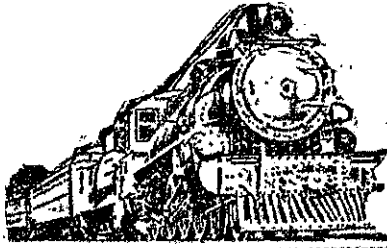
## OTIRA GORGE

Saturday, July 14

Climbing  
Walking  
Sight Seeing  
Magnificent  
Alpine Scenery  
Snow  
Ice  
FUN

Leave Wellington by Ferry Steamer 7.45 p.m. on Saturday, 14th July, train from Lyttelton to Otira and return to Christchurch on Sunday. Return to Wellington by Ferry Steamer, arriving about 7 a.m. Tuesday morning. Conducted walk over the Gorge.

Complete return fares including reserved seat on trains (saloon on steamer and first-class by rail) ONLY £3.



# THE NEW ZEALAND Radio Record

PUBLISHED WEEKLY.

Printed Tuesdays to permit of effective distribution before the week-end, with full copyrighted programmes for the succeeding week. Nominal date of publication Friday.

## SUBSCRIPTION RATES.

Rate of Subscription: Single copies, 3d.; Annual Subscription (if booked), 12/6, post free; normal rate, cash in advance, 10/-, post free.

## ADVERTISING RATES.

Schedule of Advertising Rates available from all advertising agents in New Zealand, or write: "Advertising Manager," Box 1032, Wellington.

Advertisements requiring setting should be in hand not later than Friday of each week to ensure publication in succeeding issue. Stereos and blocks, providing space has been arranged beforehand, can be accepted up to midnight Monday. Contract advertisements not changed will be repeated.

No responsibility is accepted for blocks, stereos, etc., remaining unclaimed after last use, beyond a period of three months.

A. J. HEIGHWAY,  
Managing Editor,  
"The N.Z. Radio Record,"

P.O. Box 1032.  
Dominion Buildings, Mercer Street, Wellington.

WELLINGTON, FRIDAY, JULY 13, 1928.

## EMPIRE COMMUNICATIONS.

IN view of the statement made to the daily Press that a merger will be effected between wireless and cable interests in the direction of improving the efficiency and scope of Empire communications, the review on our front page by Mr. G. H. Brown, the Australian Postmaster-General, who has been attending the necessary conferences in London, is of special interest. Rapidity of communication is of vital importance in modern commercial life, and of itself has contributed tremendously to the efficiency and scope of modern business activities. The rapid strides made by beam transmission in recent years, and its cheapness in comparison with the heavy cost of providing submarine cables as channels of communication, made it a dangerous competitor in the commercial field for the privately-owned and State-owned cables. It became necessary, therefore, in the interests alike of the State and of the business world, to consider an amalgamation to protect, on the one hand, the investments made by the State in providing for speedy communication, and on the other, to ensure that the march of progress should not be delayed by the extension of undue protection to State investments. The problem was a big one, and demanded the adoption of special methods. It became necessary to effect a weld, as it were, between the two principles of State ownership and private ownership, this being done by apparently a satisfactory merger, in which care must necessarily be taken to protect all interests involved.

THE important point for the business man, who is dependent upon rapidity of communication, is that the fullest efficiency shall be secured. This is being attained. The efficiency that is now possible in beam transmission between Britain and Australia is hardly yet realised in New Zealand. The regular traffic has attained stupendous dimensions, but the effect of it has as yet hardly been felt in New Zealand. The development of the merger, however, may be expected to extend the benefits of beam transmission somewhat to this country, possibly by cheaper rates, and possibly by quicker transmission.

THE ordinary broadcast listener in New Zealand is mainly concerned with the entertainment value of wireless. Important as that is, and valuable as it is, it plays but second fiddle to business interests and the importance of wireless in facilitating international Press and business communications. The developments that are taking place in the transmission of pictures, facsimiles of documents, etc., are very remarkable. The wireless era is apparently just beginning, and humanity is only commencing to benefit from the educative value of wireless in its various phases. The scope of those phases, and their ultimate effect upon world forces through the spread of education, may be glimpsed by a series of special articles culled from "World Radio," which appears on page 2 of this issue. Those articles outline in comprehensive fashion the development in Canada, India, Malaya, South Africa, and Australia. In the least-developed portions of the Empire—South Africa, Malaya, and India—it is impossible to foresee just what effect wireless will have over decades, but the enlightenment that is likely to come to the millions of India through wireless may have very notable reactions on Empire economic growth.

## SPORTING

### RANFURLY SHIELD MATCH

#### FIRST OF THE SEASON.

WEDNESDAY, JULY 18—Ranfurly Shield match, Canterbury v. Wairarapa—3YA.

SATURDAY, JULY 21—Rugby at all Stations. Boxing at 4YA (Mr. Divers, announcer).

### CARROLL v. CASEY ON JULY 23

Jack Carroll, welterweight champion of Australia, has been engaged by the Wellington Boxing Association to appear in Wellington against Harry Casey on July 23. Carroll is recognised as the most promising boxer in Australia today. He is a very hard hitter, and wins most of his fights by the k.o. He has victories over Al. Bourke (k.o.), Tommy McInnis, and Lewis, the American boxer. Tommy Bourke and his trainer, Pat O'Connor, who arrived in the Dominion last week, say the Wellington Association is very fortunate in getting Carroll to come across.

### BOXING TOURNAMENT

Instead of the usual studio concert arranged for the evening of Tuesday, July 10, from 2YA, the finals of the Wellington Amateur Boxing Championships will be relayed from the Town Hall. Descriptions will be given by Mr. G. P. Aldridge, Secretary of the N.Z. Boxing Association. This departure will be welcomed by a large number of boxing enthusiasts.

### 2ZM, GISBORNE

#### A POPULAR LOCAL EFFORT

##### TO BROADCAST BIG FIGHT

THE recent broadcast from the above station aroused much interest among listeners-in, many being aware that Mr. P. Stevens, the operator, once controlled the justly famous 2YM, an amateur station often logged on the Pacific Coast, and heard on several occasions, in remote Alaska. Mr. Stevens first took out a transmitting license in 1923, and, in common with most operators of that day, devoted much effort to establishing records in long-distance transmission. To-day, however, he is little concerned with the strength of his reception outside New Zealand; indeed, his main purpose in again "taking the air," is to stimulate interest in radio during the "off" period by providing good radio entertainment in his immediate district, for it must be admitted that during the spring and summer months in Poverty Bay, radio reception from distant stations is often more of a purgatory than a pleasure, a fact which means a serious decline in the sale of sets and accessories.

The station will be in full working order by the middle of August, when seven points of relay will have been arranged, including the concerts given by the Gisborne Savage Club, whose orchestra, under the baton of Mr. Mainland Foster, has received the greatest praise from visiting musicians of note.

The relay points are the local Opera House (the first relay being Miss Ethne Patridge's dance recital on the 26th of this month), the two kinema houses, and four dance halls.

There will also be occasional studio concerts, for which much local talent is offering.

Meanwhile, 2ZM has inaugurated a children's hour, from 6 p.m. to 7 p.m. on Sunday evenings only, and many letters and telegrams of a laudatory nature have poured into the studio as a result. The session is conducted by Aunt Judy and Uncle Buster, both well-known in amateur theatricals, and as Aunt Judy is a journalist, a good deal of original matter is presented, the bedtime stories in particular adding to the lady's popularity. It may be of interest to state here that, as far as is known, 2ZM, when 2YA, was the first station to broadcast Shakespeare. The performance was given some months before the Shakespearean night at 2LO, when famous English actors and actresses gave extracts from the more popular plays. The Gisborne performer was the Aunt Judy of the children's hour.

At present a detailed description of the equipment at 2ZM is not available, but the operator hopes to supply a technical account of his set, when he has perfected his plans. He is now working on 260 metres, using aerial power of approximately 50 watts, which he proposes to increase shortly.

It is now advised that 2ZM will broadcast from an independent American source a complete round-by-round report of the Heeney-Tunney fight. Heeney's parents, who reside in Gisborne, will also speak from the station on the occasion of the fight.

—Modestine.

RIVIERA residents are agitating for the erection of a powerful broadcasting station at Nice.

THERE are four broadcasting stations in Toronto, three each in Vancouver and Montreal, and two stations in Winnipeg.

## What is the Efficiency of Your Set?

### Interesting Test to be made by 2YA

A VERY interesting test is to be made by 2YA shortly, and the assistance of all listeners is invited. The test relates to the efficiency of receiving sets. The date of the test will be announced in next week's "Radio Record," and a coupon will be published for listeners to fill in and return.

That the cause of much poor reception is entirely in listeners' own hands is widely known, and it will be a source of satisfaction to listeners to have the receptive qualities of their sets tested.

The Broadcasting Company, therefore, propose to make test transmissions in various frequencies, and listeners will be asked to equip themselves with pencil and paper and record what reception they get at these different frequencies. The quality of the set will be shown by the vibrations received—and not received.

THE Director of Music of the Radio Broadcasting Company, Mr. W. J. Bellingham, will be present when the tests are being carried out. The changes in vibrations will be made during the transmission of a lecture by Mr. Bellingham on the nature and purpose of the tests. He will announce when each change in frequency is made.

These tests will take place on two days, and listeners will have an opportunity of judging for themselves as to whether their loudspeakers are capable of responding to the vibrations which are necessary in order to obtain a true tone. The vibration frequencies will range from the lowest fundamental to the highest harmonic. If the listener hears nothing of any particular frequency, he will realise that his set is incapable of accepting this particular frequency, and how the music which is transmitted is being spoiled.

IT is realised that bad reception of good music is the reason why there is a demand for rhythmical music such as jazz. This demand for jazz does not indicate that the listener has not the capacity of appreciating beauty of tone, but that possibly he never hears it from his loudspeaker. If a listener can only hear rhythm, it is only rhythm he will ask for.

In the next issue of the "Radio Record" the subject will be more fully discussed, and the necessary information in connection with the tests will be published for the benefit of listeners.

### TRANS-TASMAN FLIGHT

#### PERFECT RECEPTION

#### FULL FACILITIES TO BE GIVEN

FOLLOWING up the information given last week regarding the New Zealand Broadcasting Company's preparedness to co-operate to the fullest extent with Captain Kingsford-Smith in the flight of the Southern Cross across the Tasman by putting any or all of its stations on the air for purposes of guidance, the following letter has been received from Colonel Brinsmead, Controller of Civil Aviation in Australia:—

In answer to the company's cablegram offering its assistance, the following letter has been received from Colonel Brinsmead, Controller of Civil Aviation in Australia: "I desire to acknowledge with thanks your cablegram of June 19 offering all possible co-operation from any or all of your four broadcasting stations with a view to facilitating any Tasman flight that may be attempted in the near future. Your very kind offer has been repeated to Mr. Ulm, who is now in Sydney, with a request that he should communicate with you in the event of it being possible to undertake the flight to New Zealand."

The stations in New Zealand owned by the Broadcasting Company will be on the air throughout the full course of the flight, when it takes place. The Morse messages will be picked up and translated for the benefit of ordinary listeners, and on the landing of the aeroplane, if such takes place at any of the four main centres, a special description of the scenes of landing will be broadcast. Interest in this flight will certainly be intense, and listeners may rest assured that no effort will be spared by the company to give the best possible service in connection with it.

THAT Mr. J. H. Owen, president of the Wellington Radio Society, is enjoying himself on his trip abroad, and is not forgetful of his friends in New Zealand, is shown by the receipt of a postcard addressed to Messrs. Davies and Ball, 2YA, Wellington. This is dispatched from Montreal, and tells that Mr. Owen had a good time in Canada, and is leaving for London forthwith.

Evidently the humour of broadcasting has inspired some artists abroad in the production of humorous postcards. The reverse of Mr. Owen's postcard bears the inscription "Perfect reception," and depicts a radio fan ensconced near a barrel bearing the insignia XX. On top of the barrel is a two-valve set, and the listener, seated on a stool nearby, has a 'phone to his ear and a tube to the contents of the barrel. Truly he is enjoying perfect reception!

#### GENERAL NOBILE'S MESSAGE

His airship wrecked in the icebound regions of the north, General Nobile has been able to keep in contact with the world by wireless, and since he commenced his venture he has used Philips T. B04/10 Transmitting Valves. It is a tribute to the durability of Philips Valves that they withstood the concussion to which they must have been subjected when the airship was wrecked, and the severe test of such extreme climatic conditions.

THE wave-length of 300 metres represents a frequency of one million per second.

## Hellesen Radio Batteries

### THE BEST IN THE WORLD

#### DOES THIS NAME MEAN ANYTHING TO YOU?

HELLESEN STANDS FOR BETTER RESULTS, LONGER LIFE, AND GREATER EFFICIENCY IN YOUR SET.

Large Stocks Carried by

SOLE N.Z. AGENTS.

John Chambers & Son, Ltd.

AUCKLAND, WELLINGTON, CHRISTCHURCH, DUNEDIN, AND INVERCARGILL.

For the best radio reception.

## Mullard

THE MASTER VALVE

A British valve with a first-class reputation.

Obtainable from all Good Radio Dealers



FOR THE BEST RADIO RECEPTION

Sole N.Z. Selling Agents: SPEDDING LTD., Fort Street, AUCKLAND.

# Heeney-Tunney Fight

## SPECIAL EFFORTS OF COMPANY

AS indicated last week, the Broadcasting Company has been actively prosecuting arrangements in connection with the broadcast of a description of the Heeney-Tunney fight, to be fought at the end of this month. The company has been in communication with its New York representative to secure full information as to what short-wave broadcast arrangements have been made in respect of this fight, and has instructed him to cable full particulars of the wave-length, power and time transmission of stations that will be operating. Instructions have also been given to the effect that contact should be made with the stations operating to see that special care be taken in the broadcast matter, to meet the special interest of New Zealanders in their champion, Tom Heeney, on this occasion.

THE company is very keen to make a big feature of this broadcast, and no efforts will be spared at all stations to pick up the short wave transmission, and give New Zealand listeners by relay the opportunity of hearing the progress of the fight. Success, of course, will be dependent on the conditions prevailing for reception, but all that can be done will be done to secure good results.

## VALUE OF CO-OPERATION

### 2YA MUSICAL AND DRAMATIC COMMITTEE

THE monthly meeting of the 2YA Musical and Dramatic Committee was held at the studio on Monday evening, Mr. E. Palliser (chairman) presiding. There were present Messrs. J. Carr (Charley's Aunt Club), Len Barnes (Orpheus Society), G. L. Giesen (Hutt Valley Choral Society), Campbell (Wellington Competitions Society), V. R. Bennett (Harmonic Society), I. Levy ("The Dominion"), A. S. Warwick (Orphans Club), R. Lyon (Savage Club). Apologies for absence were received from Messrs. Harrison Cook (National Repertory Society), and Mr. H. Temple White (Commercial Travellers' Choir).

A letter was received from the Broadcasting Company acknowledging the resolution passed by the committee at its last meeting, and intimating the company's pleasure in adopting the suggestion that a "literary evening" should be scheduled for once a month. Mr. Ball stated that the first two "literary evenings" had already been arranged for, Mrs. R. S. Watson, B.A., having kindly consented to deal with "Kipling and His Work" on July 27, and Miss Clodagh Russell, whose subject had yet to be decided, having similarly undertaken to provide the literary matter for the evening of August 31. Mr. Levy suggested that the literary matter should be supplemented by appropriate vocal items, in the case of the Kipling evening, for instance, by "The Road to Mandalay" and other ballads. Mr. Ball said that this had been arranged for.

Mr. G. L. Giesen said he was pleased that the company had approved his suggestion re broadcasting choral items, as he had intended to propose that the company be approached with a view to ascertaining whether it would be practicable for the Studio Orchestra to take part in the society's next concert, so that the whole programme could be broadcast on relay. After expressing his views as to the mutual advantage of such co-operation, he moved accordingly, Mr. Levy seconding.

Mr. Palliser intimated that if transport was a matter of consideration in connection with the proposed arrangement, his car would be available for the occasion. Mr. Campbell stated that the Competitions Society had not yet considered its attitude in relation to broadcasting, but the matter would be discussed at their next committee meeting.

The chairman said there was a time when he had been unable to see that the broadcasting of their performance

could be advantageous to musical organisations, but he no longer entertained any doubt on the question. He was satisfied that a policy of co-operation would prove mutually beneficial, and that broadcasting—especially of selected items from a final rehearsal, would be a good thing for the societies, who would thereby get valuable publicity. He voiced this opinion confidently, because of his personal knowledge of what had happened in connection with one of the local bands. He believed it would be advantageous for the Competitions Society to have the work of some of the successful competitors broadcast. It might be arranged, say, for certain of the prize-winners during the early stages to broadcast from the studio, prior to a demonstration concert, or, better still, for the "recall items" to be put over the air direct from the Town Hall.

Mr. Len Barnes said the Orpheus Society had been broadcast on two or three occasions. Last December they had given "Maritana" from the studio of 2YA occupying the whole evening. They were now practising for "The Rebel Maid," to be produced on August 4. He did not know if his society would agree to the broadcasting of the whole performance, but he thought they would agree to parts of it being broadcast.

The chairman: I think the broadcasting of some items from the final rehearsal would be a good "boost" for the production.

Mr. Stanley Warwick: Most certainly.

After further discussion it was resolved on the motion of Mr. Barnes, seconded by Mr. Lyon, that the various musical and dramatic societies in Wellington and the Competitions Society be approached with a view to having selected portions of their programmes broadcast either from the actual performance, or from the final rehearsal.

The chairman reported that he was already in communication with the Wellington District Combined Bands' Association, and the Wanganui Band Contest Committee, relative to the possibility of broadcasting on relay to Wellington from Wanganui the championship test pieces at the band contest. At least six bands from Wellington would be competing, and he felt sure that if a successful relay could be assured they would pack the Town Hall. It was, however, a matter of ascertaining the probability of a successful relay being assured, and to that end he moved "that the company be requested to carry out a test between Wanganui and Wellington as a preliminary to arranging for a relay broadcast of the championship band contest to be held in Wanganui in February."

The chairman said he had no doubt the Post and Telegraph Department would render every assistance possible in connection with the test.

A sub-committee, consisting of Messrs. Carr, Barnes, and Davies, with the chairman, was appointed to investigate a matter of interest to listeners in regard to the broadcasting of organ music.

### 2YA CHURCH COMMITTEE

A MEETING of the 2YA Church Service Committee was held on Tuesday. There were present Rev. Ernest Weeks (chairman), Rev. Clarence Eaton, Rev. F. E. Harry, Rev. R. J. Howie, Pastor F. E. Carpenter, Rev. C. V. Rooke.

The principal business dealt with was the fixing of the rota, and, after discussing the position and reviewing the practice followed in other centres, it was unanimously agreed that the rota as at present in vogue be continued for the present, subject to such minor variation as may be found desirable from time to time. A complaint relative to the subject matter of a recent relay broadcast was discussed at some length, and it was decided to endorse the complaint and refer same to the Broadcasting Company per medium of a formal resolution expressive of the committee's unanimous view of the matter. It was decided to recommend that in cases where such services do not coincide with the broadcast rota, Sunday school anniversary services be broadcast either morning or afternoon, subject to the approval and convenience of the Broadcasting Company, and certain fixtures were tentatively arranged in accordance with the recommendation.

## RELIGION BROADCAST

### ARCHDEACON TAYLOR'S VIEWS

#### MAY INCREASE CONGREGATIONS.

THE chief objection that is raised to the broadcasting of religious services is that this practice affords a new temptation leading people to stay at home and listen instead of going to church to take part in the service," says Archdeacon Taylor, in an article in the St. Luke's (Christchurch) "Parish Magazine."

"Personally, I think it will not have this effect. Of course, a certain number of people will give as their reason for stopping away from the church the plea, 'Oh, we have no wireless and we always listen in to the service on Sunday evening.' But would those people go to church in any case? Or is it only just a new excuse, readily welcomed by those who know in their own hearts that all the old excuses are inadequate? If people don't want to go to church they won't go. If they think they ought to go and yet don't want to go, they will deceive themselves and try to deceive others by giving some excuse or other, and the wireless one has a great advantage for his purpose over the Sunday headache, the stuffy church, the poorness of our preaching and all the other well-worn excuses. But if people want to take part in the worship of God, they will not be satisfied with what they get over the wireless for, wonderful as it is, it is not really the same thing. Only in a very few cases can it be anything like the same thing. One such case is that of a sick person listening in to the service in solitude. Such a person may well thank God for this wonderful new invention which enables him to associate himself so closely with his fellow-Christians before the Throne of Grace. Another case might be a group of people in a remote country place gathered together by common consent for the express purpose of joining in the service as broadcast. In his case they will kneel for the prayers, stand for the hymns (and, of course, join in the singing) and sit only for the lessons and the sermon.

"BUT I do not believe that people who could go to church and don't would join in a wireless service in that way. I picture the family group round the fireside. Father is in the big armchair and his pipe is going well. He has the Saturday evening paper at hand in case he finds the service uninteresting. Mother is on the other side of the fire, perhaps thinking that on the whole it would be more restful if she were really at church. Then there are the young people, including the daughter's young man. What do they think about it? The boys, of course, are interested in the new scientific toy. They all like to have a background of music or some other sound and are used to carrying on their conversation to it without any embarrassment. It is quite a pleasant picture. But is it worship? Frankly, I do not believe it. And if at any time some of those people feel a desire for worship, or even for the fellowship of their fellow-Christians, they will give up the wireless and go to church next Sunday.

IN the long run, then, I feel sure that very few people will be kept away from church because of the wireless services. Is it possible to believe that broadcasting will ever tend to increase church attendance? Yes; I think so. Surely sick people who have found comfort in the church's prayers will want to take a fuller part in them when they are well. And even the most listless of listeners will sometimes hear something that will set them thinking about the great realities. There is another point. People who have never been in the habit of going to church regularly do not know what our service is really like. People who haven't been for years have forgotten. Many of these find through the wireless that church services are not so dull or so meaningless as they thought. Others realise that there is something in the church service which they can appreciate now but could not appreciate when they were younger, or more careless, or perhaps more self-willed. Such people find themselves gradually being drawn back to the Heavenly Father and to the Church which He has established among us to be our spiritual Mother, and to His House which is our true spiritual home."

A HIGH-POWER broadcasting station similar to the German giant at Zeelen is to be erected in Finland this year.

AN accumulator that needs recharging should not be allowed to stand aside indefinitely, but should be taken as soon as possible to the charging station.

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## 2YA ORCHESTRA

### INTERESTING ANALYSIS

#### POPULARITY OF PROGRAMMES.

IN the last issue of the "Radio Record" a correspondent, "Wanganui," alleged that there was a preponderance of classical music in the programmes submitted by the orchestra of 2YA. The correspondent specially mentioned the week ending June 30, during which time, he asserted, the orchestra played 94 minutes of classical, 40 minutes of light opera, and 30 minutes of request items. After analysing all the items, he contended that two-thirds of the programme were classical and one-third light opera.

As it seemed evident that our correspondent was wrong in his assumption, we have had the programmes in question analysed, and the result is particularly interesting, being just the reverse of the conclusions our correspondent arrived at.

The analysis discloses the following position:—

#### Classical Music.

	Min.
"Phantasy Trio" (Trio) .....	10
"Joseph and His Brethren" (Schmidt) .....	12
"Ballade" (violin solo) (Haydn) .....	7
"Ascanio" Ballet Music (Saint-Saens) .....	10
"Colonial Song" (Trio) .....	10
"Wanderer's Ziel" .....	10
"Hungarian Rhapsody" (Liszt) .....	7
	66

#### Popular Music.

"Stradella" (Flotow) .....	10
"Monsieur Beaucaire" (Rosse) .....	10
Request .....	8
"Rakozzy" (Keler Bela) .....	10
Request .....	8
"Madame Butterfly" (Puccini) .....	10
"Private Ortheris" (Ansell) .....	9
"Cleopatra" (Cornet) .....	6
Request .....	6
"Love's Old Sweet Song" (Molloy) .....	6
Request .....	8
"No, No, Nanette" (Youmans) .....	10
"Blue Mazurka" (Lehar) .....	10
"Queen High" (Gensler) .....	10
	121

The foregoing list shows that 121 minutes of popular and 66 minutes of classical music were performed during the week in question. Even amongst the music which is scheduled as "classical," two or three of the numbers are distinctly "popular," particularly "Joseph and His Brethren" Suite.

It is, of course, very difficult to draw a line clearly between "classical" and "popular" music. As a matter of fact, a great deal of classical music is popular, whereas some musical comedies and compositions of that description are not particularly popular. The only way is to differentiate between music which is simple, melodious and easy to listen to, and which one knows by experience is popular with the great majority, and other music which is more complex in form, and which appeals to the minority. A very wide experience is necessary in order to draw this line accurately.

