

THE RADIO RECORD

Published Weekly
REGISTERED G.P.O., WELLINGTON, N.Z., AS A NEWSPAPER

Price 3d.

VOL. I, NO. 30.

WELLINGTON, FRIDAY, FEBRUARY 10.

Memorable Radio Pageant

One Thousand Years of Maori Life Portrayed in Speech, Song and Story

*Successful Reception of Brilliant Programme all over New Zealand---
Re-Broadcast Undertaken by Australian Stations*



HAMIORA HAKOPA, leader of the party of Maoris from the Wanganui district who contributed 2YA's memorable and successful radio pageant descriptive of Maori life. By being re-broadcast by Australian stations, this programme has the distinction of reaching the greatest audience ever addressed by any means from New Zealand.

Radio history was established for New Zealand by the outstandingly successful Maori pageant broadcast on Monday evening in commemoration of the eighty-eighth anniversary of the signing of the Treaty of Waitangi. It was a brilliant idea to commemorate the occasion by a function which portrayed to the pakeha population of New Zealand a kaleidoscopic view of the advent and life of the Maori race in the Dominion. That history was conveyed in six phases, the essence of each being given with memorable items in speech, song, and story. Congratulations of the heartiest nature only can be extended to the management responsible for the conception, and to the performers whose interpretation conveyed to listeners, in most picturesque and melodious fashion, the romantic history of the past thousand years.

The success of Monday evening's broadcast was a good augury for a similar success on Tuesday evening, when the programme was repeated at a late hour especially for the entertainment of New Zealand's overseas dependencies and the Australian Commonwealth. A re-broadcast of the full programme was undertaken by 2FC, Sydney (and possibly other Australian stations), and, although at the time of writing no information is available as to its success, it may fittingly be hoped that conditions were favourable, and that listeners in Australia were able to enjoy so unique a vocal contact with this Dominion and its unique and distinctive Native life.



FOR this memorable evening 2YA went on the air at five minutes to eight with that majestic introduction to all outstanding events: "Oh, God, our help in ages past" played in four parts on the vibraphone. Upon the first stroke of 8 o'clock the orchestra swung in with the overture "First Movement from Maori Quartette." A novelty was introduced with this introduction in that the music was faded in as the hour struck, and reached its full strength as the last stroke of 8 sounded out.

At the normal conclusion of the overture the orchestra repeated pianissimo part of the overture and gradually faded out, the initial effect of these movements being very impressive.

THEN in measured tones the Station Announcer indicated the scope of the evening's programme—how to commemorate the signing of the Treaty there would be portrayed the history of the Maori through various phases from his first landing on these shores to his present honourable co-partnership with the white race in the occupancy of this land; how in recognition of the important historical nature of the occasion, the Rt. Hon. J. G. Coates, Prime Minister of New Zealand, and the Hon. Sir Maui Pomare, representative of the Maori race in the Ministry, would speak fittingly and to the point; how, from Sir Aparina T. Ngata's epic poem "Scenes from the Past" excerpts would be delivered to place before the vast unseen audience living pages of the past.

(Continued on back page).

With Dealer and Customer

Getting Together To Solve Radio Problems

NO doubt during the ensuing year a great number of electric pickups for combining gramophone reproduction with audio valve amplification

in conjunction with radio sets will be sold in New Zealand. Both traders and the public will be faced with the difficulty of making a judicious selection of these electric pickups when purchasing. One of the besetting faults of some makes of these pickups is their weight on the gramophone records. Some pickups bear down so heavily on the records that the springs of some gramophones cannot maintain their normal function, and have to be more frequently wound up to keep the records revolving. In fact there are some over-priced gramophones which cannot run a complete record without having to be re-wound, when some of these electric pickups are resting on the records. Plainly these pickups are too heavy. Then some of these electric pickups are inclined to "chatter" when the records are loud. This can be cured only by opening up the needle unit of the pickup and making certain alterations, but this is the work of an expert. On the other hand electric pickups are being sold which have neither of these faults; this is published only as a guide to purchasers of an article which is new on the market, and of which there is relatively little experience in New Zealand.

GRAMOPHONE AMPLIFIERS.