On the four nights for which the orchestra is engaged, it is on the air for 3½ hours. Its performances cannot be given without considerable rehearsal, since each number played is different, and not, as with picture houses, repeated nightly. Rehearsals occupy three or four times the length of the public performance.

The Orchestra at 2YA cannot be compared with the 3LO Synco-Symphonists, who play the type of music which their name indicates. There is no question but that the 2YA Orchestra is much superior to anything heard in Australia.

## VARIETY FOR 1YA.

### SUGGESTIONS ADOPTED

#### MEETING OF MUSICAL COMMITTEE.

The third meeting of the 1YA Musical and Dramatic Committee was held at the Auckland Studio of the Radio Broadcasting Company, Francis Street, on Friday the 6th of July, at 8 p.m.

A letter was received from The Radio Broadcasting Company, under date the 28th of June, in which the General Manager pointed out that the Company had instructed their Auckland Station Director to carry out the following suggestions recommended by the Committee.

(1) That two Mystery Programmes be staged, and in the first of these the names of the artists be not announced but left to the listener to suggest by means of coupons, to be published in the "Radio Record," and if required by the Committee, in the local press.

(2) That in the second of these programmes, the names of the items be not announced but left to listeners to guess in a similar manner.

(3) That once every four weeks on Sunday evening after the church service, a one-hour gramophone record programme be broadcast, in place of the usual organ recital.

(4) That short lectures with illustrations on singing, piano-playing and string playing be in the programme, each section to be limited to fifteen minutes.

The company pointed out that the Committee's suggestions were viewed as sound propositions, and were instructing their Station Director to co-operate with the Committee in every possible way and carry out the recommendations as above as early as possible.

Appreciative comment was made by the Committee on receipt of this letter conveying the Company's favourable consideration to the suggestions, and it was decided—

(1) That the first mystery programme be held on the 29th of August next, and the second one on the 26th of September.

(2) That the first broadcast of the one hour gramophone record programme, after the church service, in place of the usual organ recital, be held on the 12th of August, the second on the 9th of September, and the third on the 7th of October, 1928.

(3) That Mr. Strong, of the Auckland Choral Society be asked to conduct the first of these programmes, Mr. Plummer the second and Mr. Lambert the third.

It was suggested that Mr. John Tait be asked to conduct the proposed English programme, which would include a short lecture of not more than 12 minutes, and excerpts from the more prominent English composers.

The Sub-Committee, consisting of Dr. Phillips and Mr. K. Atkinson, which was set up at the last meeting to bring down a report on the proposed holding of competitions, presented its report. This was received and referred for further consideration at the meeting to be held on Friday, the 20th of July.

The Committee then discussed the question of introducing some variety into the present programmes, and it was thought that in certain cases, groups of artists should not be engaged more frequently than once per fortnight. It was pointed out that this would not be a hard and fast rule applicable to all artists.

With regard to the suggestion that more jazz music would increase the license total, it is significant that of the "Radio Record" coupons returned with requests for orchestral numbers less than five per cent. specify jazz.



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## "MINIWATT" VALVES

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# From the Woman's Point of View.

By VERITY.

## TO-DAY AND TO-MORROW

### A Fascinating Film.

THERE are twenty different ways of killing cats, 'tis said, and thrice as many ways of wearing a shawl to advantage, all of them exploited in the pictured play, "The Loves of Carmen," now being staged at the De Luxe Theatre, Wellington, and founded on the lovely opera by Bizet.

Against a background of old Spain, with its passion and superstition, its vivacity and violence, the gay, sad story makes an admirable film play; the part of the wanton, lovely gypsy being acted by Dolores del Rio with a daring grace that charms. Of an adorable slowness, lovely and seductive to a degree, she dances her way into the hearts of men; and without shadow of compunction forsakes the nice young Jose for the coarse and virile bull-fighter who has captured her wayward fancy. Provocative to a degree is the dance by which she brings down her quarry; but was it essential for the great Toreador to have such evil "table manners," and that he should consume his victuals with such ogreish appetite? The bull-fight seems a somewhat tame and perfunctory performance, and hardly up to the standard of the blood-and-sand drama that one imagines; but slender, passionate Carmen captures and holds her audience till the last scene, when Nemesis finds her, and the dagger of the forsaken Jose ends her careless, laughing life.

The subtle, haunting music of the opera is exquisitely played by the De Luxe Orchestra, and the Habanera and Toreador songs, by artistic vocalists, are a charming interlude.

### Things Women Say.

It is really well worth the extra bit of trouble to keep a husband.—Lady Kitty Vincent.

Parents who want their boys to be brought up in old, die-hard traditions should have to pay for it.—Mrs. Neville Dixey, M.P.

The only advantage of being a woman is that you can't marry one.—Countess of Oxford.

It is sometimes very easy to agree with principles, but not so easy to agree on their application.—Viscountess Bryce.

The modern girl is clever and interesting, and, in a quiet way, knows that life has been good to her and her generation.—Lady Norah Spencer Churchill.

There is more cant talked about motherhood to-day than any other subject.—Mrs. Dora Taylor.

I dislike jazz extremely, on the ground that it makes no real contribution to music.—Dame Ethel Smyth.

Ever since there was a vote, the men's vote has swamped the women. In enfranchising women, the Conservative Government has done more in the cause of peace than any other Government.—Mrs. Stanley Baldwin.

### Advice to Women.

A WOMAN who shingles loses control of her face. Given long hair, a variety of costumes, and imagination, a woman can transform herself into a dozen different creatures. She can be demure, or gay, or tragic; but if she loses her hair she is condemned to monotony. For the sake of the artist women should keep their hair on.—Mr. Drummond Young, at the Professional Photographers' Exhibition, London.

### Women Farmers.

THERE are now over 20,000 women farmers in England and Wales. The main openings for women in rural occupations are poultry-keeping, rabbit-rearing, and the breeding of goats. Formerly rabbits were reared in England for their flesh alone, but with a decreasing supply of fur from wild animals new breeds of rabbits have been created, and they are now reared largely for the value of their pelts. As much as 35s. a pound is paid for Angora fur, and one Angora rabbit will produce 100% a year.

### A Balfour Story.

SOME years ago when Mr. A. J. Balfour was going through a village near the home at Whittingehame he was accosted by one of the old men of the place, to whom he presented a shilling. The old man leaned confidently towards Mr. Balfour and whispered, "Man, dae ye ken what I'm gaun to tell ye?" "No," said the statesman. "Wee," he said, "it's gaun to rain seventy-two days." Mr. Balfour smiled, and thinking to have some fun with the old man replied, "That cannot be, for the world was entirely flooded in forty days." "Yes," returned the old fellow, nodding sagely, "but the world wasnae drained as it is noo."

### Paris Shoes.

SHOES in Paris are simpler than last season. A single strap, or two, very little trimming, a slender cut and a straight heel from five to six centimetres high, and there you have the main lines of the fashionable summer shoe for town wear. Beige is the favourite colour, a rosy beige and a grey beige. In fine kid these beige shoes are being made by all the leading Parisian bootmakers. Grey is now recognised as impractical. It is difficult to get the right shade to go with the dress, and grey dyes are not good. They turn yellow and mauve and look sickly, whereas beige keeps its colour or takes on a pleasant "patine" of light brown. Grey is kept for women who can afford to have shoes to wear a few times and then set aside as not to be worn any more.



MISS ANITA WINKEL

—A talented elocutionist heard from 4YA. Photo. Artlife.

### Evolution of Hats.

HATS were first worn by the ancient Greeks and Macedonians. They were very plain affairs made of felt, not intended to be ornamental, but merely used as a protection from the weather.

Medieval English hats were very splendid and costly. Smart young men prided themselves on their hats of rich materials, decorated with feathers and precious stones.

The shiny silk "toppers" were first worn about 1840, and "bowlers" came into use about ten years later. Straw hats were worn much earlier, and one English town, Luton, became celebrated all over the world for the excellence of the straw hats made there.

### Bows Again.

BOWS are a decoration appearing on many frocks this season. One of the newest ways of using these is to take the shiny side of a reversible ma-

terial and thread it through slots in the bodice, ending in bows on the left. Many jumpers have bands added, finished in long ends tied in a bow and sleeves, of course, have their cuffs tied in the same manner. The bows, to be really fashionable, must, however, be of the same material as the dress, although often used on the reverse side.

### Beauty a Handicap.

IT is said that for the ambitious actress beauty is a handicap to recognition because she attracts attention before she legitimately deserves it. The present-day stage has its example in that remarkable woman, Gladys Cooper. It would be a shock and a revelation to her adoring public to know the stupendous struggle it has been for Gladys Cooper to get herself accepted as the fine actress she is first and the great beauty afterwards. Yet a murmur in appreciation of her interpretation of a difficult part to which she has given months of study pleases her more than volumes in praise of her famous "looks."

### Present Fashions Score.

THE fashions of 1900 look vulgar, pretentious, unlovely beside the simple distinction of those of to-day. Both on the stage and off it was easy to find examples of the advance in good taste and good sense that has been made in the art of designing dresses during the last few years. Not only is the feminine figure more natural in the clothes of to-day, but it is more graceful, more really womanly, less doll-like. Then, again, the materials used to-day are so much more becoming in texture and colour than those which were used in 1900.

By tucking and shirring, gathering and pleating, flouncing and draping, a modern dress is a lovely thing to handle and to wear. There is no binding up of the throat as if it were always sore, no hiding of the ankles as if they were a disgrace. To pause and consider why it is that women prefer short skirts, open necks, free waists, is to realise that they have emancipated themselves from foolishness. They may commit follies still in the manner of dressing—they always will—but they are, at least, more healthily as well as more gracefully dressed in 1928 than they were in 1900.

### Apricot Chutney.

TWO cups of apricot pulp, two tablespoonfuls of ground almonds, one teaspoonful of chopped chillies, half teaspoonful salt, half teaspoonful mustard powder, one ounce ground ginger, a saltspoonful of pepper, and quarter bottle boiled vinegar.

Use dried apricots, soaking them till they swell, then stew them till soft, drain, and pass through a sieve. Mix all the ingredients well together. Pour over all the vinegar, boiling, put the mixture in a saucepan, bring to the boil over a gentle heat, and bottle.

### British and Best.

WHAT are the largest trees in the world? According to an answer to a question in a general knowledge paper set by a contemporary, they are the Sequoias of America. This is on a par with the statement that the Niagara Falls are the largest in the world, and is purely an American boast. The largest trees in the world are the Damara Australis or Kauri pine of New Zealand.

The land survey report on the Waitapu Forest (1919) claims the largest for that forest, and Kirk gives measurements of one containing 31,416 cubic feet gross or 295,788 board feet of sawable timber, whereas the greatest reported yield from a Sequoia is 141,000 board feet, or less than half the amount in the New Zealand giant.

### Kipling's Reply.

THE undergrads of Cambridge used to run a magazine called "The Granta," which had many short-lived rivals. The editor of one of these had the impertinence to write to Rudyard Kipling for a contribution, explaining that finances were so low they could not afford more than a guinea per thousand words! He got the following reply from Kipling:—

"There once was an Author who wrote Dear Sir—In reply to your note Of yesterday's date— I reluctantly state— Can't be done for the price that you quote."

## "FAVOURITE NOVELS" COMPETITION

### MONTHLY PRIZES FOR WOMEN READERS

TO most women there is some book of especial attraction. It may be they find the story of enthralling interest, or perhaps the country in which the scenes are laid holds peculiar fascination. Again, the literary style may have a unique appeal, or some picturesque period in a historical romance.

For our Competition this month we invite readers to send the name of their "Favourite Novel," with the author's name, and a short summary, not exceeding 200 words, of the reason, or reasons, that it holds first place in the affections. A brief and interesting paragraph should be aimed at, conveying as far as possible the charm the book holds for you.

"The Radio Record" offers a prize of half-a-guinea for the best paragraph. The right is reserved to publish the whole or any part of any entry sufficiently original or striking (apart from the prizewinner) on payment of space rates. Entries must be written in ink, on one side of the paper only, and the name and address of the competitor should be written on the back of each entry.

The decision of the editor is final. A non-de-plume may be used if desired.

The "Favourite Novels" competition closes July 20, and the result will be announced on the women's page on July 27.

All entries to be addressed "Verity," C/o "Radio Record," Box 1032, Wellington.

## The Letters of Annabel Lee

MY dear Elisabeth:

"Little deeds of kindness, little words of love," of many and varied descriptions, are to be passed to the credit of that Society in our midst whose admirable and strenuous slogan is "Service before Self." Latest and greatest of its efforts is one of generous spontaneity and endeavour to ameliorate the condition of the Wellington unemployed, those who for the moment, through force of unhappy circumstances, are unable to help themselves. Little crying children will be warmed and cheered, and discouraged men, whose luck is out, will perchance take heart to seek that work, which at worst is hard but remunerative toil, and at its best salvation. Mr. Springhall is to be honoured for his inspiration of kindness in starting the campaign, and those others also who, in responding with energy and generosity, literally have kindled a fire in dark places, a glow more welcome than those lights flicking the sky at morning which, after a white night of memories, herald beautiful, cold sunrise of a winter day.

BY strange and happy chance, prices are cheaper than ever at the sales this year, and a pleasant practice prevails of marking down, for perhaps a couple of days, covetable wraps, silken shawls, and coats of many colours, fashioned of tweed, velvet, and a new and unattractive material resembling old-fashioned plush that has been out all night in the rain. Each to his taste, however, and to some women these coats hold distinct allure, being delightfully cut, flared, and splashed with fur not too reminiscent of our national asset, the ubiquitous bunny; one of especial invitation, in a window in Willis Street, being of amethyst velour, beguilingly befurred with skilful eye for effect, all to be acquired for the not inordinate sum of four guineas, and calculated to "keep out the cold" as effectively as that "little something" so warmly extolled in an un-

pleasant Scots song popular in a decade that is dead.

IN another window, of a bookshop this time, and a second-hand one, my eye lighted upon a paper-bound pamphlet, on the cover a reproduction of the formal, pointed writing of Grandmama, setting forth "How to Write Letters for All Occasions," by a Lady of Title. With a Corollary on "The Best Way to Win Love, Make Love, and Retain Love." Invaluable knowledge, it will be admitted, more easily purchased than a love philtre, and well worth the money, whatever the cost! Beside it, perched at perilous angle, was discovered a dusty tome on The Care of Canaries, decorated with presentment of one of those fat yellow songsters whose gentle flutterings are so amazingly at variance with strident vocalisation. Another book with title that intrigued was "The Passionate Parakeets," which was jostled, surprisingly, by a quite excellent edition of the works of George Borrow. Hastening to possess myself of a copy of that "Bible in Spain," so loved, so mourned for many a moon (my beloved and battered copy having been suborned by conscienceless enthusiasts), attention was diverted to the most unlovely "jacket" of my experience—which is saying much, having regard to colour and conception of some present-day posters—illustrating Humorous Recitations, and depicting small, black figure gesticulating upon thin edge of the world, surrounded meantime by varying aspects of the human mouth, in an ascending scale of the Grim Incarnate. All very toothy and terrible, and eminently adapted to recall one's worst day with the dentist, or the crudest nightmare of them all.

THE Royal Academy Show does not appear to be striking this June, except for some strange, luminous pictures of spiritual portrayals, a legacy left by the late Charles Sims. Stark and bewildering seem these excursions into another world than this

pleasant mundane land of ours; phantasmal expanses of colour, over which glide figures of a dim grace that are to be described if one peers long enough with the eye of faith. All of an infinite portent, without doubt, to their creator, whose own life grew grim and tragic at its close. Material things discarded, his imagination soared beyond these voices, revelling in and conveying an atmosphere and an elusiveness that fascinate and baffle. In his earlier, and some would say, his saner method, this artist did memorable work, characterised by fine draughtsmanship and sense of colour, coupled with notable gift of portraiture; but these latter fantastic meanderings in paint are at times repellant, having something in common with those stormy frescoes that were the work of Somerset Maugham's sinister painter in the South Sea Islands, though they lack the sombre genius of those crude and terrible masterpieces.

'TIS the play that pays! The more sensational the better and not necessarily bearing any verisimilitude to life. In which doubtless Mr. Edgar Wallace would concur, as he reels out, with the mechanical dexterity of an R.U.R., those crude melodramas, containing no glimmer of truth of portraiture nor literary quality whatsoever, on which nightly the proletariat—"maistly fools" as the blunt Carlyle considered—gorges itself. And now the versatile Mr. A. A. Milne has tried his hand at sensational drama, which begins with a straight out murder, the rest of the acts being concerned with unravelling of the mystery, and the audience sees it all from the start—an original touch, this, and as such to be commended. "The Fourth Wall" runs successfully, but one finds it hard to reconcile its author with the creator of Christopher Robin, Piglet and the other great adventurers.

Your  
ANNABEL LEE.

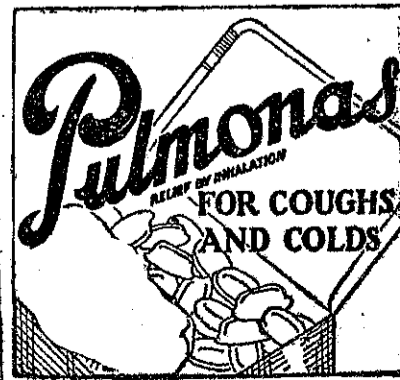
**Tonking's Linseed Emulsion**  
is a Certain Cure for Coughs and Colds

### An Expensive Baby.

AMERICA'S most expensive child is three-year-old Gloria Vanderbilt, whose fortune will shortly be \$2,500,000. She costs \$1000 every month, and all her meals are served on gold.

### Woman's Precedent.

THE first woman barrister to have the honour of appearing in a trial at the Old Bailey, London, is Miss Enid Rosser, who assisted Mr. H. D. Rouse recently for the prosecution in the murdered police constable case.



# Some Features of Next Week's Programmes

## "CAVALLERIA RUSTICANA" AT 1YA

THE operatic excerpts which will form part of Tuesday's programme will this time be taken from "Cavalleria Rusticana," the most popular of all short operas. Madame Irene Ainsley, Miss Mary Hamilton, Mr. Herbert Maddocks, and Mr. Ernest Snell will comprise the cast.

Contributing to the first portion of the evening's programme will be the same vocalists with the addition of Miss Nora Hulme (soprano). Instrumental music will be provided by Miss Ina Bosworth (violinist), the Studio Trio, and by the Majestic Orchestra. Mr. A. B. Chappell's talk on Tuesday evening will concern "The New Zealand Company."

ON Wednesday evening the Auckland Comedy Players, under the able direction of Mr. J. F. Montague, will present a four-act comedy play, "Mary, Mary, Quite Contrary," by St. John Ervine. This should prove an outstanding performance for 1YA, as the Auckland Comedy Players' productions are now well-known to all listeners. The various acts will be interspersed with classical and popular instrumental entr'actes.

A TALK on the French Revolution and its place in history will be given at 7.15 on Thursday evening by



MISS AROHA ALLEN.

A pianist who gives great pleasure to all listeners in to 4YA. Photo Artile.

Mr. N. M. Richmond, of the Workers' Educational Association.

Splendid variety of excellent talent will mark 1YA's programme on Thursday evening. Contributing to the entertainment will be Miss Maisie Cartelloy, Ingall's Hawaiians, the Auckland Trio, Mr. Galford Bell, some special electrically-produced records, Mr. Cyril Towsey, and Mr. Barry Coney's Quartet. The soloists will be Miss Martha Williamson, Mrs. Burgess, Mr. K. Errington, and Mr. Barry Coney. Some splendid songs have been selected, and the whole programme will be one of rare excellence.

THERE will be no "sameness" about Friday evening's programme. Vocal solos and concerted numbers will be sung by the members of Madame Mary Towsey's Quartet. Mr. Fred Barker will dispense humour, including more of his wayside philosophy. Miss Mollie Wright (cellist), and the Auckland Trio will play choice music. The Snappy Three will sing popular numbers. Orchestral music will be relayed from the Strand.

Messrs. H. Richards, H. Ripley, E.

## "Mary, Mary Quite Contrary"

### 1YA TO BROADCAST FOUR-ACT COMEDY

QUITE exceptional will be the programme to be broadcast from 1YA on Wednesday evening, for it will take the form of a four-act comedy enacted in its entirety by the Auckland Comedy Players with a cast of ten characters. This is an ambitious project, but with such an excellent cast as has been got together, the radio production, under the guidance of Mr. J. F. Montague, is certain to be very successful.

The central figure of the play is Mary Westlake, a theatrical star, and the plot concerns the excitement which she caused in the quiet English village, and particularly in the house of the vicar. Listeners will thoroughly enjoy the volatile and erratic Mary, who is a great responsibility for her manager, and the subject of a wild infatuation on the part of the vicar's son, Geoffrey Considine. The vicar's bachelor brother, Sir Henry Considine, just returned from India, also proves susceptible to her charms, and the complications are very amusing. Miss Myrtle Walford is taking the part of Mary Westlake, and no one better than Mr. Alan McElwain could have been chosen for the humorous role of Mr. Hobbs, Mary's business manager. As the gallant Sir Henry Considine, Mr. J. F. Montague can be relied upon to make the most of a very important part.

The role of Mrs. Considine will be filled by Miss Eva Andrews, and that of Sheila (her niece, the prospective bride of Geoffrey—until Mary came on as a disturbing factor) by Miss Una Norwood. Mr. Cyril Seaward will be the vicar, the Rev. Canon Peter Considine, and Mr. Jack Gordon will take the part of the son, Geoffrey, who has written a play and wants Mary Westlake to act it. The radio audience will also have the pleasure of meeting Miss Mimms, the energetic leader of the village girl guides, but whose name tickles the fancy of Mary. Miss A. Vennel takes this role. Mr. Geo. Hinton will act the part of Mr. Beeby, the breezy playwright who knows, just as Mr. Hobbs knows, what the public want, and has a poor opinion of Geoffrey's play.

"Mary, Mary Quite Contrary" is a brilliant four-act comedy by Mr. St. John Ervine. Its broadcasting will provide a great treat for all listeners.

Another feature of Wednesday's programme will be a gramophone recital for which Mr. Karl Atkinson will be responsible.

Thomas, and A. McElwain, known as the Lyric Quartet, will provide their share of the vocal portion of Saturday evening's programme. Others contributing will be the popular Bohemian Trio in popular items. Mr. A. McElwain will supply humour, as usual. A dance session will follow from 9 o'clock till 11.

### JOTTINGS FROM 2YA

A CONCERT on Monday evening, July 16, will celebrate the first anniversary of the opening of 2YA. A special programme has been arranged, and some of the same artists who appeared at the first concert will appear again on Monday. But, excellent as was that first programme, Monday's will be still better. On this occasion there will appear the Studio orchestra and an instrumental quintet, a violin solo will be played by Miss Ava Symons, and a pianoforte solo by Mr. Gordon Short (both with orchestral accompaniment). The vocalists for the evening will be Miss Nora Grey (soprano), Miss Nora Greene (contralto), Mr. Sam Duncan (tenor), and Mr. Nevill Smith (baritone, of Sydney). Mr. Norman Aitken will provide the humour of the evening.

An attractive feature of Monday's programme will be the appearance of Miss Mina Love and party, who sang on the opening night. On this occasion their items will be Maori songs and Hawaiian music.

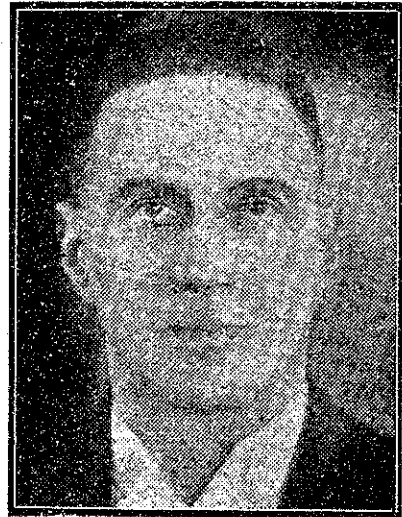
The Orpheus Quartet is departing from its usual programme on Tuesday. All the items given will be from the rich store of English songs of three hundred years or so ago. There is a wealth of melody in these numbers, and some of them are the basis of our national music.

"WELCOME, Sweet Pleasure" is a madrigal written by Thomas Weelkes, Bac. Mus., in 1608. He was organist of Winchester Cathedral and Chichester Cathedral. "Parting" by John Dowland, Shakespeare's friend, is another madrigal. Dowland was born in 1563, and acquired fame as a lute player and composer. He travelled in Europe, and was appointed Luteist to the king in 1612. This number was published in 1597. "Cold's the Wind"—words from "The Shoemaker's Holiday," written by Thomas Dekker, in 1600, is sung to the tune of

"The Cobbler's Jig," which was written about 1622. "Jog on, Jog on," is a tune from Queen Elizabeth's Virginal Book. The first verse is from Shakespeare's "Winter's Tale," and the other verses from "The Antidote against Melancholy," 1661.

Two songs will be sung by Mr. Arthur Coo—"O Mistress Mine," and "Ah, the Sighs that come from my Heart."

The words of the former are from "Twelfth Night," and the music is traditional. The music of the latter is by William Corrysshe, junr., who was composer of the Chapel Royal. Miss Lily Mackie will sing "The Willow Song," the words of which are from an old ballad, "The Lover's Complaint." Shakespeare arranged the words to suit his purpose in "Othello." Mrs. Alice Harris will sing "The Carman's Whistle" and "Under the Greenwood Tree." The tune of the former was very popular in Queen Elizabeth's time. The original words could not now be sung, and the present poem is



MR. F. C. COOPER.

A much appreciated 4YA artist.

Artile, Photo.

an adaptation from John Oxenford. The latter song is an old English melody. "Green Sleeves" (1584) will be sung by Mr. Len Barnes, who will also give "Song on the Victory of Agincourt" (1415). A copy of this song is in the Peppysian collection at Magdalen College, Cambridge. It is written upon vellum in Gregorian notes, and can be little less ancient than the event which it recorded. Listeners will doubtless be surprised at the beauty of the old songs of England.

Mr. A. Stanley Warwick will contribute acceptable elocutionary items, and there will be a relay of organ music from Taranaki Street Methodist Church, Mr. H. Temple-White being the organist.

THE ever-popular Lyric Quartet will again be on the air on Thursday night when they will provide the vocal items with which the band items will be interspersed. As usual, their programme will consist of both grave and gay numbers, and should appeal to all listeners. The concerted numbers will include that old and well-loved melody, "Sally in Our Alley," and also that beautiful harmonised and ever-popular "Rosary." A humorous touch will be given by the singing of the old nursery rhyme concerning "Humpty Dumpty," the story of the "Three Crows," and that of a boy who went "Fishing." Mr. Chas. Williams will render that beautiful song of Coleridge-Taylor, "Eleanore," while the bass voice of Mr. W. Binet Brown will be heard to advantage in that grand song, "The Last Call,"

will entertain with his mandolin; Mr. Geo. Titchener will send some more of his characteristic humour over the air; the Glad Idlers will be heard in light vocal numbers; Mr. Vermont, a clever whistler, will be heard in bird and animal imitations; and Miss Amy Eaton, a gifted soprano with a voice of exceptional sweetness, will again delight all listeners.

At 9 o'clock on Sunday morning, listeners will be advised of the result of the second Test match between New Zealand and South Africa. From 3 to 4.30 there will be an appropriate musical programme—at 6 o'clock the children's service will be broadcast—at 6.55 the evening service at the Vivian Street Baptist Church will be broadcast on relay, and at 8.15 approximately, listeners will again have the opportunity of hearing another of the Port Nicholson Silver Band's popular recitals.

### 3YA FEATURES

THE Woolston Band, under Mr. E. J. Estall, will make its second appearance at 3YA on Monday in a splendidly diversified programme. When the band last played for 3YA it created a furore in broadcasting circles. A tenor trombone solo will be played by Master E. Williams and an euphonium solo by Bandsman T. Hughes. Both solos will have band accompaniment.

The vocal items which will inter-



MISS VANDA DUNCAN.

whose delightful mezzo-soprano voice is heard from 4YA. Photo Artile.

The baritone voice of Mr. Will Goudie is well suited to that rollicking, humorous, "West Country Courting" song. In addition, Mr. Charles Williams and Mr. Will Goudie will give the duet, "The Two Beggars." It will be seen that this programme maintains this quartet's high standard.

Miss Evelyn Robinson, who has already been heard over 2YA, will again sing on Thursday evening. Her numbers are "Greatest Miracle of All" (a negro song), "O Golden Dawn," "My Exquisite Love," "The Rose," and "The River and the Sea." This young singer is from the studio of Mr. Len Barnes, and she has already many admirers of her vocal talent.

The instrumental music for Thursday will be provided by the Municipal Tramways Band, under Mr. T. Goodall. On this occasion the band will play a selection of exceptional interest—the dramatic music from the famous opera "Macbeth," by Verdi. This class of music is not often found in the repertoire of a brass band, and very few scores are in existence. It is a very fine composition, ranking in equality with the best music ever written for brass band work.

OVER two hours of variety entertainment will be provided for listeners on Friday evening. Orchestral items (including repeat and request numbers), the humour of the Two Boiled Owls, popular songs by Miss Moana Goodwill, Miss Hilda Chadley, Mr. E. W. Robbins, and Mr. S. E. Rodger, concertina items by Mr. R. M. Stratmore, and guitar music by Mrs. Mildred Kenny's Trio will comprise the programme.

ON Saturday evening at 2YA the Melodie Four will again provide the vocal portion of the programme. In response to numerous requests, "Slow River" will be repeated. The Melodie Four's treatment of this number when recently presented was quite a revelation in four-part singing, and brought forth many flattering encomiums. "Off in the Still Night" will also be sung by the quartet on this occasion. Several fine solos have been selected by the individual members, and these include "Here in the Quiet Hills," "I Pitch my Lonely Caravan at Night," "My Dreams," "Songs my Mother Taught Me," and "The Iceberg."

Supplementing the Melodie Four on Saturday evening, Mr. Lad Haywood

perses the instrumental selections on Monday evening will be rendered by some excellent artists. Miss Hilda Hunt, Mrs. D. W. Stallard, Mr. T. G. Rogers, and Mr. Percy Davies will contribute items, and comic songs will be sung by Mr. Basil Johnson.

The Birch Trio Entertainers will provide vocal and instrumental items on Wednesday evening, these consisting of jazz songs with banjo, mandolin, and piano. Other instrumental numbers will be provided by the Studio Trio, Mr. E. N. Trenberth (Hugel horn), Miss Aileen Warren (pianoforte), and Mr. Harry Rowe (mouth organ).

THERE will be a wealth of good talent performing from 3YA on Wednesday evening, and there will be much variety in the programme. Miss Nellie Lowe, the popular contralto, will be heard in solos, and also in a duet with Mr. A. G. Thompson. Mr. Thompson's solo items include the old favourite, "Simon the Cellarer." Mrs. G. L. Bull, who possesses an excellent mezzo-soprano voice, will sing "O Lovely Night."

(Continued on Page 14.)

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## NOTES AND COMMENTS

(By "Switch.")

**I UNDERSTAND** that the P. and T. Department has not enough radio inspectors to comply with the Wellington Amateur Radio Society's request for a house inspection of receiving sets, to ascertain whether those which are designed to be neutralised are really neutralised correctly.

**"BASSO"** (Kelburn) writes: "The Wellington municipality has a very fine city organ and a highly qualified organist, who plays to a mere handful of people every Sunday night. I am afraid the public regard these Sunday night concerts as too high-brow, but what is wrong about broadcasting an organ item every Sunday night, so that the citizens who happen to be radio licensees can hear their own grand organ?"

**A FRIEND** was telling me the other day that he had purchased one of the new super-power valves, but he was dissatisfied with the results which did not come up to expectations. I queried him about it, and elicited the fact that he was employing only 6 volts filament current, although the valve was designed for 7½ volts! You can't get the best results unless you follow the manufacturer's instructions.

**"SOLDER"** (Palmerston North) writes: "I have been looking over constructional details for building a television receiving set, published in an American radio magazine. Is there any possibility of television broadcasts from Australian stations within the near future?" No suggestion of such a possibility has appeared in the Australian Press. So far as this part of the world is concerned, television is a very long way off.

**"ARE** automatic controls of filament voltage in a radio set completely satisfactory?" queries "Rheo" (Wanganui). The best makes of these automatic controls will be found to be thoroughly efficient, but great care should be taken to purchase controls which are manufactured for the valves in use. These controls are designed with various characteristics.

**"I HAVE** been thinking of sending to a Pennsylvania company for aluminium shielding for my home-built set. Do you consider aluminium efficient for that purpose?" Shielding of that material is used by many of the leading makers throughout the world.

**TWO** Wellington listeners inform me that they have picked up the Palmerston North stations on occasional nights. One listener operates a five-valve neutrodyne set, and the other a six-valve tuned radio-frequency set.

**A WELLINGTON** radio company is importing the complete units of the electro dynamic cone loudspeakers without the valve amplifying section. The ordinary multivalve radio set can give good amplification under the above conditions. These speakers, fitted in a handsome cabinet, will be retailed at about eighteen or twenty pounds. Everyone I have met who has heard an electro-dynamic loud-speaker declares that it is just about the last word in tone and volume.

**SEVERAL** listeners have asked me where they can find the Japanese stations on their tuning dials. JOHK is just below 4QG, Brisbane, and JOAK occupies a similar position with respect to 2BL, Sydney.

**A RADIO** acquaintance confidently assured me that the electrical interference so widely experienced around Wellington was due to the electrical plant on a certain steamer then in port. When the vessel left port and was some 120 miles from Wellington the electrical interference was worse than ever!

**"HAVE** you any record of the year in which the exponential horn was first brought out and who was the inventor?" asks "Melody" (Masterton). "Why is it called 'exponential'?" As far back as 1924 two American engineers evolved the exponential horn. They were Messrs. Hanna and Slepian. This type of horn, however, was not developed for radio purposes until some years later. It is called "exponential" because any particular cross-sectional area and its corresponding distance from the small end of the horn are related by a mathematical equation containing the quantity (2.7) approximately. The more slowly the horn expands, the deeper the note with which it can deal, provided the area of its mouth is sufficient to prevent back reflection of the sound waves.

**THE** other night we heard an announcer state that the band would play a certain item, but, behold, the band played something widely different. Now, why can't the announcer and the bandmaster get together between items and agree as to what is to be performed. If they can't agree let them toss for it.

## Sunday, July 15

### 1YA, AUCKLAND (333 METRES)—SUNDAY, JULY 15.

- 3 p.m. Afternoon service by the International Bible Students' Association.  
4.30: Close down.  
6.0: Children's song service conducted by Uncle Leo, assisted by cousins from Beresford Street Sunday School.  
6.55: Relay of service from Devonport Methodist Church—Preacher, Rev. J. F. Martin; organist, Mr. Len Elliott; choirmaster, Mr. F. W. Beck.  
During the evening a sacred cantata will be rendered entitled "The Daughter of Jairus" (Sir John Stainer). This cantata is an excellent example of the imaginative yet reverent handling of a Scriptural incident. The "Walling" for female voices, the duet "Love Divine," and the scarcely less well-known tenor solo "My Hope is in the Everlasting" are among the features that have ensured for the work a long and legitimate popularity. The inspiring subject is treated in broadly vigorous and declamatory phases by the composer, who has infused into his choruses an eloquence that renders them very attractive. This cantata was first performed at the closing service of the Worcester Triennial Musical Festival in 1878, for which it was expressly composed. Soloists: Soprano, Miss Alma McGruer; tenor, Mr. Arthur Ripley; bass, Mr. Frank Sutherland.  
8.30: Relay of Grand Organ selections from the Town Hall (organist, Mr. Maughan Barnett).  
9.30: Close down.

### 2YA, WELLINGTON (420 METRES), SUNDAY, JULY 15.

- 9 a.m.: Result of "All Blacks" Match in South Africa.  
9.15: Close down.  
3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
6.0: Children's Sunday service conducted by Uncle Ernest, assisted by the Girl Guides.  
6.55: Relay of Benediction service from St. Gerard's Redemptorist Church, Hawker Street.  
Organ solo—"O Divine Redeemer" (Gounod).  
Rosary—With choral responses.  
Antiphon—"Salve Regina."  
Sermon.  
Motets—"O Sacred Heart" (Stevenson); "Magnificat" (L'Abbe Lamblotte); "To Jesus, Heart All Burning" (traditional).  
Benediction.  
Motets—"O Salutaris Hostia" (Silver); "Panis Angelicorum" (Palestrina); "Tantum Ergo" (Verdussen); "Divine Praises" (Anon.); "Adoremus et Laudate Dominum" (Gladstone); "Jesu Dei Vini" (Anon.).  
Organ solo—Finale, "Marche Solenne" (Mauilly).  
Conductor, Mr. Frank J. Oakes. Organist, Mr. Henry Mount.  
8.15 (approx.): Relay of Band recital of the Wellington Municipal Tramways' Band from His Majesty's Theatre (conductor, Mr. T. Goodall).  
God Save the King.

### 3YA, CHRISTCHURCH (306 METRES)—SUNDAY, JULY 15.

- 9.0 a.m.: Result of "All Blacks" match in South Africa.  
3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
5.30: Children's song service conducted by Uncle David, assisted by the scholars from St. Albans Baptist Sunday School.  
6.30: Relay of evening service from Oxford Terrace Baptist Church. Preacher, Rev. J. Robertson, M.A.; choirmaster, Mr. Vic. Peters; organist, Mr. Melville Lawry.  
7.45: Selected items from the studio.  
8.15 (approx.): Rebroadcast of 2YA Wellington (relay of concert by Municipal Tramways' Band from His Majesty's Theatre, Wellington).  
God Save the King.

### 4YA, DUNEDIN (463 METRES)—SUNDAY, JULY 15.

- 5.30: Result of First Test Match at Johannesburg between the "All Blacks" and South Africa.  
5.31: Children's song service conducted by Big Brother Bill, assisted by the scholars of the Maori Hill Presbyterian Sunday School.  
6.15: Relay of organ recital by Mr. E. Haywood, F.R.C.O.  
6.30: Relay of service from St. Paul's Anglican Cathedral.  
8.0: Studio concert.  
9.15: Close down.

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## Monday, July 16

### 1YA, AUCKLAND (333 METRES), MONDAY, JULY 16.

SILENT DAY.

### 2YA, WELLINGTON (420 METRES), MONDAY, JULY 16.

- 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 session—Aunt Gwen and Uncle Jeff, Ernest, and Toby—Special birthday programme. Songs, Cousins Joyce, Ailsa, Zena, and Rosina, "Birthday Song" (Tayler). Chorus, the Uncles, selected. Talk, Uncle Ernest, "Wonders of the Middle Ages" (original). Talk, Uncle Toby, "The Future" (original). Chorus, the Family, selected.  
7.0: News session, market reports, and sports results.  
7.40: Lecture—Mr. H. South, "Books, Grave and Gay."  
8.0: Chimes of the G.P.O. clock.

A Special Anniversary Programme to Celebrate the Opening of Station 2YA on July 16, 1927.

- 8.1: Overture—The Orchestra, "Finlandia" (Sibelius).  
8.9: Soprano solos—Miss Nora Gray, (a) "Snowflakes" (Mallinson); (b) "Only the River Running By" (Hopkins).  
8.16: Instrumental quintet—Miss Ava Symons, Mrs. Eric Meier, Mrs. Hector, and Messrs. G. Ellwood and G. Short (first violin, second violin, viola, cello, and piano). "Quintet" (Dvorak).  
8.32: Baritone solos (with violin obbligato)—Mr. Neville-Smith, (a) "O Lord Most Holy" (Franck); (b) "The Last Hour" (Kromer).  
8.39: Violin solo (with orchestral accompaniment)—Miss Ava Symons, "First Movement of Concerto" (Mendelssohn).  
8.49: Contralto solos—Miss Nora Greene, (a) "What the Chimney Sang" (Griswald); (b) "Love's Old Sweet Song" (Molloy).  
8.56: Humour and recital—Mr. Norman Aitken, (a) "I Don't Want My Cigar to Go Out" (Leo); (b) "Blackwoods of the West" (Service).  
9.2: Weather forecast.  
9.4: Maori melodies—Miss Mona Love and party, (a) "Maori Chant" (traditional); (b) "Pohare Kare" (Hill).  
9.11: Instrumental—The Orchestra, ballet music from "Coppelia" (Delibes); (a) "Slavonic Theme with Variations"; (b) "Festival Dance and Waltz of the Hours"; (c) "Nocturne"; (d) "Automaton Music and Waltz."  
9.29: Baritone solos—Mr. Neville-Smith, (a) "When the House is Asleep" (Haigh); (b) "White Ships" (Gray).  
9.36: Pianoforte solo (with orchestral accompaniment)—Mr. Gordon Short, "Capriccio Brillante" (Mendelssohn).  
9.49: Tenor solos—Mr. Sam. Duncan, (a) "M'Appari Tutt Amari" from "Martha" (Flotow); (b) "Passing By" (Puccini).  
9.45: Cello solo (with orchestral accompaniment)—Mr. Geo. Ellwood, "Variations Symphoniques" (Boellmann).  
9.57: Vocal quartet—Melodie Four, (a) "The Moon Man" (Macy); (b) "Peter the Cat" (Eastman).  
10.4: Hawaiian instrumental numbers—Miss Mona Love and party, (a) "Song of Hawaii" (Bories); (b) "Palikiko Blues" (Palikiko).  
10.11: Humour—Mr. Norman Aitken, (a) "He's an Awfully Nice Fellow to Speak To" (Weston and Lee); (b) "The Artist's Model" (Rutherford).  
10.17: Instrumental—The Orchestra, (a) "Songs My Mother Taught Me" (Gipsy song); (b) "Slavonic Rhapsody, No. 2" (Dvorak).  
God Save the King

### 3YA, CHRISTCHURCH (306 METRES), MONDAY, JULY 16.

- 3 p.m.: Afternoon session—Selected studio items.  
4.25: Sports results.  
4.30: Close down.  
6.0: Children's session—"Scatterjoy," story for the tiny tots. Song, Cousin Kathleen, "There are Fairies at the Bottom of Our Garden" (Lehmann). Story, "Progress of Lights, Ancient and Modern." Instrumental music by the Rennie Trio of Girls. Story, "All About the Arctic and the Eskimos." Birthday greetings and a box of tricks.  
7.15: News session.  
8.0: Chimes.  
Band programme by Woolston Brass Band, under the conductorship of Mr. R. J. Estall, and assisting artists.  
8.1: Overture—Band, "Boulder City" (Hume).  
8.5: Baritone solo—Mr. Percy Davies, "A Song of Waiting" (Wright).  
8.9: Tenor trombone solo—Master E. Williams (with band accompaniment), "Walther's Prize Song" (from "Meister Singers" (Wagner).  
8.13: Soprano solo—Miss Hilda Hutt, "Love's a Merchant" (Carew).  
8.17: Tenor solo—Mr. T. G. Rogers, "The Tollers" (Piccolomini).  
8.21: Comic song—Mr. Basil Johnson, "I Wonder How I Look When I'm Asleep" (De Sylva).  
8.25: Selection—Band, "Boccaccio" (Suppe).  
8.35: Contralto solo—Mrs. D. W. Stallard, "A Summer Night" (Thomas).  
8.39: Waltz—Band, "Casino Tanze" (Gungl).  
8.46: Soprano and tenor duet—Miss Hilda Hutt and Mr. T. G. Rogers, "Down in the Forest" (Ronald).  
8.50: Recital—Mr. James Laurensen, "Adventures of Billy Smith" (Smile Smith).  
8.56: Weather forecast.  
8.58: Overture.  
9.2: Baritone solos—Mr. Percy Davies, (a) "Any Old Place I Can Hang My Hat" (tramp song); (b) "When Bright Eyes Glance" (Hedgecock).  
9.10: Humoresque—Band, "Slidin' Thro' the Rye" (Truman).  
9.17: Soprano solo—Miss Hilda Hutt, "Mighty Lak a Rose" (Nevin).  
9.21: Selection—Band, "Highland Memories" (Le Duc).  
9.31: Tenor solo—Mr. T. G. Rogers, "Beloved, It is Morn" (Aylward).  
9.35: Comic songs—Mr. Basil Johnson, (a) "Holding Mary's Hand" (Burley and Bull); (b) "Do I? Yes, I Do" (Silberman).  
9.43: Euphonium solo—Bandsman T. H. Hughes (with band accompaniment), "The Cavalier" (Sutton).  
9.48: Contralto solos—Mrs. D. W. Stallard, (a) "When the Tide Comes In" (Millard); (b) "The Little Old Cabin in de Lane" (Jubilee song).  
9.55: Recital—Mr. Jas. Laurensen, "Our Two Opinions" (Field).  
10.0: March—Band, "Brigade of the Guards" (Hawkins).  
God Save the King.

### 4YA, DUNEDIN (463 METRES), MONDAY, JULY 16.

SILENT DAY.

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# Week - All Stations - to July 22

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## Tuesday, July 17

1YA, AUCKLAND (333 METRES), TUESDAY, JULY 17.

- 3 p.m.: Afternoon session—Selected studio items.  
4.0: Selected literary item.  
4.8: Further selected studio items.  
4.25: Sports results.  
4.30: Close down.  
6.0: Children's session—Uncle George, flute solo, "Cavalry Parade." Cousin Jim, recitation, "Annabel's First Party." Cousin Alma, story for tiny tots. Song, "Sleeping Beauty." Uncle George, Letters and Birthdays. Recitation, "Girl in the Shoe Shop." Cousin Jocelyn, Flute solo, selected, Cousin Jim, Recitation, "Royal Marine." Cousin Joyce, Story-time.  
7.0: Close down.  
7.15: Talk—Mr. Geo. Ambler, "Poultry-keeping: Rearing Chickens."  
7.30: News and market reports.  
8.0: Chimes.  
8.1: Relay of orchestral overture from the Majestic Theatre, under Mr. J. J. Whitford Waugh.  
8.11: Baritone solo—Mr. Ernest Snell, "The Blind Ploughman" (Clarke).  
8.15: Instrumental trio—The Auckland Trio, "Trio" (Playel).  
8.24: Contralto solo—Madame Irene Ainsley, "A Summer Night" (Thomas); cello obbligato by Miss Mollie Wright.  
8.29: Relay of entr'acte from Majestic Theatre Orchestra.  
8.36: Tenor solo—Mr. Herbert Maddocks, "Nirvana" (Adams).  
8.40: Violin solo—Miss Ina Bosworth, "Variations" (Tartini).  
8.45: Talk—Mr. A. B. Chappell, "Talks on Old New Zealand: The New Zealand Company."  
9.0: Relay of vocal interlude from Majestic Theatre.  
9.8: Cornet (record), (a) "Love's Garden of Roses" (Wood); (b) "Solveig's Song" (Grieg).  
Soprano solo—Miss Nora Hulme, "Waltz Song" ("Romeo and Juliet") (Thomas).  
9.20: Instrumental trio—The Auckland Trio, "Naila Waltz" (Delibes).  
9.28: Excerpts from "Cavalleria Rusticana" (Mascagni), produced under the direction of Madame Irene Ainsley.  
When "Cavalleria Rusticana" was first produced the world of music was described as having "Mascagnitis." Its reception in every land was wildly enthusiastic. "Cavalleria Rusticana" was composed in order to compete in a prize competition organised by the well-known music publishing house of Sonzogno. It won the first prize, and resonant Sicilian love tragedy, told in two scenes. Though mainly the most popular of the short operas. It is a past the curtain does not drop, the stage is empty while the famous Intermezzo is played between the scenes.  
Cast.  
Lola ..... Miss Mary Hamilton  
Santuzza ..... Madame Irene Ainsley  
Turiddu ..... Mr. Herbert Maddocks  
Alfio ..... Mr. Ernest Snell  
"Driving Song"—Alfio.  
"Mother, You Know the Story"—Santuzza.  
"Hear Me"—Santuzza and Turiddu.  
"O, Gentle Flower of Love"—Lola.  
"For This I'm Waiting"—Santuzza and Alfio.  
10.0: God Save the King.