A separate audio amplifier for the gramophone electric pickup is preferred by many instead of using the amplifier in the radio set. Besides, in New Zealand there are many gramophone enthusiasts who cannot be induced to take up radio at present. The alert radio dealer cannot overlook the potentialities of catering for this section of the public, and he will have audio amplifiers built up solely for gramophone electrical amplification.

If the special amplifier is trans-former coupled it does not need more than two valves, and if the best audio quality obtainable will be comparable to the most expensive and up-to-date gramophone.

If only a moderate loudspeaker volume is required from the circuit, the last valve may be a 112A as well as the first. The plate voltage on the last valve then should be cut to 157 volts and the grid voltage (C battery) to 10½ to 12 volts. When this valve is used as the output valve it is not necessary to employ any filter, but the speaker may be connected directly to the plate circuit.

The amplifier may be mounted on an ebonite or similar sub-panel, 7 x 10 inches, or on a sub-panel made of ply wood, asbestos board, or metal of the same dimensions. Thus assembled the amplifier can be tucked away in a compartment of the gramophone cabinet in connection with which it will be operated. There will be room in the majority of larger cabinets to install the batteries and the A battery charger as well.

AN ECONOMIC CLEAN-UP IN NEW ZEALAND.

SOME of the weaker elements in New Zealand radio trading circles are now experiencing an economic clean-up, inasmuch as some of those enterprises which entered the field with insufficient capital, and in many cases insufficient experience (and knowledge as well) are being forced out through the inexorable law of bankruptcy or voluntary liquidation to avoid greater losses. In this respect we are following most countries, which have taken to radio. The temptation to make comparatively big money in quick time by meeting a popular demand for ready-made sets is necessarily attracted to the business some not fully equipped for staying with it and giving satisfaction to the public. In addition to this influence and the incapacity of this class to build a permanent business by rendering that follow-up service which radio demands in even

greater measure than most retail businesses, there is being experienced a back-wash from American amalgamations, which mean reductions in the number of competitive sets likely to remain permanently on the market. In the clean-up process it is unfortunate, but inevitable, that two important groups shall suffer—namely, the wholesaler who has supplied the weakening retailer with goods, and is left with a bad debt, and the buying public, who may find they have relied upon men of straw for information and service in a field where the buyers' own ignorance made them more dependent on good advice. The outcome of both effects is a higher cost of radio to the public, for the wholesaler must provide a margin to recoup his losses, and the public must frequently face further expenditure to secure satisfaction.

BETTER WITH FEWER DEALERS.

IT is true that dealers have been required to be licensed, but that license has carried with it no obligation on the licensee to really know anything of radio or be in a position to reliably serve the public. It has been merely a revenue-earning license, not a guarantee of capacity or ability. In this respect the present position and its difficulties and losses might have been mitigated by the Government benefiting from overseas knowledge, and imposing a heavier trading license fee, and requiring a standard of knowledge on the part of dealers, as a protection to the public. But no such requirements have been imposed, and as an outcome it is left to the slower but sure process of economic adjustment to right the position. The position is being lighted, and the first visible result will be a distinct reduction in dealers' licenses after March 31. Far too many have engaged in the business. Competition here has not meant lowered costs, but has meant the maintenance of an unnecessarily high overhead. It will be far better for the public, and more conducive to better service at lesser rates, for fewer dealers to be in the business. Particularly fewer of the type who have mainly secured a dealers' license

to profit on discounts. The interests of the buying public require first consideration, and they are more likely to be properly conserved by trading being in the hands of capable and legitimate traders, who are in the business to stay. The public can hasten the betterment of conditions generally, and ensure their own satisfaction, by concentrating upon those houses and dealers of standing who are handling quality lines, and are definitely in the business to stay.

ADVISE CALIBRATION.

IT would seem hardly necessary to advise radio traders to tell their novice customers, when they buy a radio set, that much time will be saved in finding distant stations, after they have once been tuned in, by keeping a record of the tuning dial settings. Yet one often sees novices helplessly searching night after night for some of the Australian stations, although they have tuned them in on previous occasions. Traders are apt to overlook some details when handling novices, but it is to the dealer's own interest to leave no stone unturned to assist his customer in obtaining the greatest amount of pleasure possible from his new radio set. This is essentially good business policy. One well-known company which manufactures an extensive line of valves, exceedingly popular in New Zealand, distributes, gratis, a neatly printed card with a table of the New Zealand broadcast stations and the chief Australian stations with ruled spaces for writing in the dial numbers of the radio set. The card bears an advertisement about the valves, and the idea is calculated to prove capital for publicity purposes.