2YA, WELLINGTON (420 METRES), TUESDAY, JULY 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 session—Big Brother Jack, Uncle Stewart, and cousins. Piano solo, Cousin, "Poppies" (Rowley). Birthdays, Big Brother Jack. Train trip, Uncle Stewart. Recitation, Cousin, "Papa's Letter" (Anon.). Song, Cousin, "I Wish I Were a Tiny Bird" (Lohr). Story, Aunt Thomas, "The Story of a Stolen Melody." Song, Cousin, "Evening Song" (Stephenson).  
7.0: News session, market reports, and sports results.  
7.40: Lecture—"For the Man on the Land," by a representative of the Agricultural Department.  
8.0: Chimes of the G.P.O. clock.  
Evening of Old English music. All vocal items rendered by members of the Orpheus Quartet will be Old English songs, composed 300 years ago.  
8.1: Selection—The Orchestra, "Merrie England" (German).  
8.11: Vocal quartet—Orpheus Quartet, "Welcome, Sweet Pleasure" (traditional).  
8.15: Recital—Mr. A. Stanley Warwick, "The Silver Band" (Caine).  
8.21: Duo for two pianos—Miss Patricia Clayton and Angela Perry, "Theme and Variations" (Sinding).  
8.29: Tenor solos—Mr. Arthur Coe, (a) "O Mistress, Mine" (traditional); (b) "Ah, the Sighs that Come from My Heart."  
8.36: Instrumental—The Orchestra, "Three English Dances" (Quilter).  
8.46: Contralto solo—Miss Lily Mackie, "The Willow Song" (traditional).  
8.50: Relay of organ solos by Mr. H. Temple White: (a) "Awakening" (Engelmann); (b) "Barcarolle" (Lemare); (c) "Chant Triomphal" (Gaul).  
9.0: Weather forecast.  
9.2: Baritone solos—Mr. Len. Barnes, (a) "Green Sleeves" (traditional); (b) "Song on the Victory of Agincourt" (traditional).  
9.8: Instrumental—The Orchestra, repeat item.  
9.16: Vocal quartet—Orpheus Quartet, (a) "Parting" (traditional); (b) "Cold's the Wind" (traditional).  
9.23: Soprano solos—Mrs. Alice Harris, "Carman's Whistle" (traditional); (b) "Under the Greenwood Tree" (traditional).  
9.30: Traditional airs—The Orchestra, "The Beggar's Opera" (John Gay). This opera was first played about the middle of the eighteenth century, and was the first of English ballad opera, written as a satire upon Italian opera, popular in England at that date. As the name ("ballad" opera) suggests, this particular type of opera was composed of short song tunes, and in "The Beggar's Opera" many traditional airs will be found.  
9.40: Vocal quartet—Orpheus Quartet, "Jog On" (traditional).  
9.44: Recital—Mr. A. Stanley Warwick, "Death of Minnehaha" (Longfellow).  
9.52: Instrumental—The Orchestra, (a) Minuet, "Celebrated Minuet" (Boccherini); (b) novelty, "Old Clock" (Creighton); (c) "Home, Sweet Home" (with vocal chorus).  
God Save the King.

3YA, CHRISTCHURCH (306 METRES), TUESDAY, JULY 17.

SILENT DAY.

4YA, DUNEDIN (463 METRES), TUESDAY, JULY 17.

- 3 p.m.: Town Hall chimes.  
3.1: Gramophone recital of Bizet's opera, "Carmen," in four acts, with explanatory notes.  
4.25: Sports results to hand.  
4.30: Close down.  
6.0: Children's session—Big Brother Bill. The musical items for this session will be provided by the St. Andrew's Street Endeavour Band, under the leadership of Miss Crawford.  
7.15: News session.  
7.30: An address by a member of the Otago Tramping Club.  
8.0: Town Hall chimes.  
Concert by the St. Kilda Band, under the conductorship of Mr. J. Dixon, and items by assisting artists.  
8.1: March—Band, "Machine-gun Guards" (Marechall).  
8.5: Bass solos—Mr. F. C. Cooper, (a) "Here's to the Ships" (Ireland); (b) "Tramp" (Sawyer).  
8.16: Recital—Miss Anita Winkel, "The Three Crosses" (Hurst).  
8.20: Waltz—Band, "Syringa" (Taylor).  
8.29: Address—Pastor W. D. More.  
8.44: Vocal duet—Mrs. D. Carty and Mr. Bert Rawlinson, selected.  
8.47: Cornet solo—Band, "O Solo Mio" (Capua).  
8.58: Contralto solos—Miss E. Basire, (a) "Angus MacDonald" (Roeckel); (b) "Ma Curly-headed Babbie" (Clutsum).

- 8.50: Recital—Mr. Lester Moller, "A Cricket Episode" (Moore).  
9.3: Weather forecast.  
9.5: Selection—Band, "Girls of Gottenberg" (Caryl).  
9.17: Baritone solo—Mr. Bert Rawlinson, "Wayfarer's Song" (Wagner).  
9.20: Soprano solos—Mrs. D. Carty, (a) "Star o' Robbie Burns" (Thomson); (b) "Mary" (Richardson).  
9.26: Intermezzo—Band, "Minuet in G" (Beethoven).  
9.31: Bass solo—Mr. F. C. Cooper, "Off to Philadelphia" (Hayes).  
9.34: Recitals—Miss Anita Winkel, (a) "Comfort" (Service); (b) "If Life Were a Play" (Anon.).  
9.40: Selection—Band, "Maritana" (Wallace).  
9.52: Contralto solo—Miss E. Basire, "At Dawning" (Cadman).  
9.54: Recitals—Mr. Lester Moller, (a) "The Victory of Marengo"; (b) "Ode to Spring" (Stapleton).  
10.0: Selection—Band, well-known hymns.  
10.5: Baritone solos—Mr. Bert Rawlinson, (a) "In the Light of Her Sweet Glances" (Verdi); (b) "Star of Eve" (Wagner).  
10.10: March—Band, "Mount Hobson."  
10.15: God Save the King.

## Wednesday, July 18

1YA, AUCKLAND (333 METRES), WEDNESDAY, JULY 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.  
4.30: Close down.  
6.0: Children's hour—Conducted by Uncle Tom. Story for tiny tots. Song, Uncle Tom. Letters and birthdays. Recitation, Cousin Bert, "Mr. Nobody." Laughing record. Story-time.  
7.15: News and market reports.  
7.45: Talk by Mr. Norman Kerr on "Physical Culture."  
8.0: Chimes.  
8.1: Overture—"Zampa" (Herold).  
8.7: Presentation of the brilliant four-act comedy, "Mary, Mary, Quite Contrary," by St. John Ervine.

Cast.

- Mrs. Considine ..... Miss Eva Andrews  
Sheila, her niece ..... Miss Una Norwood  
Geoffrey, her son ..... Mr. Jack Gordon  
Sir Henry Considine, K.C.M.G., her brother-in-law,  
Mr. J. F. Montague  
Rev. Canon Peter Considine, M.A., Vicar of Hinton  
St. Henry, her husband ..... Mr. Cyril Seaward  
Mary Westlake (Mrs. James Westlake),  
Miss Myrtle Walford  
Mr. Hobbs, her manager ..... Mr. Alan McElwain  
Jenny, a maid ..... Miss Betty Hardy  
Miss Mimms ..... Miss A. Vennel  
Mr. Beeby, a playwright ..... Mr. Zante Wood

Entr'acte—Instrumental march and chorus, (a) "Procession of Bacchus" from "Sylvia" (Delibes); (b) "Song of Ireland."

Act II.

Entr'acte—"Hungarian Rhapsody, No. 6" (Liszt).

Act III.

Entr'acte—(a) "Harmonious Blacksmith" (Handel); (b) "Songs of Scotland."

Act IV.

10.0: God Save the King.

2YA, WELLINGTON (420 METRES), WEDNESDAY, JULY 18.

SILENT DAY.

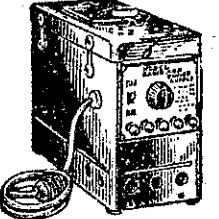
3YA, CHRISTCHURCH (306 METRES), WEDNESDAY, JULY 18.

- 2.45 p.m.: Description of Rugby football (Ranfurly Shield match) from Lancaster Park. (Canterbury v. Wairarapa.)  
4.45: Close down.  
6.0: Children's session—Uncle Peter, birthday greetings. Stories by Uncle Peter; banjo solos by Cousin Ken; pianoforte solos by Cousin Molly; songs by Mother Hubbard.  
7.15: Addington stock market reports.  
7.30: News session.  
8.0: Chimes.  
8.1: Overture.  
8.9: Mezzo-soprano solo—Mrs. G. L. Bull, "O Lovely Night" (Ronald).  
8.13: Pianoforte solo—Miss Aileen Warren, "Nocturne No. 12" (Chopin).  
8.18: Baritone solo—Mr. A. G. Thompson, "Simon the Cellarer" (Hutton).  
8.22: Flugel horn solo—Mr. E. N. Trenberth, "Because" (d'Hardelot).  
8.27: Contralto solo—Miss Nellie Low, "The Hills of Donegal" (Reilly).  
8.31: Instrumental trio—Christchurch Broadcasting Trio, "Allegro and Moderato" (Arensky).

## A-B Eliminator

in one unit. No Liquids. Auto. Switch. Up to 180 volts. Uses current only when set in use. Also Baskite A-B135—uses liquids—no tube.

See your dealer or write for new catalogue to—



ROYDS MOTORS LTD., CHCH.

## 90 Volt B. Eliminator

Operates practically any set not requiring more than 90 volts—has B 45+10 + Taps, latter actually giving 110 volts. With 7-Tube Metrodyne with 45 and 50 wires connected to 45 Terminal.

From your dealer or direct from  
ROYDS MOTORS LTD., CHCH.

SAW a radio set lately of a hitherto unknown make in New Zealand, which the owner had imported from the United States. He thought he had a wonderful bargain until he endeavoured to reach out for the Australian stations. A radio doctor was called in and he convinced the owner that the components in the set were "cheap and nasty," so that it was impossible to obtain even fair results under the most favourable conditions. The audio transformers were of the 1924 vintage—cheap material and out-of-date in design.

TWO inventors in North Wales have patented a combined clock and loudspeaker. Well, we have heard some voices on the radio which would stop any clock. Personally, I prefer to have my clock separate from the loudspeaker and beyond striking distance of it.

THE same old question. "Phones" (Kilbirnie) asks: "Do you think there is some advantage to owners of large sets for 2YA, Wellington, to observe a weekly silent night? I contend that there is a substantial proportion of listeners who look forward to the silent night." Undoubtedly it is an advantage to operators of multi-valve sets who experience difficulty in tuning out 2YA. In order that both listeners shall have an opportunity of reaching out for distant transmissions, the Hamburg station, in Germany, is regularly observing a "silent night," as it done by stations in America.


RUBBER and sulphur are the only materials which should be used when ebonite is required to have high insulating properties. The lower grades of ebonite, which have given, and still are causing, trouble to set manufacturers and constructors, contain certain mineral "fillers," reclaimed rubber, rubber substitutes, and ebonite dust ground from scrap in which particles of metal are often present. Even coke and coal dust have been used by unscrupulous manufacturers.

A LOUDSPEAKER which issues a slight ringing or blur on certain notes should be examined for loose nuts or screws. A high-class speaker came under my notice recently which was guilty of this peculiarity. An examination revealed a loose nut, which was then tightened up. Within a week the speaker was at it again. This time the nut was smeared with a little secotone and then tightened up. It has stayed put now.

"COLLEGIAN" (Petone) writes: "I have a two-valve set which includes one stage of audio. I want to get the Australian stations on the headphones. Which do you advise—another stage of audio or a stage of radio-frequency amplification?" If my correspondent desires to add another stage to obtain distance he should add a stage of radio-frequency.

ALTHOUGH the art of television is not a new one, as compared with its sister science, radio telephony, it has been dormant for many years, while radio telephony has increased in scope with leaps and bounds. Television in the laboratory was an established fact many years ago, but the physical, electrical and mechanical difficulties of bringing it out of that stage were so many, and so seemingly unsurmountable, that it was only recently that several improvements in the art were announced, and interest in television received a great impetus.

EVEN the slightest crackling of paper held by speakers before the mike has been eliminated in the studio of KFI, Los Angeles. The paper is pasted on cardboard, and each sheet handled without the crackling that has been found to interfere with proper broadcasting.



**The Most Powerful H.T. Dry Battery in Existence**

Siemens Super Radio 50 Volts Dry Battery ensures clear, "noiseless" reception. Long life and general satisfaction assured. Made of finest materials throughout by a firm with over 50 years' experience of battery manufacture.

**SIEMENS**

N.Z. Agents:  
**CORY-WRIGHT & SALMON, Engineers, Wellington.**

# Programmes Continued

— Copyright —  
These programmes are copyright, but individual daily programmes may be published on day of performance.

- 8.39: Jazz songs (with banjo, manaban, and piano accompaniment)—Birch Trio Entertainers, (a) "My Palm Leaf Zulu" (Jerome); (b) "My Creole Belle" (Lampe).  
8.45: Contralto and baritone duet—Miss Nellie Lowe and Mr. A. G. Thompson, "Grey Days" (Chappell).  
8.48: Mouth-organ solos—Mr. Harry Rowe, (a) "Poor Old Joe" (MS.); (b) "The Regiment Passes By" (MS.).  
8.54: Humorous recital—Mr. L. T. J. Ryan, "My Wedding Anniversary" (MS.).  
9.0: Weather forecast.  
9.1: Overture.  
9.8: Soprano solos—Mrs. G. L. Bull, (a) "A Garden of Afterwards" (Cleaver); (b) "Cuckoo" (Shaw).  
9.14: Pianoforte solo—Miss Aileen Warren, "Dance of the Geisha" (from piano cycle, "Japan") (Niemann).  
9.18: Baritone solos—Mr. A. G. Thompson, (a) "Trooper Johnny Ludlow" (Temple); (b) "To My First Love" (Lohr).  
9.22: Flugel horn solo—Mr. E. N. Trenberth, "Der Lieberstraum" (Hock).  
9.26: Contralto solo—Miss Nellie Lowe, (a) "When You're Away" (Sander-son); (b) "Absent" (Metcalfe).  
9.38: Instrumental trios—Christchurch Broadcasting Trio, (a) "Serenade" (Schubert); (b) "Bolero" (Moskowski).  
9.42: Dramatic recitals (piano accompaniment)—Mr. L. T. J. Ryan, (a) "Earthenware" (Weston and Lee Lemont); (b) "The Kid" (Clarke and Kilfoy).  
9.49: Mouth-organ solos—Mr. Harry Rowe, (a) "Yes, Sir! That's My Baby" (MS.); (b) "Darkie Dances" (MS.).  
9.58: Jazz songs, with steel guitar and piano accompaniment—Birch Trio Entertainers, (a) "Moonbeams" (Jerome); (b) "Put Your Arms Around Me" (Von Tilzer).  
God Save the King.

## 4YA, DUNEDIN (463 METRES), WEDNESDAY, JULY 13.

- 7 p.m.: Town Hall chimes.  
7.1: Request gramophone concert.  
7.40: News session.  
8.0: Town Hall chimes.  
8.1: Relay of orchestral music from the Octagon Theatre Orchestra, under the conductorship of Monsieur Henri de Rose (Mus.Bac.).  
8.15: Humorous recitals—Mr. J. B. McConnell, (a) "I'm Excited" (Foy); (b) "The Country J.P." (Blascheck).  
8.23: Saxophone selections—McCaw's Saxophone Band, "Childhood Memories" (Somers).  
8.27: Light vocal solo—Miss Betty Roberts, "Charmaine" (Rapee and Pollock).  
8.30: Hawaiian guitar duets—Messrs. Sheehy and Campbell, (a) "My Hawaiian Evenin' Star" (Sheridan); (b) "Waiting for the Moon" (Lerner).  
8.36: Monologue—Miss Hilda Scurr, "My Financial Career" (Leacock).  
8.41: Popular song hits—Dunedin Banjo Trio, (a) "Let It Rain, Let It Pour" (Donaldson); (b) "Colorado" (Dellon); (c) "Let Me Be the First to Kiss You Good-morning" (Robinson); (d) "Red Lips" (Wendling).  
8.57: Light mezzo-soprano solos—Miss Thelma Blackman, (a) "In the Middle of the Night" (Donaldson); (b) "Three Roses" (Arden).  
9.2: Weather forecast.  
9.6: Relay of orchestral selections from the Octagon Theatre.  
9.21: Humorous recital—Mr. J. B. McConnell, "The Clown" (McKeogh).  
9.26: Saxophone selections—McCaw's Saxophone Band, (a) "Savory Scottish Medley" (Somers); (b) "My Blue Heaven" (Donaldson).  
9.34: Light vocal solos—Miss Betty Roberts, (a) "The World is Waiting for the Sunrise" (Seltz); (b) "Will You Remember Me" (Hall).  
9.40: Hawaiian guitar duet—Messrs. Sheehy and Campbell, "Am I Wasting My Time on You" (Johnson).  
9.43: Humorous monologues—Miss Hilda Scurr, (a) "Singers and Talkers" (b) "Knitting".  
9.50: Mezzo-soprano solo—Miss Thelma Blackman, selected.  
9.53: Popular song hits—Dunedin Banjo Band, (a) "My Sweetie's Turned Me Down" (Donaldson); (b) "When Lights Are Low" (Florino); (c) "Miss Annabelle Lee" (Lickman).  
10.5: Close down.

## Thursday, July 19

### 1YA, AUCKLAND (393 METRES), THURSDAY, JULY 19.

- 3 p.m.: Afternoon session—Selected studio items.  
3.30: Talk by representative of Auckland Gas Company on "Gas Cooking".  
3.45: Further studio items.  
4.0: Literary selection by the Announcer.  
4.3: Selected studio items.  
4.25: Sports results.  
4.30: Close down.  
6.0: Children's session, conducted by Peter Pan. "Cello solo, Cousin Joan, Duologue, Uncle Vernon and Cinderella, "At the Fire Station." "Gavotte." Duologue, Uncle Vernon and Cinderella. At the Fire Station." Song, Uncle Vernon. Letters and birthdays. "Cello solo, Cousin Joan, "Danny Boy." Sketch, Uncle Vernon, Cinderella and Peter Pan, "A Sea Trip." Story-time.  
7.15: Lecture—Mr. N. M. Richmond, "The French Revolution—Its Place in History".  
7.30: News and market reports, book review.  
8.0: Chimes.  
8.1: Overture—"The Flying Dutchman" (Wagner).  
8.9: Vocal quartet—Mr. Barry Coney's Quartet, "Coronach" (Bantock).  
8.13: Recitation—Miss Maisie Carte-Lloyd, "Little Eric" (Fisk).  
8.18: Baritone solo—Mr. H. Barry Coney, "On Wings of Song" (Mendels-son).  
8.22: Instrumental—Ingall's Hawaiian Orchestra, (a) "Invercargill March" (Lithgow); (b) "Breeze" (Hanley).  
8.30: Contralto solo—Miss Martha Williamson, "My Ships" (Barrett).

WHEN connecting your loudspeaker to the set be sure (unless a filter circuit is used) that its red terminal is joined to the terminal on the set, which is connected to H.T. positive. (If this is not done there is risk of serious damage to the loud speaker).

THE British beam system of wireless telegraphy has broken the world's records for long-distance telegraphic communication, by exchanging messages for hours on end at a speed of 400 words per minute, with reception too clear for repetition to be necessary.

THE League of Nations headquarters at Geneva, Switzerland, will soon be able to telephone to Washington, Havana, and Ottawa. Switzerland is to become a part of the trans-Atlantic radio telephone system almost immediately. The Cuban and Canadian representatives of the League Council can then discuss League problems with the home Government by telephone, while the League may also talk to Washington on questions like disarmament, in which the United States is collaborating.

STATION 2XE, the short-wave transmitter of A. H. Grebe and Co., Inc., of New York, which began operating with 250 watts power, simultaneously with WABC, has been raised to 1000 watts. The station has already been reported by listeners as far distant as Trieste, Italy. The wavelength used is 58.5 metres. At first the station was operated on 63 metres in experimental broadcasts. The short-wave station will now be employed with WABC for all programmes.

WHEN panels have been repaired, unwanted holes carefully filled in, etc., a good overall finish may be given by smearing the panel with a lubricating oil and rubbing well with a piece of fine sandpaper in a circular motion. If the sandpaper is not fine scratches will result. A circular movement will give a better finish than backwards and forwards. Alternatively, fine emery powder and a well-oiled, soft, non-fluffy rag may be used instead. Finish with a good rubbing with a clean rag and a perfectly flush and smooth panel having a dull gloss will result.

THERE are still several fields of research in wireless unexplored, and the future may hold some surprises. The channels or wavelengths that would be utilised for communicating with portable sets are the ultra-short wavelengths of the order of, say, ten metres and under. These regions in the electro-magnetic spectrum of frequencies are being examined closely and continuously or late, and additional useful information is being ascertained, but it is unsafe to say that there is any encouragement provided for the prophets who foresee the early arrival of miniature and portable inter-communicating outfits.

AUTHORITY to construct the most modern high-power broadcast station in the west has been granted to KNX, Los Angeles, California, the "Evening Express" radio station, by the Federal Radio Commission. A 5000-watt transmitter is now being built in the east and will be dedicated to the radio audiences of southern California and the entire west within a very short time. The new equipment will embody the very latest developments in modern radio broadcast, and is expected to be heard at almost inconceivable distances. Listeners will be able to tune KNX with an ease never before possible, and the entire continent will be brought closer to Los Angeles and Southern California.

THE reason that an accumulator (wet A battery) appears to have two different capacities or rates of discharge is that there are two methods of discharging it. These two methods are: (1) continuous discharge, and (2) intermittent discharge. When used for wireless purposes the discharge is continuous—that is to say, that there is a steady drain on the battery from the time the set is switched on until the time it is switched off again. Under such circumstances the battery has a far more arduous duty to perform than when it is used intermittently for coil ignition of a motor-car, or similar very short period discharges. In the latter case when a current is taken out of the accumulator for a very short time, the long rests between the discharges enable the accumulator to recuperate in some degree; and, consequently, its capacity to yield current is considerably greater when this current is taken in short discharges with long periods of rest between, than when it is taken in one long continuous discharge. As a matter of fact, about twice as much current can be got out of a battery when it is discharged intermittently as compared with when it is discharged continuously. So that if your accumulator is rated at, say, "twenty" actual ampere hours and "forty" ignition, it means to say that when used for a continuous discharge, such as wireless, it will only yield one ampere for twenty hours, or two amperes for ten hours, but if used for short intermittent discharges almost double the amount of current could

- 8.34: Instrumental trio—Auckland Trio, "Scherzo" from "Seventh Trio" (Beethoven).  
8.43: Tenor solo—Mr. Roger Errington, "Through the Woods" (Weber).  
8.47: Banjo—"Ukulele Lady" (Kahn).  
8.51: Talk by Mr. Cunford Bell, "Great Authors."  
9.1: Orchestral—"Carnival Overture" (Dvorak).  
9.9: Weather forecast.  
9.10: Soprano solos—Mrs. Burgess, (a) "Sunrise" (Aylward); (b) "Hark, Hark, the Lark" (Schubert).  
9.18: Recitations—Miss Maisie Carte-Lloyd, (a) "The Lesson of the Water Mill" (Doudney and Andrews); (b) "Baby."  
9.26: Pianoforte solo—Mr. Cyril Towsey, "La Cathedrale Engloutie" (Debussy).  
9.30: Baritone solo—Mr. H. Barry Coney, "The Devil's Awa with the Exciseman" (Old Scottish).  
9.34: Instrumental—Ingall's Hawaiians, (a) "Coral Sands of Hawaii" (Heagney); (b) "Wreath of Princess" (Hopkins); (c) "Wailana" (traditional).  
9.42: Contralto solo—Miss Martha Williamson, "Three Fishers" (Hullah).  
9.46: Instrumental trio—Auckland Trio, "Autumn and Winter" (Glazounow).  
9.54: Tenor solo—Mr. R. Errington, "O Mistress, Mine" (Quilter).  
9.58: Banjo—"Heebie Jeebies" (Roser).  
10.2: Vocal quartet—Mr. Barry Coney's Quartet, "The Lady of the Lea" (Smart).  
10.9: God Save the King.

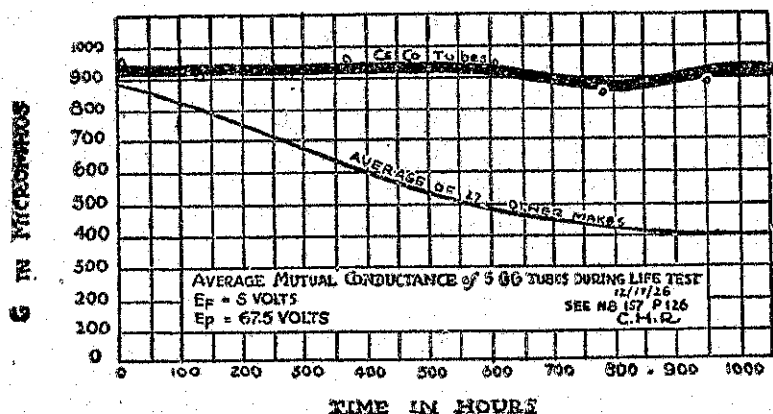
### 2YA, WELLINGTON (420 METRES), THURSDAY, JULY 19.