POINTS ON TIME-PAYMENT SALES.

IF New Zealand radio traders go into the time-payment sales system they will find some interesting points in the following advice published by the New York "Radio Dealer":—

"Always sell for cash when possible."

"The salesman who springs 'easy terms' on the customers at the outset is doing you no service. Instalment terms should always be reserved for those who find immediate cash payments inconvenient. Sell on time only when it will benefit the customer. Does he want Radio badly enough to go into debt for it? And will he keep on wanting it?"

"Get as large a down payment as possible."

"Where some dealers fall down," said a Radio merchant, "is in selling terms instead of merchandise. I sell Radio, with terms incidental. The first thing the average customer asks is: 'How much cash is required?' Our salesmen are instructed to come back with, 'How much can you pay?' The customer's pride asserts itself. You'd be surprised to know how often he names a figure above our required minimum."

"Doesn't that sound like good sense? And it's right in line with the advice recently given by Curtis C. Cooper, President of the General Motors Acceptance Corporation, to his organization."

"Without in any way restricting the salesman's ability to close a sale," said Mr. Cooper, "an effort could be made to secure the most conservative terms adapted to the purchaser's circumstances.... It would increase the general average of all down payments.... reduce the average term of all outstanding notes, and therefore require less money to carry them. The loss experience would be lower. There would be fewer repossessions. Less collection effort would be required. There would be more satisfied customers, and sales would stick.... The dealer's credit line would be greater in proportion to his capital, increasing his turnover and increasing his ratio of profit."

LATER on, in New Zealand, it will be found necessary to institute some system of examination for radio service men, who will then have to possess a certificate of competency before being allowed to follow their calling. While many New Zealand radiotricians are turning out work equal to any of that in imported sets, the fact remains that there are some jobs seen from time to time which are a positive disgrace. Good sets are also sometimes badly messed up after being through the hands of some folk.

In future the license fee to be paid by Australian listeners will be 24s. a year, instead of 27s. 6d. as in the past years. The radio trade is anticipating the reduction will give an impetus to the purchase of receiving sets. The listening license now costs less than a penny a day. For that amount radio gives pleasure to the whole household almost continuously from 7 a.m. to midnight. It is said the value of radio in rural parts is becoming more appreciated as time passes.

THE FUNCTION OF BATTERIES

To explain why we have "A" and "B" batteries in a receiving set, the functions of each, and why one high-voltage and one low-voltage battery is used, it is necessary to go into an explanation of the principle of the vacuum tube (or valve) as used for radio purposes. We will attempt to make this explanation as clear and non-technical as possible.

Through the researches of scientists, such as Thomson, Richardson and Millikan, we know now that when certain metals are heated to incandescence, particles of matter are thrown off. These particles are called electrons and the theory explaining this phenomenon is called the "Electron Theory." Incidentally, these electrons are negative particles, and at present the smallest particles of matter known.

In 1904 Fleming (another scientist) was granted a patent on the device called a "Fleming valve," which consists of a filament-and-plate element enclosed in an evacuated glass vessel. In school, in the physics or science class, we learned that positive attracts negative, or vice versa, depending upon which has greater strength. Fleming inserted in his device a battery of high potential. The positive side of this battery was connected to the plate within the vessel, thus making the plate highly positive, thereby enabling it to attract the electrons which were thrown off by the heated filament. This device was of little practical use as far as radio (in those days called "wireless") was concerned, until 1906 when DeForest inserted the third element called the "grid," thereby making the most sensitive detector known.

Now to show how "A" and "B" batteries are concerned. The battery required to heat the filament to incandescence is called the "A" battery (probably because it is the first battery to be taken into consideration, of primary battery). The battery required to give the plate its positive potential is called the "B" battery. However, since the filament consumes an enormous amount of current compared to that used by the plate element of the tube, the battery necessary to heat the filament must have a high amperage capacity, ranging from 28 to 120 amperes, depending upon the number of valves used in the receiving set, and the type of valves. In the early days valves were manufactured with filaments which required six volts and consumed about an ampere. At present, due to research and developments made by electrical engineers, we have radio valves which operate from a dry cell or two, and consume only from .001 to .25 of an ampere.

The "plate" of the valves consumes very little current, as aforementioned, but requires an extremely high potential, varying from 22½ volts for a "soft" or detector valve, to 90 volts for the ordinary amplifier valve, and about 180 volts for a power-amplifier valve. Ordinary "B" batteries are constructed (consisting of a number of very small cells) so that, although their amperage capacity is very low, ranging from two to seven amperes (of total output) the voltage delivered is high because of the small cells, each delivering 1½ volts, being connected in series.

FAMOUS JAZZ BAND

JOE ARONSON AND HIS GANG.

Some hundreds of New Zealanders have obtained many hours of delight from Joe Aronson and his jazz band, which plays at 31.0, Melbourne. Some particulars of this clever musical combination will interest many New Zealanders. Joe Aronson himself is from the United States, but the other players are Australians. Of his team Aronson writes:—"First there is Roger Smith, who as a trombonist and violinist has no equal when it comes to versatility—an essential in modern orchestration. He is deputy-conductor, and an expert arranger Percy Code, solo cornetist, needs no introduction. He stands alone as a musician and composer, and my combination is enriched with his silver-toned trumpet to such a degree that I now regard him as indispensable. Ned Tyrell, who plays the banjo and ukulele, and is the comedian of the party, was for years a vaudeville artist of popularity. Neville Stoneham plays violin and saxophone; Colin Turner, saxophone and organ; H. Hallam, trumpet; Les Whitty, saxophone; Andy Robertson, saxophone; Les Richmond, popularly known as "The Wizard at the Piano," is well-known for his pianoforte syncopations; whilst last, but not least, is Clarence Aronson, drummer, xylophonist, and tympanist, who provides the wonderful effects for which the orchestra is noted. Most of them can play any instrument put before them, and that accounts, to a large extent, for the versatility of the orchestra in producing variety turns and novelty numbers."

Perhaps some of our New Zealand jazz band directors will take a hint from the above combination of instruments.

ARONSON'S CAREER.

Joe Aronson's career has been a remarkable one. He drifted into the land of crochets and quavers when ten years old. At the age of twelve he formed a small band among the boys in the little American town in which he was born. A visiting circus fired his imagination, and his services with the circus

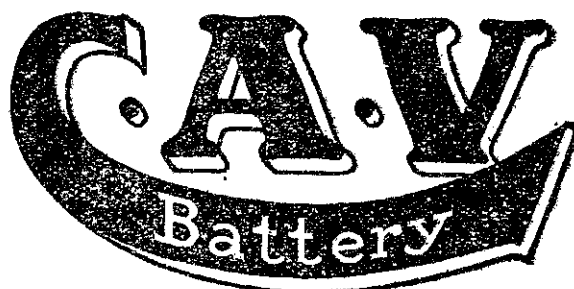
band were eagerly availed of. Before the show he played outside the big tent, and then took his turn in the ring as clown, acrobat, and a rider. Later he secured an engagement as a saxophonist in the famous Rector's Cafe in New York. From there he went to Earl Fuller's Orchestra, and was one of the first players to make jazz records for the Victor Gramophone Company. Their immediate success was the forerunner of the present-day catalogue of dancing jazz numbers. Aronson's Band has played in New York, San Francisco, Shanghai, Japan, and all through the East. Their remarkable success at 31.0, Melbourne, has made them famous throughout the world.

RADIO AND RECORDS

ELECTRICAL PICKUP.

The combination of radio amplifiers, in electrical pickup and a gramophone is becoming increasingly popular. Most electrical pickups for phonograph use impose less load on the record than the mechanical type, and for this reason a needle may be used for several records. For this reason numerous people have been surprised to find that the motor in the usual portable type phonograph has insufficient torque to run some records with some types of pickups, although there was sufficient to run the mechanical reproducer.