- 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 session—Aunt Gwen. Piano solo, Cousin Nellie, "Dance of the Geisha" (Niemann). Song, Cousin Rosina, "Companions" (Hill). Story, Aunt Gwen. Ukulele solo, Cousin Zac, "Medley." Birthdays. Piano solo, Cousin Nellie, "Etude in F Sharp" (Arensky). Recitation, Cousin Kathleen, "Lines and Spaces" (Milne). Song, Cousin Rosina, "Forget-Me-Nots" (Hill). Ukulele solo, Cousin Zac, "Medley." Recitation, Cousin Kathleen, "So Was I" (MS.).  
7.0: News session, market reports, and sports results.  
7.40: Lecture—Miss M. S. Christmas (canine nurse), "Cats, and How to Treat Them."  
8.0: Chimes of the G.P.O. clock.  
Studio concert by the Wellington Municipal Tramways Band (conductor, Mr. T. Goodall), assisted by 2YA artists.  
8.1: March—Band, "Strauss" (Maricape).  
8.3: Tenor solo—Mr. Chas. Williams, "Eleanore" (Cotteridge-Taylor).  
8.10: Overture—Band, "The Pied Piper" (Hann).  
8.17: Vocal quartet—Lyric Quartet, "Sally in Our Alley" (Carey).  
8.21: Waltz—Band, "Innocence Dreams" (Piorini).  
8.27: Bass solo—Mr. W. Binet Brown, "The Last Call" (Sanderson).  
8.32: Cornet duet—Mr. T. Goodall and Bandsman W. Kay, "Forest Warblers" (Rimmer).  
8.33: Vocal quartet—Lyric Quartet, (a) "Humpty, Dumpty" (Hughes); (b) "Three Crows" (Macey).  
8.44: Overture—Band, "Esmerelda" (Hermann).  
8.51: Contralto solos—Miss Evelyn Robinson, (a) "Greatest Miracle of All" (Gunion); (b) "O Golden Dawn" (Atkinson).  
8.57: Weather forecast.  
8.59: Vocal duet—Messrs. Chas. Williams and Will Goudie, "The Two Beggars" (Lane Wilson).  
9.4: Selection—Band, "Macbeth" (Verdi).  
9.16: Vocal quartet—Lyric Quartet, "Fishing" (Parks).  
9.20: March—Band, "Frangene" (Mario Costa).  
9.26: Contralto solos—Miss Evelyn Robinson, (a) "My Exquisite Love" (McGeogh); (b) "The Rose, the River and the Sea" (Johnson).  
9.32: Humoresque—Band, "Who's Dat a-calling?" (Truman).  
9.39: Baritone solo—Mr. Will Goudie, "West Country Courting" (Sanderson).  
9.44: Characteristic sketch—Band, "The Gazek's Parade" (Dupont).  
9.50: Vocal quartet—Lyric Quartet, "The Rosary" (Nevin).  
9.54: March—Band, "Le Roi" (Shipley-Douglas).  
God Save the King.

### 3YA, CHRISTCHURCH (306 METRES), THURSDAY, JULY 19.

- 3 p.m.: Afternoon session—Selected studio items.  
4.25: Sports results.  
6.0: Children's hour—Conducted by Chuckle and Aunt Pat. Chorus, "How Do You Do, Everybody?" by Chuckle and Aunt Pat. Maori songs by Cousins "Pungata" and "Atawhai." Maori legends stories by Chuckle. Choruses and songs by the little Maori folk from Waipoumimal College.  
7.15: News session.  
7.30: Talk by Mr. Battersby on "Popular Electricity."  
8.0: Chimes and overture.  
A programme of songs of the Victorian period.  
8.5: Contralto solos—Mrs. Ann Harper, (a) "A Song of Sleep" (Somerset); (b) "Echo" (Somerset).  
8.13: Pianoforte solos—Miss Aileen Warren, (a) "Water Wagtail" (Cyril Scott); (b) "Elevation" (Chaminade).  
8.17: Soprano and tenor duet—Madame Gower-Burns and Mr. Harold Prescott "Go, Pretty Rose" (Marzials).  
8.21: Flute solo—Mr. T. H. Amos, "Beneath Thy Window" (Le Thier).  
8.25: Soprano solos—Madame Gower-Burns, (a) "The Beating of My Own Heart" (Macfarren); (b) "Twickenham Ferry" (Molloy).  
8.32: Cello solo—Mr. Harold Beck, "Ave Verum" (Mozart).  
8.37: Tenor solo—Mr. Harold Prescott, "Maiden, Mine" (Sterndale-Bennett).  
8.41: Instrumental trio—Christchurch Broadcasting Trio, "Andantino and Finale" (Gade).  
8.49: Recitation—Miss K. O'Brien, "Walnuts and Wine."  
8.53: Cornet duet—Messrs. R. Ohlson and Albert Benson, "Hold Thou, My Hand" (Briggs).  
8.59: Weather report.  
9.0: Overture.  
9.5: Soprano and contralto duet—Madame Gower-Burns and Mrs. Ann Harper, "Pack Clouds Away" (Hunt).  
9.9: Pianoforte solos—Miss Aileen Warren, "Idylle Arabe" (Chaminade); (b) "Legende del Castillo Moss" (Chavarri).  
9.14: Tenor solos—Mr. Harold Prescott, (a) "The Devout Lover" (White); (b) "Once Again" (Sullivan).

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# Programmes Continued

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- 9.21: Flute solo—Mr. T. H. Amos, "Poet and Peasant" (Harrington).  
9.26: Contralto solos—Mrs. Ann Harper, (a) "The Arrow and the Song" (Balfe); (b) "Will He Come?" (Sullivan).  
9.33: Cello solo—Mr. Harold Beck, "March On" (Benjamin).  
9.37: Soprano solos—Madame Gover-Burns, (a) "My Dearest Heart" (Sullivan); (b) "The Swallows" (Cowan).  
9.45: Instrumental trios—Christchurch Broadcasting Trio, (a) "Bereuse" (Ginsky); (b) "Valse des Fleurs" (Tschalkowsky).  
9.52: Recitations—Miss K. O'Brien, (a) "In the Rain"; (b) "Just Like a Man."  
9.57: Cornet duet—Messrs. R. Ohlson and Albert Benson, "La Serenata" (Braga).  
10.2: Vocal quartet—Grand Opera Quartet, "Sweet and Low" (Barnby).  
God Save the King.

4YA, DUNEDIN (463 METRES), THURSDAY, JULY 19.

SILENT DAY.

## Friday, July 20

1YA, AUCKLAND (333 METRES), FRIDAY, JULY 20.

- 3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by the Announcer.  
4.8: Further studio items.  
4.25: Sports results.  
4.30: Close down.  
6.0: Children's session—Nod. Song, Cousin Anita, "A Single Cingalese" (Sterndale Bennett). Recitation, Cousin Gwendy, "The Girl and the Gloves." Letters and birthdays. Chorus, "Ten Little Pigs" (Low). Recitation, Cousin Gwendy, "Burton's Curtains." Story-time.  
7.15: Talk by Mr. Geo. Campbell on "Motoring."  
7.30: News and market reports.  
8.0: Chimes.  
8.1: Relay of overture from Strand Theatre Orchestra, under the direction of Eve Bentley.  
8.11: Vocal quartet—Madame Mary Towsey's Quartet, "Londonderry Air" (arr. Weir).  
8.15: Instrumental Trio—Auckland Trio, "First Movement" from "Fourth Trio" (Beethoven).  
8.24: Contralto solo—Miss Gwendy Evans, "I Live for You" (Thompson).  
8.28: Saxophone solo—"Bereuse de Jocelyn" (Godard).  
8.32: Baritone solo—Mr. John Bree, "From Oberon in Fairyland" (Slater).  
8.36: Humour—Mr. Fred. W. Barker, "The First Camel" (Schubert).  
8.41: Soprano solo—Madame Mary Towsey, "The Erl King" (Schubert).  
8.46: Cello solo—Miss Mollie Wright.  
8.51: Vocal quartet—Madame Mary Towsey's Quartet, "When the Heart is Young" (Buck).  
8.55: Relay of entracte from Strand Theatre Orchestra.  
9.5: Weather forecast.  
9.6: Vocal trio—The Snappy Three, (a) "Dream Kisses" (Jerome); (b) "Souvenirs" (Nichols).  
9.13: Contralto solo—Miss G. Evans, "A Castilian Lament" (Del Riego).  
9.17: Novelty—Mr. F. W. Barker, "A Wayside Philosopher to His Friend: Good Conversation."  
9.27: Baritone solo—Mr. J. Bree, "The Watchman" (Squire).  
9.32: Saxophone solo—"Chaconne, Op. 62" (Durand).  
9.36: Vocal duet—Madame Mary Towsey and Mr. J. Bree, "A Love's Beginning" (Lehmann).  
9.40: Tenor solo—Mr. J. McDougall, "Mary of Argle" (Nelson).  
9.44: Vocal trio—The Snappy Three, (a) "Do that Heebie Jeebie Dance" (Du Pont); (b) "Together We Two" (Berlin); (c) "For My Sweetheart" (Donaldson).  
9.52: Instrumental trio—Auckland Trio, "Chopiniana" (arr. Roberts).  
10.0: Vocal quartet—Madame Mary Towsey's Quartet, "O, Hush Thee, My Baby" (Sullivan).  
10.4: God Save the King.

2YA, WELLINGTON (420 METRES), FRIDAY, JULY 20.

- 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 session—Uncle Ernest. Recitation, Cousin Pamela, "Before Tea" (A. A. Milne). Vocal duet, Cousins Mavis and Queenie, selected. Birthday greetings. Recitation, "Cousin Marjorie, 'Long Ago' (MS.). Song, Cousin Zena, "Violets" (Gabriel). Travel talk, Uncle Ernest. Recitation, Cousin Pamela, "Tale of a Fairy" (MS.). Recitation, Cousin Marjorie, "Very Nearly" (MS.).  
7.0: News session, market reports, and sports results.  
8.0: Chimes of the G.P.O. clock.  
8.1: Overture—The Orchestra, (a) march, "Entry of the Gladiators" (Fucik); (b) waltz, "Tout Paris" (Waldteufel).  
8.9: Vocal quartet—Apollo Singers, "Robin Adair" (Fletcher).  
8.13: Baritone solo—Mr. S. E. Rodger, "The Last Watch" (Pinsuti).  
8.18: Concertina solo—Mr. R. M. Stratmore, "Medley of Scotch Songs."  
8.23: Songs at the piano—Mr. Billy Hart, (a) "Are You Lonesome, Tonight?" (Handman); (b) "Miss Annabelle Lee" (Clare and Bolack); (c) "Shine On, Harvest Moon" (Norworth).  
8.33: Humour—The Two Billed Owls, "More Hoots" (original).  
8.40: Instrumental trios—Mr. Palmer's Steel Guitar Trio, (a) "Sweet Chiming Bells" (traditional); (b) "Baby Feet Go Pitter, Patter" (Kahn).  
8.47: Soprano solo—Miss Moana Goodwill, "The Valley of Laughter" (Sanderson).  
8.51: Operatic selection—The Orchestra, "Cavalleria Rusticana" (Leoncavallo).  
9.1: Weather forecast.  
9.3: Contralto solos—Miss Hilda Chudley, (a) "In a Garden" (Hawley); (b) "Ashes of Roses" (Woodman).  
9.10: Instrumental—The Orchestra, repeat number.  
9.18: Tenor solos—Mr. E. W. Robbins, (a) "Less than the Dust" (Woodforde-Flinden); (b) "Kashmiri Song" (Woodforde-Flinden).  
9.25: Concertina solo—Mr. R. M. Stratmore, "Under the Double Eagle" (March) (Wagner).  
9.30: Novelty—The Two Billed Owls, (a) "Henry's Made a Lady Out of Lizzie" (O'Keefe); (b) "Step On It" (De Rienzo).  
9.37: Instrumental—The Orchestra, (a) "Lieberstrum" Reverie (Von Blon); (b) "Russian Dances, Nos. 2 and 4" (Bortkiewicz).  
9.47: Vocal duet—Miss Hilda Chudley and Mr. E. W. Robbins, "Greeting" (Mendelssohn).  
9.51: Instrumental trios—Mr. Palmer's Steel Guitar Trio, (a) "I'll Sing Thee Songs of Araby" (Clay); (b) "The Old Parlour Clock" (Cusenza).  
9.58: Vocal quartet—Apollo Singers, "When Evening's Twilight" (Hatton).  
10.2: Instrumental—The Orchestra, African suite, "T'Chaka" (Montague Ring).  
10.9: God Save the King.

CARTHAGE, the ancient rival of Rome, now has a broadcasting station working on 1550 metres.

THE Chinese Government has recently opened a broadcasting station at Tientsin, near Peking, which works on a wavelength of 480 metres.

IT pays to test the voltage of the grid-bias battery occasionally, as insufficient grid-bias means a heavier-than-necessary drain upon the "B" battery.

TO connect up the different stations in a recent simultaneous broadcast in the United States, over twelve thousand miles of telephone wire were employed.

WHEN humming occurs in a set which employs a low-frequency transformer, it sometimes happens that the reversal of either the primary or secondary leads of this will eliminate the trouble.

IT is asserted that during this year the French will erect three super-power broadcast stations, one of which—already under construction—will have a power of 50,000 watts in the aerial, and will replace Radio-Paris.

IF two condensers of equal value are connected in series, the total value of the arrangement will be half that of one of the condensers. When two condensers of equal value are connected in parallel, the total capacity of the arrangement will be twice that of either of the condensers.

IT is stated that the Radio Corporation of America and the Film Booking Office Pictures Corporation are intending to start experiments together so as to try and find a new method of synchronising sound and picture. Several important patents relating to speaking films, wireless and television will be applied to these experiments.

HIS Majesty the King of Afghanistan has, after several tests, purchased one English 8-valve super-sonic receiver, with a gramophone pick-up and amplifier for the entertainment of his court. These instruments were installed at "Maridge's Hotel, London, where the King stayed, and eventually accompanied him back to Kabul. In spite of the short distance from 210 London, no difficulty was experienced in receiving foreign programmes, and His Majesty expressed his pleasure at the range of entertainment available.

HERE is an old question. "Batt" (Wanganui) writes: "Do my valves wear out the B batteries when they are not lighted? I mean, I leave my batteries connected up to the set when it is not in use, and I want to know whether this runs my B batteries down." No current drain from the B batteries can take place in the filaments of the valves are not lighted. It is better, at all events, to disconnect the batteries when the set is not in use, as it has been found that trouble will develop in the transformer if the batteries are always connected up.

IN a two-valve set, using detector and a low-frequency valve, the ordinary power valve is usually quite sufficient in the last stage; but in a three or more valve receiver, if you require big volume, then a super-power valve is necessary. It should be remembered that "super power" does not mean that the valve will provide a "super-signal strength" or that it has a big magnification factor, because this is actually small; but it signifies that it will carry a bigger volume than the ordinary power valve, and unless a valve will carry the volume supplied to it without distortion, hopeless results will be obtained.

THE lower impedance of a super-power valve helps to bring out the bass notes properly, and this is especially noticeable if a first-class loudspeaker is used. Also, the long, straight portion of the characteristic curve available enables larger grid swings to be dealt with. It often happens that a power valve can carry the majority of the voltages imposed upon it, but gets overloaded occasionally when certain notes are played or certain instruments are used. With a super-power valve there is a greater margin for this kind of overloading, and consequently the reproduction will often be distinctly superior to that in the former case.

FOR perfect reception, keep the aerial away from trees and roofs of houses, keeping it as high as possible, not too long (about 100 feet, including the lead-in, is admirable. Do not solder a lead-in to the aerial wire, but take one wire for the aerial, and continue it straight to the set. Keep both lead-in and earth lead insulated, and as short as possible. In dry weather, if the earth is buried below the ground, pour several buckets of water over the spot. Keep dust away from the set, by keeping the lid of the cabinet closed, and absorb all moisture by keeping a small piece of chloride in a corner of the cabinet. Keep all leads in the set as short as possible, particularly those of the grid and battery, and, above all, don't try to work off an exhausted "B" battery.

3YA CHRISTCHURCH (306 METRES), FRIDAY, JULY 20.

- 3 p.m.: Afternoon session—selected studio items.  
4.25: Sports results.  
6.0: Children's hour—Big Brother. Story for tiny tots by Big Brother. Chorus—Marist Choir Boys, "Come, Let Us All Be Merry." Story by Aunt Pat, "Alice in Wonderland." Chorus—Marist Choir Boys, "In Heat I'm Still a Boy." Limericks and fun by Peterkin. Birthday greetings. Chorus by Choir, "Cold the Blast May Blow." Health game talk by The Captain. Chorus by Choir, "There's a Big Lot of Sunshine Coming Soon."  
7.15: News session.  
7.30: Sports review by Mr. J. K. McInerney on Rugby football.  
8.0: Chimes.  
8.1: Overture. Vocal numbers from musical play "To-night's the Night," by Rubens.  
8.9: Opening chorus—Radiolian Quartet.  
Tenor solo and chorus—Mr. Gregory Russell and quartet, "When the Boys" (Rubens).  
8.10: Violin solo—Miss Irene Morris, "Souvenir" (Adlington).  
8.20: Soprano and bass duet—Mrs. Claris Shaw and Mr. W. J. Richards, "Please Don't Flirt" (Rubens).  
Chorus—The Quartet, "The Mannequin Ball" (Rubens).  
8.27: Instrumental Trio—Christchurch Broadcasting Trio, "Rondo" (Reisiger).  
8.33: Bass solo—Mr. W. J. Richards, "The Only Way" (Rubens).  
8.37: Banjo band jazz numbers—Beresford Banjo Band, (a) "Brown Baby" (Lowe); (b) "The Possums Picnic" (Calcott).  
8.45: Contralto and tenor duet—Miss Mildred Russell and Mr. Gregory Russell, "Round the Corner" (Rubens).  
8.49: Recitation—Mr. J. P. Darragh, "Fair Dinkum."  
8.53: Euphonium solo—Mr. S. N. Crisp, "When Summer Was" (Borsten).  
8.57: Soprano solo—Mrs. Claris Shaw, "I'd Like to Bring" (Rubens).  
Chorus—The Quartet, "To-night's the Night."  
9.0: Weather report and announcements.  
9.4: Overture.  
9.10: Chorus—The Radiolians, "Dancing Mad" (Rubens).  
9.14: Violin solo—Miss Irene Morris, "Maquet" (Porpora-Kreisler).  
9.19: Contralto solo and chorus—Miss M. Russell and the Radiolians, "Stars" (Rubens).  
9.23: Banjo band jazz numbers—Beresford Banjo Band, (a) "Back I Went to Parliament" (Weston and Lee); (b) "Winsome Willie" (Armstrong).  
9.30: Tenor solo—Mr. Gregory Russell, "Pink and White" (Rubens).  
9.33: Euphonium solo—Mr. S. N. Crisp, "Il Trovatore" (Verdi).  
9.38: Bass solo—Mr. W. J. Richards, "I'm a Millionaire" (Rubens).  
9.42: Instrumental Trio—Christchurch Broadcasting Trio, "Two Dances" from "Faust" (Gounod).  
9.48: Humour—Mr. J. P. Darragh, "Canine Troubles."  
9.53: Soprano solo and vocal chorus—Mrs. Shaw and Radiolians, (a) "Play Me That Tune" (Rubens); (b) "To-night's the Night" (Rubens).  
9.59: Banjo band jazz numbers—Beresford Banjo Band, (a) "Daddy Long Legs" (Grimschaw); (b) "We All Said No!" (Castling).  
God Save the King.

4YA DUNEDIN (463 METRES), FRIDAY, JULY 20.

- 3 p.m.: Town Hall Chimes.  
3.1: Gramophone recital.  
3.15: Talk on "Fashions" by Miss Buedench of the D.S.A., Ltd.  
3.3: Relay of afternoon-tea music from the Savoy.  
3.45: Studio music.  
4.0: Relay of music from the Savoy.  
4.15: Gramophone recital.  
4.25: Sports results.  
4.30: Close down.  
6.0: Town Hall Chimes.  
6.1: Children's session—Aunt Sheila and Big Brother Bill—The musical items for this programme will be provided by the Forbury School children. A trip on the time scooter.  
7.15: News session.  
7.30: Lecturette.  
8.0: Town Hall Chimes.  
8.1: Overture.  
8.10: Mezzo-soprano solos—Miss Molly Vickers, (a) "You'll Git Heaps of Lickins" (Clarke); "Prayer Perfect" (Stenson).  
8.16: Cornet solo—Mr. George Christie, "Will Ye No Come Back Again?" (Round).  
8.24: Baritone solo—Mr. L. M. Cachemaille, "The White Bird" (Clarke).  
8.27: Humorous recitals—Miss Sheila Neilson, L.T.C.L., (a) "My Tea Shop in St. Omer"; (b) "The French Maid" (May).  
8.35: Pianoforte solo—Mrs. Ernest Drake, L.A.B., "Saguidillos" (Albeniz).  
8.39: Mezzo-soprano solo—Miss Molly Vickers, "By the Waters of Minnetonka" (Learance).  
8.42: Cornet solos—Mr. George Christie, (a) "Till the Sands of the Desert Grow Cold" (Ball); (b) "Song Without Words" (Mendelssohn).  
8.51: Baritone solos—Mr. L. M. Cachemaille, (a) "The Garden Where My Soul Was Born" (Clarke); (b) "At the Shrine of Aphrodite" (Clarke).  
8.58: Recital—Miss Sheila Neilson, "The Ballad of War."  
9.2: Weather forecast.  
9.5: Relay of dance music from the Savoy (All Carey and his Orchestra).  
10.5: Close down.

## Saturday July 21

1YA, AUCKLAND (333 METRES), SATURDAY, JULY 21.

- 2.45 p.m.: Relay description of Rugby football match from Eden Park. Mr. W. J. Meredith, announcer.  
4.30: Close down.  
6.0: Children's hour, conducted by Cinderella. Piano solo, Cousin Phyllis, "Mazurka" (Durand). Duologue, Marjorie Brown and Nancy Noy, "When Baby Swallowed the Pin." Letters and birthdays. Sketch, Cousin Betty, "Child Impersonations." Piano solo, Cousin Phyllis, "Musical Box." Duologue, Cousins Marjorie and Nancy, "Dolly's Names." Story-time.  
7.15: News and market reports, sports results.  
8.0: Chimes.  
8.1: Relay of overture from Prince Edward Theatre Orchestra, under Mr. Ern. Beacham.  
8.11: Vocal quartet—The Lyric Quartet, "De Sandman" (Neiderler).  
8.15: Tenor solo—Mr. Herbert Richards, "Sledge Song" (Lewis).  
8.19: Vocal and instrumental—The Bohemian Trio, (a) "The World is Waiting" (Leitz); (b) "Since I Found You" (Johnson).  
8.27: Humour—Mr. Alan McElwain, "The Stror 'at Coot" (Dennis).  
8.32: Guitar and piano—"Good for the Soul" (Bright).  
8.30: Vocal quartet—The Lyric Quartet, "Dinah."  
8.40: Relay of entracte from Prince Edward Theatre Orchestra.  
8.50: Bass solo—Mr. Ernest Thomas, "Batchelors of Devon" (German).  
8.54: Vocal and instrumental—Bohemian Trio, (a) "Take This Rose" (Jones); (b) "Plantation Lullaby" (Warren).  
9.2: Weather forecast.  
9.3: Tenor solo—Mr. Arthur Ripley, "Little Mother o' Mine" (Burleigh).  
9.7: Guitar and piano—"Community Blues" (Bright).  
9.11: Vocal quartet—The Lyric Quartet, "Little Tommy" (Smith).  
9.13: Relay of dance music from Dixieland Cabaret, under Mr. Harry Nelson.  
11.0: God Save the King.

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# How to Build a Linen-Diaphragm Loud-Speaker (By Megohm)

THIS is a type of loudspeaker that is now enjoying great popularity in America, and has been called the balanced-tension type of reproducer. Several patterns varying in detail, but the same in general principle, have been published, but in each case there are two frames upon which linen or skin is stretched, making two diaphragms, the centres being pulled together and bolted, and driven at this point by a cone speaker unit.

One pattern has both frames of the same size with linen diaphragms, another has the back diaphragm much smaller, and employs skin in place of linen, and so on. The employment of skin or parchment obviates the stiffening of the linen by impregnating it with varnish, celluloid solution or else with four or five coats of thin collodion.

No claim appears to have been made that one pattern excels another, but all alike give very fine reproduction, including the lower notes that are mostly suppressed by the average small horn speaker. Construction is simple, and if the instructions are carefully followed, a loudspeaker of which the constructor may be proud will result.

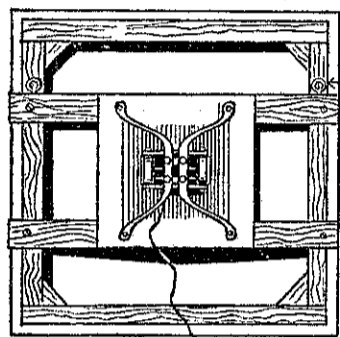


Fig. 1 Back View of Speaker

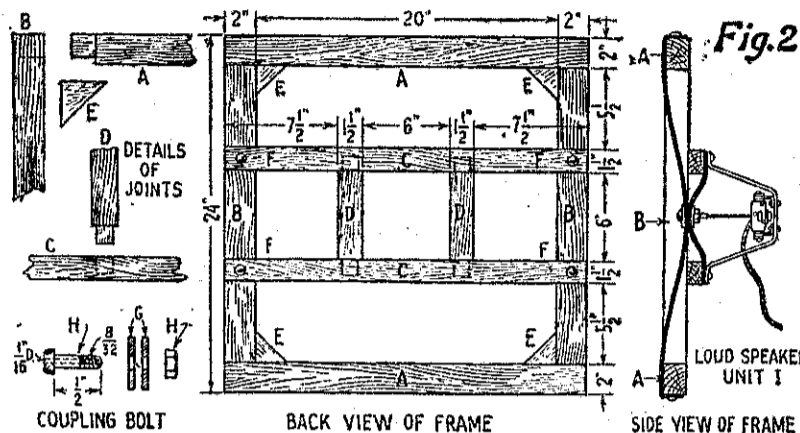
## Construction of Frame.

THE first operation is the assembly of the wooden frame upon which the linen diaphragms are stretched. The back view of the frame, Fig. 2, shows how the various pieces of rimu or other suitable wood are cut and mortised together. This construction should be followed, for if the parts of the frame are not securely fastened by glueing, a rattle will be introduced in the speaker that cannot be eliminated without a great amount of trouble. After the pieces A and B have been glued, the corner pieces E are attached. The pieces marked C and D are next joined and screwed to the sides B, making sure that the pieces D are centred.

While the points of the wooden frame are drying, the two diaphragms

of high-grade linen are prepared. It is necessary that a hem one-half inch wide be sewed along each side of both the large and the small squares; the one being 26 inches square and the other 8 inches.

When the joints are thoroughly dried, the large square of cloth is placed over the front of the frame, tacking down one edge; be careful to place the tacks fairly close to one another, so that there will be little danger of the cloth's pulling out. When one edge has been fastened stretch the linen as tightly as possible and tack down the opposite side. This



The details of the construction of the wooden frame, for both the large and the small diaphragm, also the mounting of the loud speaker unit

process is repeated for the other two sides. The 8-inch square of linen is fastened to the rear frame in the same manner.

## Preparing the Diaphragm.

NOW locate the exact centres of both diaphragms and carefully, with the point of a compass or a sharp nail, force a hole in the linen. Be careful not to break any threads, but spread them apart until the hole is 1/4-inch in diameter. Then prevail upon one of the ladies of the family to work a button-hole stitch around these two holes. The next operation should be performed either outdoors or in a room with the windows open, as otherwise the fumes from the collodion are liable to cause an unpleasant sensation. Paint the face of each diaphragm with the thin collodion and allow it to dry. Four or five coats are required; let each coat dry before applying the next one. When the last coat is dried the diaphragms will be stiff and slightly flexible and, when tapped with the finger, will sound like a drum.

An alternative method of treatment to the above is to impregnate the diaphragms with celluloid dissolved in amyl-acetate, or with a suitable varnish.

The small coupling bolt is next prepared. This is at 3/32 inch in length, through which is drilled length-

wise a small hole, just large enough to take the driving rod of the loudspeaker unit which is to be used. One of the washers is put over the bolt, and the head with the washer is put through the hole in the large diaphragm, from the front. The two diaphragms are forced together until the bolt can be slipped through the hole in the smaller square, after which the other washer and the nut are put on and tightened down.

The mounting of the unit itself is left to the ingenuity of the constructor. The method employed with good results by the writer can be seen in the

accompanying illustrations. It is important to remember that the unit must be so lined-up that the driving pin will come exactly in line with the hole in the bolt.

The finished speaker may be placed in a cabinet or hung from the ceiling. If it is desired to colour the linen diaphragms this must be done before treating them with the collodion. The tacks should be covered over with an attractive passe-partout binder for appearances' sake.

The material needed for constructing this speaker is as follows:—

- 4 pieces of rimu, 24 x 2 x 1 1/2 inches ("A, B").
- 2 pieces of rimu, 24 x 1 1/2 x 1 inch ("C").
- 2 pieces of rimu, 7 1/2 x 1 1/2 x 1 inch ("D").
- 4 triangular pieces rimu, 1 1/2 x 1 1/2 inches ("E").
- 2 squares of medium-weight linen, one 26 x 26 inches, and the other 8 x 8 inches.
- 4 1/4-inch wood screws ("F").
- 2 1/2-inch washers ("G").
- A 1/2-inch 8/32 brass screw and nut ("H").
- A package of No. 4 cut tacks.
- A roll of passe-partout binder.
- 10oz. collodion (obtainable at chemists), or varnish.
- A balanced-armature loudspeaker unit with driving rod ("I").

## Alternative Construction.

SOME constructors may fancy the two equal diaphragms, as in Fig. 3, so details are here given.

Two frames 2 feet square are prepared in the same way as prescribed above. Fig. 4 shows a side view. The two frames are held 8 inches apart by strong threaded rods and nuts. The linen is on the outside of the frames, and the driving unit is secured to the two parallel bars of wood running across the centre of the back frame. The exact method of securing the driving unit will depend upon the type employed.

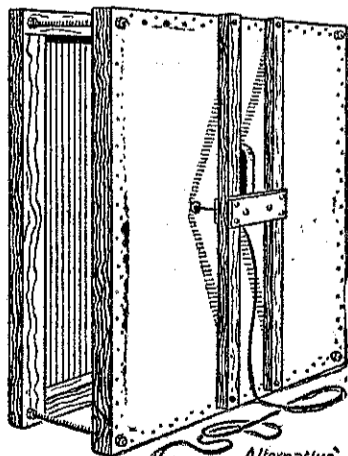


Fig. 3 Alternative Construction

## Proof Against Overloading.

FROM the foregoing description it becomes obvious that the weight or tension of the vibrating diaphragms does not act as a constant load on the driving unit. Therefore, although it might be imagined that the highly-taut diaphragms require a great deal of power to actuate them, even the slightest movement of the drive pin is transmitted without loss to them; as a result the speaker is unusually sensitive, and operates with great volume even on moderately strong signals.

The new speaker is capable of handling far more power than is required for all ordinary radio purposes. In one test, for example, it was used in conjunction with a two-stage transformer-coupled audio amplifier employing two 210-type power tubes in

the last stage. A strong local station was tuned in, and a direct comparison was made between this speaker and another of the cone type, of probably the best design on the market to-day. The latter instrument started to rattle when a certain volume level was reached; whereas this linen diaphragm speaker continued to operate without distortion up to the limit of the amplifier.

## Volume With Quality.

THE performance of this new loudspeaker, as judged by the ear alone, is remarkable for its brilliancy and faithfulness over the whole range of musical notes transmitted by a high-class broadcast station. Violin music comes through high and clear, without appreciable flattening of the high notes; while the sounds of drums and the low tones of a piano boom forth with clarity and realism. The unexpected responsiveness of the speaker to the low notes is somewhat disconcerting at first to a hearer unaccustomed to such reproduction; but, in a room of favourable acoustic properties (i.e., one furnished generously with rugs, thick curtains and similar echo-killing materials), the "booming" effects quickly lose their unpleasantness.

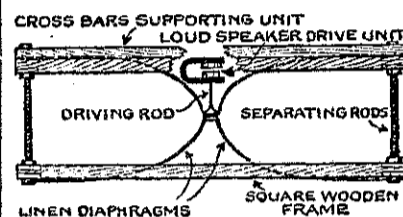


Fig. 4

The actual range of frequency-response of this speaker, according to tests made in the laboratories of the manufacturer, is from 30 to 8000 cycles. This more than covers the modulation range of the average broadcast station.

## THE AR19 HORN SPEAKER

THE Amplion Standard Dragon AR19 horn speaker is probably the best seller of any horn speaker. A practical test shows that this speaker still retains the good qualities that have made it such a favourite amongst listeners. Its capacity for handling large volume is assured by a sturdy reproducing unit and the large bell-shaped flare constructed of oak. The price is £6 10s.

## THE A.W.A. TRANSFORMER

LAST week the new A.W.A. Super-audio transformer was introduced to constructors. Full particulars have now come to hand as follow:— The primary inductance has been kept as high as is possibly consistent with the price of the transformer (18s.).

The cross section of iron in the core of A.W.A. Super-audio Transformer can be gauged both from the minimum airgap and from the overall dimensions and weight, as shown here:— Overall dimensions: 2 7/16 x 2 7/8 x 2 1/2 inches. Weight: 1lb. 4oz.

In the new A.W.A. Super-audio Transformer a comparatively heavy gauge of copper wire is used in the windings to diminish the risk of burn-outs, and to decrease the resistance. Below are given the safe limit of steady plate currents for the respective ratios, and it will be noted these are comparatively high values:—

Ratio	Limit of Steady Plate Current
2 to 1	3 to 4 milliamps
3 1/2 to 1	4 to 5 milliamps
5 to 1	6 to 7 milliamps

The 2 to 1 transformer is best used in conjunction with the detector valve, where the plate current is relatively low. If the steady plate current of the first audio valve exceeds the limit shown for the 2 to 1, then a 3 1/2 to 1 or a 5 to 1 transformer should be used in conjunction with it. As a general rule, the lower the ratio of the transformer, the better will be the reproduction, provided the steady plate current does not exceed the limit shown.

## THE SCREEN-GRID BOOSTER FOR BROWNING-DRAKE

### A CONSTRUCTOR'S SUCCESS.

AN Auckland constructor writes as follows:—"It may interest you to know that I have made up and attached the screen-grid booster (as described by you in the "Radio Record") to my four-valve Browning-Drake, and the results I am getting are beyond all expectations—Christchurch and Wellington on loudspeaker in daylight. In fact, it is such a success that I propose breaking down my shore-wave set and rebuilding it with the short-wave booster, as designed by you. . . ."



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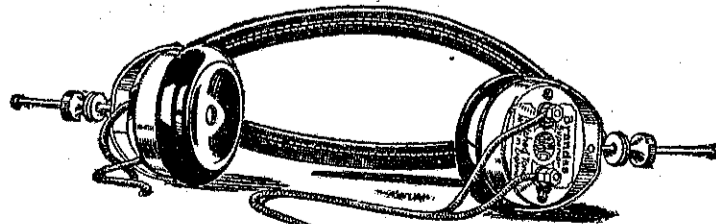
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# Construction Continued

## APPRECIATION CONCERNING EARTH CONNECTION & B ACCUMULATOR

THE following appreciative letter has been received from Wanganui by "Megohm":—"I know you like to hear the results obtained by those listeners who try out the ideas published in the 'Radio Record.' I was a bit sceptical as to the improvement that might result by using a car radiator as an earth connection, but as an old Ford radiator (all copper and brass) came into my hands, I thought I might as well give it a trial.

"Previously I had three in. galvanised pipes set in the form of an equilateral triangle with six-foot sides, each driven about 3ft. 6in. into pure sand, and with the earth lead soldered to these; with this I got quite average good results on my five-valve neutrodyne.

"I attached the radiator about the centre of the triangle, and filled the hole in which it was placed with wood and coke ashes. There certainly has been an improvement of reception of DX stations. My best performance with the set since then was to bring in 2FC broadcasting an Anglican service on Sunday, June 24, at 1 p.m., New Zealand standard time. Of course, the volume was not of the crockery-rattling variety, but I could clearly hear the words of the lesson being read fifteen feet from the loudspeaker. Previously my best on this station at that time of day was weak phone strength. I have found, as did the originator of the idea, that the tuning has been considerably sharpened—in fact, the tuning is almost too sharp, as the dials (vernier) require very gentle handling.

"I use another idea in my set which possibly may be of use to someone else. When I got the set (second-hand), I found it very tricky to neutralise. If O.K. on the longer waves it was inclined to howl and distort on the lower

## THE 2RF BROWNING-DRAKE

A mistake has been discovered in the wiring diagram of this unit. In the case of a constructor working from the theoretical diagram also, the error would no doubt be noticed. In the centre stage the wire running from the back of the neutraliser should not join to the plate wire, but should continue to join the grid wire instead.

## AN INEXPENSIVE CONE SPEAKER

TO meet the demand for a cone speaker at a price that is within the reach of most listeners, the Amalgamated Wireless AC2 cone loudspeaker has been introduced.

This speaker is circular in shape, having a wooden frame outside the cone proper, which later is made of material specially favourable to the high audio frequencies. On this account the low notes are not obtained at the expense of losing much of the amplification of high notes.

A conclusive test showed that their cone speaker is capable of great clarity of reproduction of music and speech to a point well down in the scale, and that any failing in clearness would be owing to shortcomings in the receiver. Large volume can be carried without rattle, fine adjustment being easily made by turning a single knob.

A neat suspension cord allows of the speaker being hung on the wall, an arrangement that is conducive to the best acoustic effect. At £3 5s. this cone should prove popular.

## THE HYDROMETER TEST

A SERVICEMAN states that it is quite a common occurrence for a battery owner to take his own hydrometer test of an accumulator and receive a quite erroneous idea of the state of the battery unless the specific gravity of the acid solution to be used is stated on the battery itself.

Because one particular make of battery should read 1300 on the hydrometer when fully charged, it does not follow that all other fully charged batteries should give the same reading, so that before passing judgment on a charging station it is necessary to know what is the correct specific gravity for the acid when the battery is fully charged.

There have been many occasions on which immediately after delivery of his recharged battery, the owner has

## QUERIES BY CORRESPONDENCE.

1. Every communication enclosing queries is to be addressed to "Megohm," Box 1032, Wellington, and must be accompanied by a stamped addressed envelope for reply by post.
2. Questions must be written so that a space is left in which the reply may be added.
3. No charge is made for replies.

telephoned to the service station a complaint that his battery is only half-charged. This mistaken idea is due to the fact that the owner of the battery makes his hydrometer test without being aware of the actual reading required for that particular make of battery. It is obvious therefore that battery-owners should make a point of ascertaining what hydrometer reading to expect when their battery is fully charged. Then if the reading is found to be low, it is probable that the charging station has not finished its work.

Articles on the use of accumulators usually deal with average figures applicable to any accumulator in case of the manufacturer's recommendations not being available, but it is certainly better to work by the latter.

The correct charging rate is also important and should not be exceeded if the battery is to have a long life.

NOTHING spoils the appearance of an otherwise neat set more than frayed insulation where the end of a wire has been cleared for connecting. A sure cure is to place a touch of secotine on the frayed portion and then twist with the fingers, using a circular motion round the wire. Hot wax may be used in the same way.

## TIPS AND JOTTINGS

### Tickler Coils.

FAILING anything more definite, the turns on a tickler coil for use in a regenerative circuit can be reckoned at about two-thirds the number of turns on the secondary coil. This proportion, however, does not hold true in all cases, especially when valves of the 199 type are used. In this case, the size of the tickler coil will have to be increased, as this valve does not oscillate as freely as the 201A type.

The distance between the secondary and tickler coils also affects the size of the coil; and the use of resistors or condensers for controlling the regeneration also changes this value. The actual size of the tickler coil can easily be determined when the set is in operation. If the regeneration is too strong, and cannot be controlled, the tickler turns should be reduced, while, if sufficient regeneration is not obtained, more turns should be put on.

### New Tickler Control.

THE absorption tickler control dealt with in the 2 r.f. Browning-Drake can be carried out quite well with an ordinary filament Bradleystal. The writer has found this method entirely satisfactory.

### Eliminator "Motor-hooting."

AMERICAN experience is showing that there is more liability to "motor-hooting" from eliminators in which there is a continuous tapped resistance running from positive to negative, as in the potential divider system, than where a separate resistance and condenser is employed for each voltage, as in the "Record" eliminator.

### R.F. Valve Impedance.

THE valve for which the Browning-Drake was originally designed to use in the R.F. stage is the 199, with an impedance of 16,500 ohms, and too great a departure from this figure is not always desirable. And this is not the only circuit for which a valve of about the above impedance has been found most suitable in R.F. stages.

### Protecting Battery Terminals.

THE usual prescription for protecting accumulator terminals from corrosion is a liberal smearing of vaseline, but the results are not always as desired. A better, but less known, compound is a mixture of castor oil and turpentine mixed in equal parts by volume. This preparation will clean terminals that have become very dirty, and they will not corrode again if kept thickly smeared with this mixture, which will not harm either celluloid, ebonite, or glass.

### Neutralised Superhets.

ALTHOUGH receivers of the superheterodyne type are supposed to operate on a frame or loop aerial, and not on an outside aerial, listeners who wish to employ a superhet, may now enjoy the advantages of the outside aerial. This is possible through the introduction of the Radiola series of neutralised superheterodynes, of which there are seven different styles.

### The Moving-Coil Loudspeaker.

THIS type of speaker has so far been little in evidence in New Zealand, though its reproduction is claimed to be the most perfect yet. This type of speaker is expensive to purchase, and its more to run than does the ordinary speaker, as there is a powerful electro-magnet to be supplied with steady direct current whilst in use. For home-construction it is necessary to purchase the necessary castings as accurate machining is an essential feature. When such castings are available in New Zealand, constructors will be able to do their own winding and make and fit the cone for such speakers.

### A New Resistor.

A NEW wire-wound and shielded resistor bears the Igranite brand, and will be found a great improvement over the usual type of fixed resistance. Suitable clips are also provided. The 80,000 ohm resistor is stocked by the International Radio Co., Wellington.

### Colvern Coils.

THE "Colvern" or Collinson coil formers provide a handy means of plugging in a set of tuning coils at one operation. On these formers, which have six pins fitting a suitable base, primary, secondary and tickler, or any other combination may be wound and the whole plugged in with one operation without chance of mistake. The large size is 2 1/2 in. and the small 2 3/8 in. diameter and can be obtained with or without copper shield. The smaller size can be obtained ready wound as a split secondary. These formers are stocked by Messrs. Thos. Ballinger and Co., Ltd., Victoria Street, Wellington.

### The UX250 Amplifier.

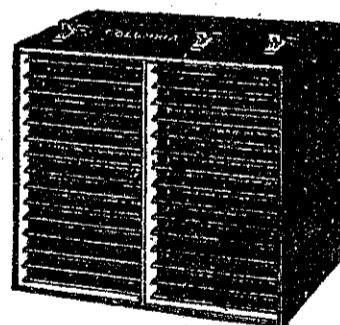
FEW listeners in New Zealand will at present be very interested in the new power amplifier, capable of delivering over three times the undistorted volume of the 210. The latter valve is a goal which few here have yet reached. The new valve is highly suited to public demonstration work, and no doubt its output will be made good use of at the coming elections. As a transmitter, the new valve is rated at 25 watts as against 7 1/2 watts for the 210. The plate voltage ranges from 250 to 450 volts and plate current from 28 to 65 milliamperes.

# RADIO DIRECTORY What to Buy and Where

## AUCKLAND

ATWATER-KENT RADIO	Frank Wiseman, Ltd. 170-172 Queen Street, Auckland.
ALTONA & HAMMARLUND-ROBERTS SETS.	Johns, Ltd. Chancery Street, Auckland.
AMPLION LOUDSPEAKERS	All Radio Dealers.
BREMER-TULLY RADIO	Superadio, Ltd., 147 Queen Street, Auckland.
BURGESS RADIO BATTERIES	All Radio Dealers.
CE-CO VALVES	All Radio Dealers.
FADA RADIO	Radio Supplies, 251 Symonds Street, Auckland.
FEDERAL, MOHAWK, GLOBE	Federal Radio House, 8 Darby Street, Auckland.
GILFILLAN AND KELLOGG	Harrington's, Ltd., 138-140 Queen Street, Auckland.
GREBE RADIO	Howie's, Dilworth Building, Custom st., Auckland.
MARCONI ECONOMY VALVES	All Radio Dealers.
MULLARD VALVES	All Radio Dealers.
RADIOLA RECEIVERS	Farmers' Trading Co., Ltd., Hobson Street, Auckland.
RADIOTRON VALVES	All Radio Dealers.
RELIANCE BATTERIES	Reliance Battery Mfg. Co., Ltd., 96 Albert Street, Auckland.
COUNTRY TOWNS	
CROSLY ELECTRICAL AND BATTERY MODELS	The Forrest-Crosley Radio Co., Ltd. Cuba Street, Palmerston North.
CROSLY RADIO SALES AND SERVICE	D. A. Morrison and Co. The Avenue, Wanganui.
FEDERAL AND AIR PATROL RADIO	J. B. McEwan and Co., Ltd., New Plymouth.
GAROD, CROSLY, RADIO AND ACCESSORIES	The Hector Jones Electrical Co. King and Queen Streets, Hastings.
GREBE, CROSLY AND RADIOLA SERVICE	E. Dixon and Co., Ltd., Hawera.
RADIOLA DEALER AND SERVICE	G. C. Carrad. 140 The Avenue, Wanganui.
PHILIPS VALVES AND APPARATUS	All Good Radio Dealers.

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# Programmes Continued

(Continued from page 11.)

## 3YA, WELLINGTON (420 METRES), SATURDAY, JULY 21.

- 5 p.m.: Chimes of the G.P.O. Clock.  
 6.1: Relay of description of football match from Athletic Park.  
 6.0: Children's session—Uncle Toby and Aunt Gwen. Monologue, Cousin Joyce, "Little Jammy Face" (Russell). Story, Aunt Gwen. Recitation, Cousin Joan, "Tale of a Fairy" (M.S.). Birthday greetings. Song, Cousin Margaret, "Brownie" (A. A. Milne). Recitation, Cousin Joyce, "Just Like a Boy" (M.S.). Monologue, Cousin Phyllis, "Mary Fawcett" (Witty). Song, Cousin Margaret, "Fairy Rain" (M.S.). Recitation, Cousin Gwen, "The Gay Princess" (M.S.). Mouth organ solo, Uncle Toby, selected.  
 7.0: News session, market reports and sports results.  
 7.40: Lecturette—Miss Phyllis Bates, "Modern Dancing."  
 8.0: Chimes of the G.P.O. Clock.  
 8.1: Overture—the orchestra, (a) "March of the Tin Soldiers" (Kockert), (b) "Dance of the Rose Elfs" (Waltz), (Moszkowski).  
 8.10: Vocal quartet—Melodie Four, "Off in the Silly Night" (traditional).  
 8.14: Mandola solos—Mr. Lad Haywood, (a) "The Last Rose of Summer" (traditional), (b) "O Star of Eve" (Wagner).  
 8.21: Tenor solos—Mr. Frank Bryant, (a) "Here in the Quiet Hills" (Carne), (b) "I Pity My Lonely Caravan" (Lohr).  
 8.28: Jazz novelty—(a) Waltz, "Girl of My Dreams"; (b) "Sing Me a Song of Araby."  
 8.30: Novelty—"Vermont," "Bird and Animal Imitations."  
 8.40: Hits and harmonies—Glad Idlers, "The Song is Ended" (Berlin).  
 8.51: Humour—Mr. Geo. Titchener, "The Story of a Kiss" (Godfrey).  
 8.50: Baritone solo—Mr. R. S. Alwright, "My Dreams" (Tosti).  
 9.0: Weather forecast.  
 9.2: Light opera selection—the Orchestra, "Madame Pompadour" (Fall).  
 9.12: Vocal quartet—Melodie Four, "Slow River" (Schwab, arranged by Crowther) (by request).  
 9.16: Soprano solos—Miss Amy Eaton, (a) "Tell Me My Heart" (Bishop), (b) "Nymphs and Fauns" (Demberg).  
 9.24: Repeat number—the Orchestra.  
 9.32: Tenor solo—Mr. Sam Daman, "Songs My Mother Taught Me."  
 9.36: Bass solo—Mr. W. W. Marshall, "The Iceberg" (Gordon).  
 9.40: Xylophone solo—Mr. L. Probert, "William Tell Overture" (Rossini).  
 9.50: Hits and harmonies—Glad Idlers, "While the Millionaire Consumes His Sausage and Mash" (M.S.).  
 9.55: Humour—Mr. Geo. Titchener, "As Long As I've Got the 'heart'" (Lee).  
 10.14: Vocal quartet—Melodie Four, "Old Folks at Home" (Dicks).  
 10.5: Dance programme with vocal choruses by the Glad Idlers.  
 11.0: Close down.