The reason for this is that some electrical pickups are considerably heavier than the mechanical reproducers. This weight is largely due to the use of a permanent magnet in the pickup. Since the sensitivity of such a pickup is proportional to the magnetic field strength, there is a relation between the size and weight of the magnet and the sensitivity. To make the output of the pickup sufficient to give loud volume on two stages, several manufacturers have made units, which are quite heavy. This results in a drag on the record, and in cases where the spring motor is "weak," the speed is reduced, and frequently the record will stop.



BRITISH
BUILT
BATTERIES

Good Quality

BATTERIES AND SERVICE
Are the Backbone of a
RADIO SET.

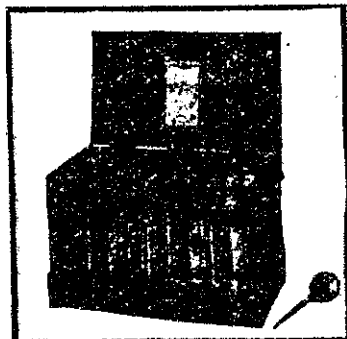
"A" Battery.



Here's two that will save you endless trouble and expense.

Type Tw 13-plate, 85 amps. capacity, fully charged. Complete with removable carrying handle.

PRICE £6



Type H.T. 5, 90 volt, 2500 milliamperes capacity—takes place of two 45 v drys—only needs recharging every two months. Fully charged.

PRICE £6/15/0.

Send for our twelve page Catalogue coming out before Xmas.

Gruar's Battery House

THE BATTERY PEOPLE.

9 MAJORIBANKS STREET,

WELLINGTON.

Telephone 20—937.

Shop Phone 22—385.

Private Phone 25—010.

RADIO ENTHUSIASTS

THE MOST DEPENDABLE BATTERY THAT MONEY CAN BUY IS THE

EXIDE

As installed at the 2YA Station, Wellington.

We have Batteries in all sizes from 9/- each.

Exide Battery users: Have your Battery charged by Exide experts. Collection and Delivery Service Daily, City and Suburbs.

EXIDE SERVICE STATION,
79 KENT TERRACE, WELLINGTON.

The Reduction of Interference from Static

Some Further Points of Interest to Constructors

"By M.I.R.E."

FOLLOWING on last week's discussion regarding the reduction of static interference by means of the directional effect of aerials and loops by taking advantage of a difference in direction of arrival of the static and the desired signals, it is proposed to outline some more points of interest. It will be remembered that it was shown that a method of sorting out signal from static, or at least increasing the static to signal ratio in favour of the signal, could be put into operation by pointing a directional aerial towards the signal in such a way that its receptivity would be at a maximum in that direction, but its receptivity would be relatively less, and preferably a minimum towards the direction of static.

FIELD FOR RESEARCH.

This has opened up a tremendously wide field for research, and eminent engineers and physicists have devoted many years of research to improving methods of putting this principle into operation, and thus arming the receiver with a much-needed defence against the attacks of its most bitter enemy.

The simple directional aerial is of little use because its directivity is more a theoretical than a practical consideration. Unless the design is carried to an extreme by having a wire about 150 feet or more long, run along the ground on insulators, and only a few inches distant from the ground, then there is little advantage to be gained from it. The effective height of such an aerial would naturally be far short of one, say, twenty-five or thirty feet high, but nevertheless a surprising number of stations can be tuned in with a multi-valve set, owing to the flexibility of the radio-frequency valves and their liability to give enormous amplifications on extremely weak signals. This type of aerial may also be formed by laying a well insulated cable along the top of the ground, the one end being attached to the receiver and the free end pointing towards the station it is

desired to receive. The free end should be well insulated of course.

Another form is often referred to as an "underground aerial" and consists of the before described well-insulated cable buried in the ground up to two or three feet and still pointing its free end towards the distant station.

RADIO TRANSMITTER DISTURBANCES.

As has been described previously in this column a radio transmitter sends out two disturbances, one of which is in the "aether" and consists of electro-magnetic waves which travel through space while the other represents electric currents which travel through the earth. To just what extent these disturbances affect the receiver depends on two factors, the first of which is the wavelength or frequency of the currents used at the transmitter, and the second is the nature of construction or electrical conductivity of the intervening ground. With a given wavelength and salt-water between two stations, providing certain constants of the stations are known, the actual percentage ratio of aerial to earth components of the wave transmitted and received can be determined with satisfactory accuracy. Immediately, however, the intervening earth consists of ground of unknown conductivity, the computation becomes very unsatisfactory.

It has also been explained in these columns that the amount of energy picked up by a receiver (and therefore the signal strength) is dependent on the height of an aerial (from an electrical and not necessarily a geometrical point of view). The higher the electrical height the greater the energy received from the wave arriving from the transmitter.

"UNDERGROUND AERIALS."

An application of these principles to the question of low highly directional aerials and buried wires resolves itself down to a consideration of the wavelength in use and the nature of the

ground at the receiver as well as the ground intervening between the transmitter and receiver. The effective height of an aerial may be very great owing to the fact that the ground underneath it is composed of very poor material which might just as well be considered an insulation and it may be necessary to go down, say twenty feet, to get to good material. If such an aerial is twenty geometrical feet high above the ground, then the total geometrical height would be reckoned at forty feet with the added "height" under ground. Providing the earth connection is buried twenty feet into the good material the advantages offering will be made use of otherwise anything picked up by increased height will be used up in aerial resistance.

RECEPTIVITY OF LOW AERIALS.

It will now be seen that it is a very difficult problem to determine the receptivity of low or buried aerials because for a start, it is not known just what the ratio of space to earth currents are, nor to just what extent the earth currents which do arrive will affect the receiving system because the wire slightly above earth should act as a true aerial, while the buried wire should respond to the earth currents only. The wire laid along the surface of the ground should receive nothing whatsoever if the ground it is laid down on is good wet soil because it should be non-inductive theoretically. Its geometrical height above earth would consist of the thickness of the insulation of the wire as a matter of fact! This would actually be so if the surface of the ground consisted of copper-sheet for instance.

In order to "make certain" that only earth currents are picked up it is customary to lay the insulated wire in brackish water as the latter has a lower resistance than even salt water.

It is claimed by the exponents of the underground aerial that there is very great freedom from static interference because the greater percentage of static

arises in the atmosphere and that static waves are purely space waves. This is so, but the space waves tend to induce currents in the surface of the earth, and these are picked up in the aerial, and, furthermore, there are natural as well as man-made earth currents which tend to disturb such a pick-up system materially, and do not have an appreciable effect on an overhead system.

DIRECTIVE AERIALS.

Considered briefly, these directive forms of aerial show considerable advantages over orthodox designs, providing the user is prepared to instal a couple of extra valves in the receiver to make up for the loss of sensitivity due to the smaller pick-up of the aerial. Naturally such aerials can only be used to receive in a given direction unless several of them are installed in such a way that all the stations it is desired to receive are capable of being picked up on one or other of them. However, in New Zealand the average receiver is used on the Australian stations, principally when distant reception is being carried out and static is causing most interference. Hence, anywhere in New Zealand, if an aerial is laid down in such a manner as to cause the free end to point towards Sydney, the aerial will satisfactorily enough include Brisbane and Melbourne in its compass.

There are one or two points of practical interest and one is that the self-capacity to earth of the low or buried aerial is much greater than one of orthodox design, and in order to have a fair length as well, the tuning of the system may be found to be difficult. It is therefore wise to instal a series condenser between the lead to the receiver and the aerial terminal. This condenser should preferably be a variable one, although a fixed one of a value of .0003 will be found to work well enough. A variable condenser with a maximum capacity of .0005 is desirable, especially with the buried wire. To get best results, this condenser should be varied with respect to the first tuning dial on the receiver

until maximum signals are obtained. Any variation of the series condenser will call for a slight readjustment of the first dial or aerial tuning control of the receiver.

It is quite possible where there is plenty of open ground to lay down an aerial twice or three times as long as usual and still get good signals with sharper directive effects. The series condenser is now an absolute necessity, and it should be variable. The Beverage aerial has been mentioned in these columns before, and this takes the form of a wire actually longer than would be called for in a straight-out tuning system. In this case, two wires are used, one as the aerial, and the other as a transmission wire to bring the energy from the aerial to the receiver and at the same time make the aerial system reversible in direction. A special resistance is joined between the far end of the aerial and earth to assist this effect at different receivers working at different wave-lengths are energised by this system.