## 3YA CHRISTCHURCH (306 METRES), SATURDAY, JULY 21.

- 2.45 p.m.: Relay description of Rugby football match from Lancaster Park.  
 6.0: Children's Hour—Stories and greetings by Uncle Sam; songs and music by Aunt May.  
 7.15: News and information session.  
 7.30: Sports results.  
 8.0: Chimes.  
 8.1: Overture.  
 8.9: Male chorus—Christchurch male quartette, "The Soldier's Farewell" (Kinkel).  
 8.18: Pianoforte jazz—Misses Muriel Johns and Dorothy Johnson, "Improvisations on 'Nola'" (Arndt).  
 8.17: Baritone solo—Mr. P. Angus, "The Yeomen of England" (German).  
 8.21: Happy songs at piano with ukulele—The Joyous Trio, (a) "Hallelujah" (Younans); (b) "Persian Rosebud" (Nicholls).  
 8.26: Tenor solo—Mr. L. C. Quane, "The Flutes of Arcady" (James).  
 8.30: Instrumental trios—Christchurch Broadcasting Trio, (a) "Spring Song" (Mendelssohn), (b) "Hungarian Dance No. 2" (Brahms).  
 8.38: Popular songs at the piano, with pianoforte interlude—Mr. Athol Hunnibel, (a) "Don't Sing Alone When I Go" (Moret), (b) "Fifty Million Frenchmen" (Fischer).  
 8.42: Hawaiian instrumental steel guitar and ukulele trio—Miss Elaine Moody's Hawaiian Instrumental Trio, (a) guitar trio, "Schoolboy Sweethearts" (M.S.); song (with ukulele), Miss Elaine Moody, "Hula Blues" (M.S.); guitar trio, "Waltz of Love" (M.S.).  
 8.51: Humorous recitation—Mr. W. H. Moses, "The Bush Missionary" (M.S.).  
 8.57: Male chorus—Christchurch male quartette, "Old Black Joe" (Foster).  
 9.1: Weather forecast.  
 9.3: Overture.  
 9.8: Male chorus—Christchurch male quartette, "Sweet and Low" (Barnby).  
 9.15: Pianoforte jazz items—Misses Muriel Johns and Dorothy Johnson, improvisations on "Dainty Miss" (Barnes).  
 9.16: Bass solo—Mr. J. Filer, "Anchored" (Watson).  
 9.20: Happy songs at piano with ukulele—The Joyous Trio, (a) "In the Sing Song Sycamore Tree" (Woods), (b) "Shine On, Harvest Moon" (Norworth).  
 9.25: Dramatic recitation and otherwise—Mr. W. H. Moses, (a) "The Waster" (Hayes), (b) "A Rustic Damsel" (Anon).  
 9.31: Tenor song and chorus—Mr. H. Blakeley and male quartette, "Every Step Towards Killarney" (Harms).  
 9.34: Instrumental trios—Christchurch Broadcasting Trio, (a) "Serenade" (Widor), (b) "Valse Bluette" (Drigo).  
 9.42: Popular songs at the piano with piano interludes—Mr. Athol Hunnibel, (a) "Where is Meyer?" (Gilbert), (b) "Breeze" (Hanley).  
 9.48: Hawaiian instrumental trio, with steel guitars and ukulele—Miss Elaine Moody's Hawaiian trio: guitar solo, "Souvenirs" (M.S.), Miss Elaine Moody, guitar trios: (a) "All Because of You" (M.S.); (b) "Falling in Love With You" (M.S.).  
 9.57: Male chorus—Christchurch male quartette, "Home, Sweet, Home" (Parks).  
 Dance music until 11 p.m.  
 National Anthem.

## 4YA DUNEDIN (463 METRES), SATURDAY, JULY 21.

- 2.45 p.m.: Relay description of Rugby football match from Carisbrook.  
 5.0: Close down.  
 7.15: News session.  
 7.30: Address by Dr. G. E. Thomson, of Otago University (under the auspices of the Workers' Educational Association).  
 8.0: Town Hall chimes.  
 8.1: Relay of orchestral selections from Empire Theatre.  
 8.12: Vocal quartet—4YA Harmonists, "A Lover's Ditty" (Stanford).  
 8.16: Recital—Miss Roberta Williams, "Uncle Mose Counting the Eggs."  
 8.20: Mezzo-soprano solo—Miss Mollie Andrews, "Go Down to Kew in Lilac Time" (Peel).  
 8.23: Violin solo—Mr. A. R. Watson, "The Dawn" (Nevin).  
 8.27: Baritone solo—Mr. F. M. Tuohy, "The Cobbler's Song" (Norton).  
 8.31: Flute solo—Mr. J. W. Stewart, "Sunset" (Verrans).  
 8.35: Soprano solo—Miss Roma Buss, "Roses For You" (Drummond).  
 8.38: Instrumental trio (violin, flute and piano), "Ave Maria" (Gounod).  
 8.42: Tenor solos—Mr. Charles C. Scott, (a) "Dedication" (Franz), (b) "Good-night, Pretty Stars" (Johnson).  
 8.48: Pianoforte solos—Mrs. Ernest Drake, L.A.B. (a) "Lento" from "Two Pierrot Dances" (Scott), (b) "Danse Negre" (Scott).  
 8.58: Vocal quartettes—4YA Harmonists, (a) "Sweet and Low" (Barnby), (b) "Alice, Where Art Thou?" (Asher).  
 9.0: Weather forecast.  
 9.3: Relay of orchestral selections from the Empire Theatre.

- 9.14: Recitals—Miss Roberta Williams, (a) "Vive La France", (b) "Little Hatchet Boy—With Interruptions."  
 9.21: Mezzo-soprano solo—Miss Mollie Andrews, "Birds Go North Again" (Willeby).  
 9.25: Violin solo—Mr. A. R. Watson, "Hebridean Melody."  
 9.29: Baritone solo—Mr. F. M. Tuohy, "Bachelor Gay" (Simpson).  
 9.32: Flute solo—Mr. J. W. Stewart, "Divertissement" (Beckert).  
 9.35: Soprano solo—Miss Roma Buss, "White Birds" (Arundale).  
 9.39: Instrumental trio (violin, flute and piano)—"Chant D'Amour" (Link).  
 9.44: Tenor solo—Mr. Charles C. Scott, "Flower Of All The World" (Finden).  
 9.45: Relay of orchestral selections from the Empire Theatre.  
 10.0: Close down.

## Sunday, July 22

### 1YA, AUCKLAND (333 METRES), SUNDAY, JULY 22

- 3 p.m.: Afternoon session—Selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.3: Selected studio items.  
 4.30: Close down.  
 6.0: Children's song service, conducted by Uncle Leo, assisted by cousins from Howe Street Brethren Sunday School.  
 6.55: Relay of service from Beresford Street Congregational Church. Preacher, Rev. Lionel Fletcher. Choirmaster, Mr. William Gemmell.  
 8.30: Relay of concert by the Auckland Municipal Band, under the direction of Mr. Christopher Smith, military band selections.  
 9.30: Close down.

### 2YA WELLINGTON (420 METRES), SUNDAY, JULY 22.

- 9 a.m.: Result of "All Blacks" match in South Africa.  
 9.15: Close down.  
 9.30 p.m.: Afternoon session—Selected studio items.  
 6.0: Children's Sunday service, conducted by Uncle Ernest, assisted by choir from Petone Church of Christ.  
 6.55: Relay of evening service from Vivian Street Baptist Church—Preacher, Rev. F. E. Harry. Organist, Mr. Chas. Collins. Choirmaster, Mr. J. R. Samson.  
 8.15: (approx.)—Relay of band recital of the Porth Nicholson Silver Band from the Grand Opera House. Conductor, Mr. J. J. Drew.  
 Close down.

### 3YA CHRISTCHURCH (306 METRES), SUNDAY, JULY 22.

- 9.0 a.m.: Result of "All Blacks" match in South Africa.  
 9.15: Close down.  
 9.30 p.m.: Afternoon session—selected studio items.  
 5.30: Children's song service—Uncle David, assisted by scholars from Linwood Congregational Sunday School.  
 6.30: Relay of service from Trinity Congregational Church, Worcester Street—Preacher, Rev. D. Gardiner-Miller. Organist, Mr. Alec Mill. Musical Director, Mr. A. G. Thompson.  
 8.15: (approx.) (conditions permitting): Rebroadcast of 2YA Wellington (relay of concert by the Port Nicholson Band, from the Grand Opera House).  
 Close down.

### 4YA DUNEDIN (463 METRES), SUNDAY, JULY 22.

- 5.30 p.m.: Result of "All Blacks" match in South Africa.  
 5.31: Children's song service, conducted by Big Brother Bill.  
 6.30: Relay of service from the Methodist Central Mission—Preacher, Rev. W. Walker. Organist, Mr. Chas. A. Martin.  
 8.0: Relay from His Majesty's Theatre of concert by the Kaitake Band under the conductorship of Bandmaster E. Franklin.  
 9.15: Close down.

## Features

(Continued from page 7)

Recitations will be given on Wednesday evening by Mr. L. T. J. Ryan, whose items will be "My Wedding Anniversary" (humorous) and two dramatic numbers with piano accompaniment—"Earthenware" and "The Kid."

AN entertainment typical of the Victorian period will be presented on Thursday evening. The vocal portion of the programme will be contributed by the Madame Gower-Burns Grand Opera Quartet, the items consisting of solos, duets, and a quartet, the last-named being the beautiful "Sweet and Low," which will be the final item of the evening. A number of the songs to be sung will bring back recollections to listeners of the older generations. The instrumental portion of the programme will be provided by Miss Aileen Warren (pianist), Mr. T. H. Amos (flautist), the Studio Trio, Mr. Harold Beck (cellist), and Messrs. R. Ohlson and A. Benson, who will play cornet duets. Recitations will be given by Miss K. O'Brien.

"TO-NIGHT'S THE NIGHT" is the musical play with which the Radiolian Quartet will entertain listeners on Friday evening. This is another of the popular programmes which these vocalists are regularly providing. There are many fine choruses, solos and duets in this work by Rubens, and the Radiolians can be relied upon to do full justice to the music.

Considerable variety will intersperse Friday evening's entertainment—jazz numbers by the Beresford Banjo Band, selections by the Studio Trio, Miss Irene Morris (violin), Mr. S. N. Crisp (euphonium), and humorous recitations by Mr. J. P. Darragh.

BRIGHT variety will characterise the radio vaudeville from 3YA on Saturday evening. Some excellent vocal items can be expected from the members of the Christchurch Male Quartet—Messrs. H. Blakeley, L. C. Quane, P. Angus and J. Filer. The Joyous Trio will sing happy songs to the accompaniment of piano and ukulele, pianoforte jazz will be played by Misses Muriel Johns and Dorothy Johnson, humorous recitations will be given by Mr. W. H. Moses, the Studio Trio will contribute, Hawaiian music will be dispensed by Miss Elaine Moody's Hawaiian Trio, and Mr. Athol Hunnibel will sing popular songs at the piano.

THE United States Government Radio Commission have decided that all portable radio broadcasting stations must discontinue operation immediately. The commissioners hold that the portable stations do not serve a public interest, and that in many cases they are interference nuisances.

of the melodious melodies of the tropic isles. Miss Nancy Ayson will contribute some elocutionary numbers, and Mr. J. B. McConnell will contribute humorous recitals, while light popular vocal numbers will be sung by Miss Thelma Blackman (soprano), and Miss Betty Roberts (mezzo-soprano).

FRIDAY evening's programme for the first hour will comprise choice ballad items. Miss Mollie Vickers, among others items, will sing "By the Waters of Minnetonka" and Stenson's "Prayer Perfect." Mr. L. M. Cachemaille (baritone) will sing a group of songs from the pen of Coningsby Clarke; Miss Sheila Neilson will provide some monologues and recitals; Mr. George Christie will entertain with his cornet, and Albeniz's pianoforte composition, "Saxadillas," will be rendered by Mrs. Ernest Drake, L.A.B. The second half of the programme will be dance music relayed from the Savoy by Mr. Carey and his orchestra.

ON Saturday evening the 4YA Harmonists will contribute a further group of vocal quartets, among which will be "Alice, Where Art Thou?" "Sweet and Low," and "A Lover's Ditty." Miss Roma Buss (soprano) will sing "White Birds" and "Roses for You"; Miss Mollie Andrews (mezzo-soprano) will sing "Go Down to Kew in Lilac Time" and "The Birds go North Again."

A new addition to the 4YA Harmonists, Mr. Charles C. Scott, will be heard in a group of ballad solos. Mr. F. M. Tuohy will sing "The Cobbler's Song" from "Chu Chin Chow" and "Bachelor Gay" from "The Maid of the Mountains."

An instrumental trio—violin, flute, and piano—will render some classical numbers on Saturday evening. Violin solos by Mr. A. R. Watson, flute solos by Mr. J. W. Stewart, and pianoforte solos by Mrs. Ernest Drake, L.A.B., will comprise the instrumental items. Miss Roberta Williams will entertain with some elocutionary items.

## MELBA CONCERT FIASCO

### TRIBULATIONS OF 3LO

NEW Zealand listeners who happened to tune in 3LO, Melbourne, recently will remember the disappointing break-down in the relay circuit of 3LO during a concert in which Dame Nellie Melba was singing. The following report of the occurrence is to hand from Melbourne:—"Station 3LO, Melbourne had announced a Melba concert to be broadcast from Lilydale. Special pains had been taken, pains commensurate with the importance of the undertaking. All over Australia listeners were waiting to hear Melba. In order that no chance error should mar the occasion, duplicate apparatus had been sent to Lilydale, and an adequate staff to operate it accompanied this. By a freak that has not yet been explained, one of the errors to which mechanism, like human beings, are prone, occurred, and the broadcast failed. It was a disappointment to all, but that disappointment would have been even more keen had 3LO and associated stations gone off the air that night.

"What happened? No artists were in the studio, and it would have taken time to have got into touch with sufficient to provide a programme. It happened that certain talented people were rehearsing on the premises. These were at once pressed into service. They lacked music, but from the reserve stores of 3LO sufficient was drummed up for the occasion, and with hardly the loss of time taken by a single item, an enjoyable general programme was on the air."

## RUSSIAN BROADCASTING

### MAINLY FOR PROPAGANDA.

WE New Zealanders often wonder why the Russian announcer at the Siberian short-wave station RFM, talks so much. According to the London "Daily Mail," broadcasting in Soviet Russia is being more and more employed for the purpose of fostering the Communist regime. It has been pointed out that a typical programme shows that out of a total of twenty-eight items covering a period of about sixteen hours, only two and a quarter hours are devoted to entertainment, the rest being merely propaganda. In Soviet Russia nearly every village has been provided with a receiving set, and every household subscribes to a line which connects them with a main receiver.



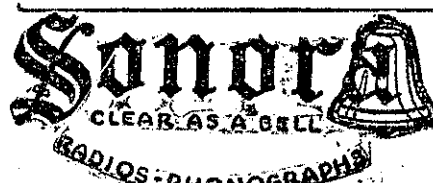
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# NEWS FOR THE CHILDREN

## Letters of Felix and Spot

### Felix to Uncle Ernest.

Dear Uncle Ernest.—I am Felix, Uncle Jasper's radio pet, and I want to know if my dear Aunt Dot is ever coming back again!! Since Aunt Dot went away, no one ever sends me a message. No one ever talks of dear Uncle Jasper, or of old Spot. Oh! It is lonely. In his last letter to me Spot says he just longs for 2YA. Dear Uncle Ernest, do you not think it would be nice to send Uncle Jasper and Mr. Spot a good-night message sometimes? If you agree to send the message, next time I write to Spot, I will tell him to listen in on Friday nights. I also want to ask you if Uncle Jasper's name and Spot's name have been entered in the 2YA birthday book? Please tell me. I want to send them both a greeting over the air. Felix, their big puss, must not forget.... I will listen in for your message Friday night—FELIX.

P.S.: Perhaps you will be cross, because a black puss calls you "Uncle," but I am a nice polite cat, dear Uncle Ernest.

### Felix to Spot

Dear Spot.—I am sitting by the fire with your nice letter in front of me. So you, too, can write, little doggie? Oh, I am glad. You say we are good friends, and yet you did not send me an invitation to the masked ball given at 2YA the night you left Wellington—in a van. It was my place to lead the Grand March with dear Aunt Dot in her pretty Pierrette costume. I had practised walking on my hind legs for one whole week; my little red satin mask was just ready to put on—but no radio fairy was sent for me. I just sat home and cried. I cheered up when I heard you and baby Felix fighting during the Grand March.—You wanted him to jazz with you to the tune of Colonel Bogey, and because pussy marched in a sedate and cat-like manner, you

(Continued on column 5)

## A TIME-SAVING DEVICE

BY means of a truly amazing adaptation of human inventiveness to the needs of hundreds of representatives at a great cosmopolitan gathering, delegates at the International Labour Conference, which will open at Geneva in two or three weeks' time, will be able to hear the speeches, each in his own tongue, at the very moment of delivery. How this is to be accomplished cannot be described here in detail; but we gather that there will be an interpreter for each of the nationalities represented, that he will translate simultaneously with the speaker's utterance—a less difficult feat, apparently, than one would think—each interpreter using a microphone specially adapted to the tone of his voice; and that amplifiers and distributing circuits will convey the words to listeners at the different tables who, with headpieces adjusted, will be able to watch the orator while hearing his words in a familiar language. Experiments and rehearsals have been carried on for some time, and when this method is universally adopted for all international gatherings, the proceedings will not only be "speeded up," but attendance at such meetings will be far more pleasurable than formerly. To be obliged to listen to a long address in an unknown tongue, and then to hear it laboriously delivered again in a language which many of those present may be supposed to know, but which may equally be "Greek" to some listeners, is a wearisome ordeal for all concerned.

## S.O.S

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## Children's Sessions for Next Week

### AT 1YA.

TUESDAY, JULY 17—Uncle George in charge assisted by cousins in recitations and flute solos. Letters and birthday greetings.

WEDNESDAY—A verse sent in by one of our little cousins, about Uncle Tom's night:  
Hurrah for Wednesday night,  
When the studio is all alight,  
Then the children flock to recite,  
And others listen in that night,  
And to their delight  
They hear old Uncle Tom.

THURSDAY—All aboard for a journey—where? Wait and see, or rather hear. But Peter Pan, Cinderella and Uncle Vernon will be passengers so there is sure to be some fun. Also listen to their adventures in the fire station.

FRIDAY—Nod is here and with him little cousins with songs and sketches. Greetings and stories for all.

SATURDAY—Cinderella and her band of little ones will amuse you with piano pieces and dialogues, jokes, catches and puzzles. A happy hour for all.

SUNDAY—Children's Song Service conducted by Uncle Leo, assisted by cousins from Howe Street Brethren Sunday School.

### AT 2YA.

MONDAY, JULY 16—The first birthday of 2YA—just a year old. There will be a birthday party, and the aunts and uncles of 2YA will be there, not forgetting our dear friend, Mr. An-

nouncer. We couldn't have a party without him, could we, children? Another dear friend who loves little girls and boys and fairies—Joye Taylor—has written the words and music of our birthday song. So be sure you all listen in to 2YA's jolly birthday party.

TUESDAY—Big Brother Jack and Uncle Stewart will take us all in the radio train, because it is Tuesday night. So all be ready just at six o'clock—and who do you think will be there, too? Why, the clever pupils of Mrs. Thomas. What fun to have songs and stories on the train!

THURSDAY—Aunt Gwen will greet you this evening, children, with some of her many stories. Cousin Nessie will please you with her pianoforte solos—cousin Rosina will sing two dear little songs—cousin Zac and his steel guitar you always enjoy, and last, but not least, is little Kathleen who is coming to recite to you for the first time.

FRIDAY—Uncle Ernest, of course—Why? Because it is Friday, and away we go for a trip to far distant lands in the radio airplane. Cousins Mavis and Queenie are coming, too, and will sing a duet. Cousin Zena will sing "Violets," and two dear little pupils of Miss Mavis Halliday will recite.

SATURDAY—Uncle Toby and Aunt Gwen to greet you this evening. They will tell stories, sing a song of good-night cheer, and who else do you think will be there? Why, the clever little pupils of Mrs. Martyn Williams.

SUNDAY—Uncle Ernest will conduct the children's service, assisted by children from the Church of Christ, Petone.

### AT 3YA.

MONDAY, JULY 16—"Scatterjoy" has a varied programme for tonight. She will tell of the queer uncomfortable clothes boys and girls in olden days had to wear. For the children having parties there will be news of some jolly party games. Scatterjoy will tell you also how flowers attract the little insects. Stories for the tiny tots, and cousin Audrey will sing and recite.

WEDNESDAY—Mother Hubbard and Uncle Peter, with their droll stories and jokes—Cousin Ken is bringing his banjo, and cousin Molly will entertain you all with her piano playing.

THURSDAY—"Chuckie" and Aunt Pat and a lovely group of Little Maori folk will keep you happy and merry for this bedtime hour. Songs by cousins Puingatai and Atawhai—Listen in to-night for a real treat.

FRIDAY—Big Brother and Peterkin, and the Captain, and a crew of jolly boys from the Marist Brothers' School—all on deck to-night. So there will be heaps doing.

SATURDAY—Uncle Sam and Aunt May in their usual form—delighting you all with wondrous stories and music.

SUNDAY—Uncle David in charge to-night at the Children's Song service. The hymns will be sung by scholars from the Linwood Congregational Sunday School.

## "THE EDISON EFFECT"

### ACTION INSIDE A BULB.

IT is many years ago since Edison made his now famous experiment of surrounding one of the limbs of an electric filament lamp with a metal cylinder, which led to the discovery that electrical charges were given out from the filament and could be received by the surrounding cylinder.

This is known as the "Edison effect," and it was this same effect which led Fleming to the invention of the 2-electrode valve which was, of course, the forerunner of the 3-electrode or amplifying valve developed by Dr. de Forest.

In an electric filament lamp, especially of the old-fashioned carbon filament type, there is another phenomenon taking place, which consists in the gradual disintegration of the filament and the liberation of particles of the filament substance, these particles depositing themselves upon the interior surface of the glass bulb. It is in consequence of this latter effect that the well-known blackening is produced, which was much more noticeable with carbon filament lamps than it is with the present-day metal filament type.

The disintegration of incandescent filaments does not in itself account for the electrical emission, and although some of the actual material particles detached from the filament may be electrically charged, and may therefore help to carry the emission current, the latter is carried mainly by electrons sent out from the filament.

In proper circumstances, the actual disintegration of the filament may be made exceedingly small, so as to be negligible; but the electronic emission may at the same time be quite large, and it is, indeed, one of the aims of electric lamp manufacturers to reduce the disintegration of the filament to a minimum, whilst it is the aim of radio valve manufacturers to reduce the disintegration and at the same time to increase the electronic emission.

## TO TEST A CIRCUIT

In hooking up a home-built radio set for the first time it sometimes happens that the circuit fails to work. Often as not the trouble is not in the hookup used or in the workmanship and skill with which you have assembled the receiver, but lies in a faulty piece of apparatus, a burned out or open transformer, or in other defective parts.

Before trying your set out on the air it is a good plan to test out every piece of apparatus and every connection with a test lamp and battery to make sure that all connections are perfect and all apparatus in good condition.

To test, connect a one and one half volt dry cell or flashlight cell to a small one and one half volt flashlight bulb. The two ends are for testing apparatus and connections for open circuits. The bulb will light up whenever the circuit between the two wires is complete.

## SHIP'S BAND AT 1YA

ONE of the happiest evenings the children have enjoyed at 1YA lately was provided by the band from the Northumberland. They gave many bright and popular numbers, and were greatly appreciated, as was shown by the number of telephone rings and letters since received from the children. We send our best thanks to this merry band, and are looking forward to their return to Auckland, when they will again entertain the radio family with their cheery music.

## THE BATTERY STOPPERS

### MUST HAVE A HOLE.

Amateurs generally fail to realise the importance of the wet battery stopper to the well-being of the battery, and the loss of such an article usually occasions little regret on account of the fact that it is replaced forthwith by a cork of similar dimensions.

However, a good accumulator stopper will be found to have a tiny hole or vent running through it; the object of which is to equalise the atmospheric pressure within and without the accumulator, and also to provide for the escape of any small traces of gases which may be produced while the accumulator is in use. Furthermore, the small hole in the accumulator stopper allows the escape of gases when the accumulator is being charged, but, at the same time, it prevents the escape of acid spray. It is, however, always better to unscrew the cap and let it rest on top of the hole while charging is in progress, to relieve the pressure of gas.

If, therefore, an accumulator stopper is lost and a cork is used to replace it, the cork should have a small hole drilled through it. A hole of this type can readily be produced in the cork by burning through it with a red-hot knitting-needle.

## CLEAN THE CONDENSERS

Particles of dust lodged on the plates of a variable condenser will greatly add to the losses already existing in the condenser. Clean your condenser plates frequently if you do not have an air-tight covering for your instrument. Even if the lid of your cabinet has been tightly closed you will likely find that considerable dust has accumulated on the plates.

The reason that dust causes a leakage when it lodges on the plates of a condenser can be explained simply. The charge of electricity that has accumulated on the condenser plates will attempt to leak off from any sharp point of the metal or from a particle of dust that has lodged on the surface. If the two sides of the condenser terminated in needle points it would be rather difficult to make the condenser hold a charge. It would leak off from the sharp points.

A cheap and efficient cleaner can be made for your condenser by tying the ends of an ordinary pipe cleaner to the end of a lead pencil or a stick of wood.

## THE MIGHTY ATOM

### AN AMAZING DEMONSTRATION.

The atomic theory, encompassing as it does the electronic theory, is of particular interest to radio listeners, as the operation of a receiving set is attributed by scientists to the assistance due to the movement of positive and negative electrons embodied in atoms. An American Associated Press message from Cambridge, Mass., dated March 10, states: "Science has invented the means to count atoms and molecules with greater accuracy than the population of a great city can be counted."

Dr. Miles Sherrill, professor of theoretical chemistry at the Massachusetts Institute of Technology, so demonstrated at a lecture last night. By means of a motion picture and an ultra-microscope, he showed the molecular motion of gold particles in a colloidal solution.

"It is possible," he said, "to determine the number of molecules in one-gramme molecular weight of a substance which is equal to the number of atoms in one gramme atomic weight of any element. This number is six hundred and six and two-tenths sextillion."

### Radium Paint Noisy.

Sherrill also demonstrated the Geiger counter, an ultra-sensitive instrument designed to detect existence of electrons. The instrument was connected with an electric amplifying apparatus and when an object coated with a radium paint such as is used in wrist watches was held near it, a series of sharp raps was heard.

"These raps," the lecturer said, "are not from the spirit world, but nevertheless from another world, namely, the world locked up within the atom."

A RECENT issue of the New York "Times" says:—"Gene Tunney, heavy-weight champion of the world, upset radio precedent pleasantly last night by making a smooth and able speech with a poetical quotation and calm diction. Heretofore the broadcast utterances of noted boxers have been brief and breathless, containing swift messages to listening relatives. Mr. Tunney, speaking before WJZ's microphone at the tenth anniversary celebration of the Institute for the Crippled and Disabled, became a clear-tongued, thoroughly poised radio voice, talking to a definite purpose with nice results."

## WHAT'S RIGHT IN RADIO?

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trod on his toes. The noise you both made in your anger became so great, that Mr. Announcer had to call in the "Laughing Policeman."—Oh! how I purred!!! Whilst Uncle Jasper was curtsying gracefully to Aunt Dot in the minuet, Mother Hubbard saw you slip quietly to the supper room and lap up most of the cream. My friend, Puss-in-Boots, told me that at supper time you did not offer your arm to your partner, baby Felix; you just rushed off all alone to supper and ate up everything. Little Jack Horner gave some of his Christmas pie to Felix for supper; but the pie did not agree with Felix, and Aunt Dot had to send him to the lighthouse for sea air and a fish diet. Now that you are a President you will have to study etiquette—poor old Spot—I wish Uncle Jasper had not met that beautiful and clever Persian puss! Still I would like his photo in my boudoir. Oh! Spot, because I asked Uncle Jasper to correct my English did he think me a foreigner?—and of course a Persian? Will Uncle Jasper be disappointed to hear I am not Persian? Alas! I cannot have my portrait taken just now because there are two pieces out of my right ear, and my left cheek is slightly swollen, the result of war with my chief enemy, Mickey, the cat living next door. Tell Uncle Jasper that the first Tuesday after his departure, Aunt Dot was so sad that, to cheer her up, big Brother Jack had to crown her Queen of the May. Oh Spot! a great big savage dog named Buster is trying to take your place at 2YA. He sings bass, not tenor like you.

My congratulations to you Mr. President Spot. Please answer all my questions next time you write to Uncle Jasper's all black—FELIX.

### Spot to Felix

Dear Felix.—Thank you for your long and interesting letter. Oh! I'm so excited Felix. Let me whisper in your ear. We are coming back to Wellington. Gee! my hair is all tingling with excitement. Just to speak to the girls and boys of radioland—and you, Felix. May I call on you? I'll promise to behave like a gentleman. Good-bye for a little while.—Loud barks.—SPOT.

## TOO MUCH VOLUME

### REASONABLE LIMITATIONS.

AN interesting point is raised in considering the relationship between volume and distortion from a wireless loudspeaker. It is, of course, well known that the tendency for the sound from a speaker to be distorted in the ordinary sense of the word increases as the volume is increased. It is possible, however, so to design equipment that technically undistorted speech or music can be produced in sufficient volume to be heard clearly in the open air several miles from the loudspeaker. If the frequency and timbre of every one of the composite sounds of the total output from the loudspeaker are correct, and if every one of these sounds is proportioned accurately to the others, the reproduction will be, from a purely technical viewpoint, undistorted. It is doubtful, however, whether an amplified volume of sound greatly in excess of the natural volume of that sound can ever be regarded as undistorted in a wider and more practical sense. Its very intensity constitutes a form of distortion probably more serious and more distressing than the forms of distortion with which listeners are most familiar. The point is one to which listeners would do well to pay attention. It is generally wise to operate the loudspeaker a little below the natural volume of the sound being reproduced. In special cases the sound may be magnified by a reasonable amount above the natural level. If, however, the lighter and more delicate notes of a violin or flute are magnified to blare forth from the speaker with all the volume of a trumpet, the reproduction can never be regarded as undistorted, no matter how faithfully the process of mere magnification may have been performed.

USING an English transmitting valve, a Johannesburg experimenter established wireless communication with a Californian station in daylight, thus setting up a South African record for amateur transmitters.

# Our Short Wave Corner

Mr. F. W. Sellens writes:—

Wednesday, July 4.

A letter from the British Broadcasting Corporation (B.B.C.) was received by the last mail. The times of transmission are given as follows: New Zealand mean time, 5.30 till 7.30 a.m.; 7.45 a.m. till 10.30 a.m.; and 11 p.m. till 12 p.m., except Sunday and Monday.

These times are previously given, except for an interval of fifteen minutes from 7.30 a.m. till 7.45 a.m.

A correspondent asks for the signal strength of stations heard to be given sometimes. As this may be of interest to others, I will do so. Perhaps it would be as well to publish the British "R" system, which has come into general use in all countries. The meanings of the several "R" signals are as follows:—

- R1—Faint signals, just audible.
- R2—Weak signals, barely readable.
- R3—Weak signals, but readable.
- R4—Fair signals, easily readable.
- R5—Moderately strong signals.
- R6—Strong signals.
- R7—Good strong signals, readable through lots of interference.
- R8—Very strong signals, several feet from the phones stuff.
- R9—Extremely strong signals.

Readability or intelligibility is also important. The strongest signals are not always the most intelligible; this may be the fault of modulation at the transmitting station, but more likely in the case of such stations as 5SW, PCJJ, 2XAF, etc., caused by interference or atmospheric. The system I use in reporting to stations received is the one I have heard 5SW and 2XAF using during their two-way telephony tests, that is, the percentage of readability.

While writing of reports to stations, I think it is "up to" all listeners to send in reports to distant stations. It is the one thing he can do to assist them to improve their transmission.

A system appreciated is a graph, showing on the top Greenwich mean time, and signal strength in the "R" system down the side. This shows at a glance the variation of volume from time to time, and is both instructive and interesting to the sender and receiver. My log for the past few days has been bare of anything of importance, the "flue" being hard to get rid of.

As briefly reported last week, the proceedings (latter portion) were heard of the Democratic convention through 2XAF and KDKA. A newspaper representative gave a summary of the day's business, and in his description said the business had been very orderly, etc. As a correspondent from Cromwell, who was "on the air" earlier than me, said there were a few fights, and some of the delegates had to be ejected, and that the uproar was terrific at times, the speaker must have been "pulling our legs."

This was the first time that KDKA, on about 26 metres, has been heard for a long time. After the convention finished, they gave the weather report, and then closed down at 8½ past 3 a.m. by a gong.

Saturday, June 30.

2XAF on 31.4 metres, were heard with their usual "Palmolive Hour," closing at 2.31 p.m. R2. KDKA were also heard about the same strength, and signed off at 2.58 p.m., at about strength R3. PCJJ commenced their special New Zealand and Australian programme at 3.30 sharp, with the National Anthem. Their volume at this time was very loud; with two stages of audio it was comfortable loud-speaker strength. The full programme, which consisted of gramophone items, and calls to towns and individuals, was clearly audible on the speaker till I closed down for tea at 5.30 p.m. On returning to the set at 6.15 p.m., an Aussie was on this wavelength without any sign of PCJJ, so they had either faded out or gone off the air before their due time—6.30 p.m. At 8.30 p.m. it was the loudest and clearest of any short-wave station received excepting 3LO and 2MB, which are next door neighbours as radio goes.

Sunday, July 1.

2XAF was heard at good strength relaying an hotel orchestra. The crowds at the hotel were very noisy, apparently having a good time. An amateur spoilt the latter, and best part of this transmission by calling "Hullo" on the same wave-length. Strength, R 5-6.

Monday, July 2.

3LO Melbourne, with its weekly test, was quite good, as usual, but faded a lot. R9.

Tuesday, July 3.

5SW was tuned in at about 6 a.m. at R1, and increased to about R3 at 7.25 a.m., when an orchestra was weak but clearly heard.

5SW was heard at better strength, but was subjected to a lot of interference.

The German station thought to be RSR on about 41 metres, was putting out a lot of talk. Strength about R4. PCJJ was first heard at 5.30 a.m. at R4 and increased to about R7 at 7.38 a.m., when they closed down with the Dutch National Anthem. There was a slight fade. Intelligibility about 90 per cent. During the evening there were not any S.W. stations heard, but harmonics of 4YA could be tuned in almost as easily as those of 2YA; in fact, reception was better on a harmonic than natural wave-length.

Thursday, July 5.

RSR was again heard, but only talk. R2-3. 5SW was R1-2 at first, and improved to about R4 at 7.30 a.m., when a lady was giving a monologue which was about 50 per cent. readable. 2BL, on its harmonic, about 44 metres, was fair speaker strength. Some good band selections were heard from RFM on 70 metres, but static was very bad, too much so for listening-in.

Friday, July 6.

PCJJ was about R5 at 5.30 a.m., increasing to R6 at 7.30 a.m. Fading very slight. 5SW was spilt by morse. There is a powerful morse station very near 24 metres, which causes a lot of trouble when trying to listen to 5SW.

Mr. Sellens in Reply.

I should like to take this opportunity of thanking those of your readers who have protested against the recent remarks made by Mr. Olaf E. Stout, both through the "Radio Record" and direct to myself. Criticism is not objected to, but surely if it was thought necessary, it could have been expressed in another manner. Notwithstanding Mr. Stout's statement that the "Short Wave Corner" "consists in the main of uninteresting and bald statements of fact, etc.," I have received a number of letters asking me to continue.

I agree that there is often a lack of "newness," but one can listen quite a lot to ordinary programmes and not hear one item of real news. Again, when something of importance is heard, it is often not fully intelligible, as, for instance, a speech heard recently from a university dinner through 5SW, when the speaker's name and the name of the university was missed on account of surging, which is nearly always noticed on short-wave reception, especially when signals are weak.

The writer belongs to both classes of listeners that Mr. Stout refers to. From 8 till 10 p.m. the dials are not twiddled, but the full evening's programme, usually 2YA, is enjoyed.

When it comes to short-waves I am a "dial twiddler" out and out and enjoy it. Where the entertainment comes from does not matter, a local amateur or the most distant station, "Chinese, Dutch or Yiddish."

By the way, the Dutch are about the most progressive people under the sun as regards short-wave transmission, two-way telephony tests having been overheard between Holland and Java some months ago.

As suggested, descriptions of short-wave stations would be very interesting, but where is this information to come from? "The Radio News" (U.S.A.) recently commented on the lack of news in this respect. This is where the "dial twiddler" scores. Stations are heard and located before any mention of them is seen in the Press.

In looking through the latest issue of an American call book (distributed in Wellington to-day) at least two short-wave stations had their wave-length wrongly given, both having been heard within the last week or two and wave-length noted. This proves that reports in this instance appearing in the "Short-Wave Corner" are more up-to-date.

The other suggestions are good, and perhaps Mr. Stout will start the ball rolling with a contribution. Full descriptions, as far as possible, have been published from time to time of broadcast items of special interest, and you will probably remember that the writer has been lucky enough to have been able to supply quite a number of news items at various times, and hopes to be fortunate enough to be able to do so again. This is usually not so much skill, as luck in being on the job at the right time.—F. W. Sellens.

Appreciated in Christchurch.

ON reading your issue of the 22nd inst., I was surprised, to say the least of it, to see a scathing criticism

Bouquets or Bricks.

OCCASIONALLY we notice performers for the Broadcasting Company request listeners per microphone to write them stating whether they enjoyed their contributions or not. Now, sir, as is patent to anyone who considers the position, this is wrong in principle, and open to abuse in practice. It is the Broadcasting Company which is directly responsible to the listeners for the broadcast service, and therefore, if the company is to be in a position to gauge the acceptability of various items, listeners should address all comments to the station director or the general manager, Christchurch, and never to the performers. Most of us are satisfied that the company is out to do its best for the listeners, and if the comments of the listeners are to be diverted to the performers, the company is going to be robbed of such useful guidance as is available from the opinions of listeners. It must be remembered, too, that the performers are the paid servants of the company, and if the comments of the listeners are to go to the performers, the position would be analogous to an hotel proprietor posting up a notice: "All complaints with regard to the cooking should be addressed to the chef." This, it will be evident, opens the way to abuse. The performer could brandish the possibly few bouquets to the public gaze (and to the Broadcasting Company), and the performer could quietly drop possibly the more numerous bricks heaved at him into his waste-paper basket. You see, this sort of thing tends to have a sinister effect upon the programme. The company could be deceived by an unpopular act obtaining false kudos. I would strongly advise listeners to ignore these performers' requests for personal letters, and, instead, write direct to the company. I am sure we are all out for good programmes, and anything we can do to assist the Broadcasting Company should be our bounden duty, to do it. As to those gentlemen who solicit a personal letter, I think their requests should be prohibited by the company for the very obvious and worthy reasons I have given. Anyhow, I shall always address my own comments to the company or to your very valuable journal, whether they are bouquets or bricks.—"Anti-flam," Waipawa.

A Backblock Appreciation.

YES, we are enjoying the wireless, like many other people living in the backblocks. Radio is a great blessing to us in many ways. Having been isolated for about 20 years from the privileges of church and music, that we are extremely fond of, radio is a great boon to us. We have the last night's concert to think about during the day, and looking forward to the evenings knowing they will be just as good, we finish our work, get tea, build up a big rata fire, get comfortably settled in our easy chairs, and then listen to such glorious music and singing. It is simply wonderful. Often we are glad to say, "Thank God for radio." Sunday is our best time. The beautiful music and singing, also the Sunday evening concerts and the beautiful organ music; it brings back to me such a glow of memory of my young days. For years, ever since I left Yorkshire, I have longed to hear a peal of bells. Radio supplies this excellent

by Mr. Olaf E. Stout, of the short-wave corner of the "Radio Record." I do not know if that gentleman was "pulling our leg" when he wrote that, but I would like to say that the short-wave corner is the best article in the "Record." As a short-wave enthusiast, I appreciate Mr. F. W. Sellens' weekly reports very much and they are the first columns I read on buying this publication each week, and I find the notes very valuable. As an instance of this, I tuned in a station on 41 metres last Thursday morning with all announcements in a foreign language that I could not recognise. On referring to the short-wave corner, I noticed that Mr. Sellens had heard a station, RSR in Germany, on the previous Thursday on approximately the same wave-length and at the same time. In this manner I am able to identify many stations, thanks to Mr. Sellens. I am not the only enthusiast in Christchurch who appreciates these notes, as I have heard expressions of appreciation on many occasions from other listeners regarding the corner. As a further proof of their value, I must say that I keep all the back numbers with the number of the page containing the short-wave corner marked in blue pencil on the front so as to enable me to refer to any of these notes at any time without the trouble of hunting through the pages.—R. T. Stanton (Christchurch).

New Short-Wave Station.

ON reading your letter in the "Record" about the short-wave station, I wish to tell you that I, too, have picked up this stranger on about 24 metres. One morning I listened until about 8.25 while the station was at good strength and modulation. As Mr. McDiarmid (Hamilton) says, it was much louder than PCJJ. This station is just above 5SW.—D. R. Gardner.

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# Our Mail Bag

lently from Randwick. Then there is the community singing from Geelong and Ballarat, the singing by the various quartet parties, and the orchestras. Wellington is good, the concertina, mouth organ, violin, in fact, all are good. The bike pump and one-string fiddle came out very good. We have had some very good Maori music lately from Auckland. We like the contralto and tenor singing best. Those voices seem to come out far better with us. Perhaps it is the set or locality. Of course, some of the soprano solos are beautiful, especially some of them when they don't have to strain their voices. Last Sunday night at Auckland Baptist tabernacle, a lady sang, "Abide With Me." It must have been a joy to all that heard it. The Bohemian Trio is good. We do enjoy Uncle Leo's children's service on Sunday. Auckland is our clearest New Zealand station here. We can always get them very clear both day and night, when they are on the air. Anzac Day was very good. It was a credit to the announcer, who gave such a clear description of the programme of the day. In fancy we were there in that great crowd of people. Isn't Miss Ava Symonds good? We do enjoy that violin. I often wonder how "Danny Boy" would sound played on that fiddle, but I expect it would be useless to ask for "Danny Boy" from such a thorough-bred instrument. With us, when a minister is preaching and he raises his voice to drive certain arguments home, we don't hear near as well, but perhaps, again the fault may be in our tuning. Just now, Ingall's Hawaiians are playing. It makes a fellow feel good to hear such music, so low, liquid and clear. We are delighted with your "Radio Record." With it, we can choose from the programmes, when items are on that we enjoy most. Your "Listeners' Guide" I find so instructive, and full of good information on radio. But it does not explain why G.B. Sydney, will insist on pushing 3YA off the end of our aerial, and why, when he came pushing on 3YA's wave-length on Sunday night, we noticed how audible Uncle George was. The same time some one rung 2GB, and complained he could not hear him. But the beauty of radio is if a station breaks down, we can easily switch to another one.—George Nicholls, Collingwood.

Sanity First.

I WISH to convey to you my appreciation of your impartiality in publishing Mr. Stout's comment. Though it is true that every movement for human betterment has its martyrs, a little straight talk may help to keep them sane. We can appreciate the good work of Mr. Sellens and yet find it pitiable and disconcerting to see less capable adults childishly absorbed, spending every spare moment at dial twiddling, and becoming gradually dead to all other interests and to all the amenities of life.—"Observer."

Morse Lessons.

I WOULD like to endorse "NDB's" suggestion re Morse code transmissions. Since the trans-Pacific flight I know of four lads in this district who have commenced to learn Morse. I fancy one quarter-hour twice of three times a week would be sufficient if kept up, for, say, a couple of months. This would certainly be a novelty for the company, and would be much appreciated. Also, while making suggestions, would it be possible for the 2YA announcer to begin his 7 p.m. session by reading the weather report in the evening paper. Then if the official report turns up before 7.45 he could wind up with it. The 9 p.m. report is rather too late for country folk. Notwithstanding the noisy complaints, I consider the majority of the public think the Broadcasting Company is not doing so badly in its rather impossible task of being all things to all men.—D.I.B.

Tip About Exponential Horn.

I WOULD like to state that Mr. Sellens' articles are much appreciated by short-wave enthusiasts of this district. Just a few words on 2YA as regards reception. The station comes in with a roar, lacking in other stations, but distortion is not very great, in spite of surrounding hills and mountain ranges, also 6000-volt power-lines passing near the aerial. However, modulation is often bad, but for clarity and steadiness the Palmerston North amateur station 2ZF beats the lot. Concerning the Heeney-Tunney fight, I feel safe in saying that local listeners are much excited over the proposed re-broadcast of same. Even if static and fading is rather fierce, I think that the average "fan" should not complain, bearing in view the difficulty of the feat. Also, it would be handy to know the time of the hoped-for transmission, as I, like, I presume, numerous other listeners, would count on entertaining

friends on that occasion. In discussing the exponential horn, as described in the "Record" of June 29, a friend of mine remarking on the subject said: "Just fancy having an instrument like that in one's house. Why, there wouldn't be room for the set." However, I find that the speaker can be installed by removing the man-hole covering, as numerous houses have in the ceiling, and placing some painted wire gauze over cavity, then inverting horn over same in the loft, that the clumsy appearance of such apparatus is eliminated. The gauze acting as a "blind," if coloured the same as the ceiling, is likely to pass as a ventilator. Wishing the "Record" every success.—Arnold Birss (Dannevirke).

Artists appreciated.

JUST a few lines on my appreciation of the programmes being "put over." The orchestra is a continual source of enjoyment and such artists as Walpole, Stark, Two Boiled Owls, Warwick, Titchener, Haywood, Miss Stark and Mrs. Thomas, are a real pleasure to listen to. But where is Miss Nora Greene and Billy Hart. This lady has one of the richest voices in New Zealand and Billy is very popular. Miss Nora Greene went off when in illness, and has not been heard since, except from one of the band recitals. How about another play? Looking at the programmes as a whole, however, they are consistently good. Will that list of licensed receivers be published? The "Record" is a paper of considerable interest to all radio enthusiasts, and a few more read it, just quietly. Well, I do not wish to take up valuable space, so I will "close down," wishing N.Z.B.C. and your paper the best of luck.—"Grid-Leak."

A Suggestion

I SEE in this week's "Radio Record" Mr. Powell's inquiry re two stations. The one on 1YA's setting is very likely 3UZ, Melbourne, and the one on 2YA's, 5CL, Adelaide, as I have not seen these listed in Mr. Powell's log. Wishing the paper every success.—A. E. Ireland.

The Opening of the War.

I WOULD like to make a suggestion for what it is worth. I am a returned soldier living in the back blocks, and I can hardly tell you how much I enjoyed the band's rendering of "Namur" from 2YA on Friday night. In my thoughts I went back to the old army days—I "marched past" again and did "Piccadilly" in Sling. In how many different places and under how many different circumstances have I stepped to that tune? Might I suggest that the company put on a Diggers' evening on Saturday, August 4, from 2YA, Wellington. I would suggest a band to play all the old regimental marches and the numerous camp ditties during the evening, with perhaps a chorus of old camp songs (and songsters perhaps). I heard one such evening from 4QG last year, and they also had some scenes, such as "a 1914 recruiting office," with rather amusing dialogues with the examining doctor, etc. Hoping you may find it possible to do something on these lines and with thanks to the company for the past services.—Digger.

[A very useful suggestion. On reference to the director of 2YA, he immediately agreed to arrange an appropriate concert.—Ed.]

A Correction.

I SEE by my report on Mr. Pierce's earth I was the lucky one, but there are a few misprints stating that my aerial is 160ft. high. It is only 40ft.; also thus (1Y) is 1YA, and 1ZB, not 1ZU (KVO) KGO, and WGY. A listener (KEE, Murchison) had no success, and he reckoned that it was no good; it made no difference to his set. I am afraid he is sadly mistaken, as a DX listener in Napier operating a neutrodyne set uses this earth, and his results are wonderful. If the earth is properly installed, the results are just great. My total log now is forty-six stations, and I can hear many more, but on account of static can't get the calls. Since last writing, I can log 4QG, 2BL, 2FC, 3ZC, and 2ZF and 4YA in daylight. As to the Aussies, I logged 4QG last Sunday morning at 1.15 p.m. our time on church service, and I also heard the landing of the Southern Cross direct from Brisbane on 'phones. Mr. E. J. Crabb, Napier, is quite right as to helping "Youthful Enthusiast" as to the stations he can hear. They are all Yanks. I heard a few of them myself. As to station picked up below KFOON, it is an Aussie—sounds like 3AS, but it is 3EF, Melbourne, and another, 7UZ, Tasmania, on about 210 metres, 50 watts, and another between 3EF and 7UZ. I heard him several mornings—a very blurry station; seems foreign. Cheerio.—S. Ellis, Okato.

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