It should be noted that directive systems are not really practicable on short-wave systems, for instance, below 100 metres. It was mentioned at the commencement of this article that a factor determining the energy transferred to the receiver was the nature of the earth between the stations as regulating the amount of earth current which would arrive at the receiver. As before-mentioned, this varies with wave-length. On wave-lengths above 10,000 metres probably over 50 per cent. of the energy received comes through the earth, but below 100 metres the earth currents dissipate themselves owing to the resistance of the earth and they do not carry more than a few miles at most. Palpably, therefore buried earths are quite impracticable for the reception of the ultra-short wave stations, which are such a source of interest at present. Those of an experimental turn of mind will find great interest in trying out stunts on the lines of the few pointers treated in this discussion.

INTERFERENCE

POWER LINE AND OTHER CAUSES

TRACING THAT TROUBLE.

In many cases in New Zealand listeners are now experiencing serious interference from power-line leakages and noises from various electrical appliances. Some power board engineers have taken up broadcast listening in their leisure and probably they will now realise how serious a matter power line interference is to broadcast listeners-in.

An American investigator of man-made sources of electrical interference writes:-

"Sparks are produced in the normal operation of many types of electrical apparatus (such as motors, doorbells, buzzers, gasoline engines, X-ray apparatus, violet-ray machines, some forms of battery chargers, rural telephone ringers, heating-pad thermostats). Sparks are also sometimes produced at defective insulators, transformers, etc., of electric wire lines. Sparks usually give rise to electric waves which travel along the electric power wires and by them are radiated out and are then picked up by radio receiving sets. The noise thus produced in a radio set may come from a disturbance which has travelled several miles along the electric power wires.

ELIMINATE THE SPARK.

"One remedy for such types of interference is to eliminate the spark. This is possible if the spark is an electrical leak and not necessary to the operation of the machine in which it occurs. Many very useful electrical machines, however, depend for their operation on the making and breaking of electrical circuits while they are carrying current and whenever this happens a spark is produced. It is impossible to eliminate these machines, so that it is necessary to make the spark of such nature or so to arrange the circuits that the radio frequency current is reduced or prevented from radiating.

"To prevent the radio frequency current produced by a spark from getting on to the lines connecting the sparking apparatus some form of filter circuit is necessary. A condenser (1 microfarad, more or less) connected across the sparking points will short-circuit a considerable amount of the radio frequency current, or a condenser connected from each side of the

line to ground will serve the same purpose. A choke coil in each side of the line in addition to the condensers connected to ground forms a simple filter circuit which should prevent frequencies in the broadcast range from getting on to the line. A high inductance (choke coil) or high resistance connected in each side of the line changes the characteristics of the circuit so as to reduce the amount of power radiated. If such a filter circuit is not effective or is impracticable, the apparatus may in some cases be surrounded by a solid metal sheet or wire screen which is thoroughly grounded. The screen should completely surround the apparatus. This may be difficult. For example, in shielding the ignition system of a gasoline engine the spark coils and all wires and other parts of the system must be enclosed in metal shields, and these must be very well grounded.

"When any connections are made to the power line, in order to avoid fire and personal injury, only apparatus that is carefully tested as to voltage and current-carrying capacity should be used and the power company should be consulted before making the installation. Additions to the power lines should be made only by qualified persons.

TRACING THE SOURCE OF TROUBLE.

"The first thing to do in tracing the source of trouble is to make sure that it is not in the receiving set itself. The next thing is to open the electric switch at the house meter; if the interfering noise is still heard in the radio set, the source is then known to be outside the house. It is then desirable to report the situation to the electric power company. Many of the companies have apparatus for the purpose of following up complaints of this kind. Usually a sensitive receiving set with a loop aerial is used to determine the direction from which the interference noise comes, and this outfit is taken from place to place until the source is found. The location of such sources is often a very difficult and baffling undertaking. The trouble sometimes comes from a spark discharge over an insulator to ground, or between a pair of wires, or it may be that the wire is touching some object such as a tree, pole, guy wire, etc. Such a spark discharge is a loss of power to the operating company and a potential source of serious trouble, and for these reasons the company is probably more interested in finding and eliminating this type of trouble than the radio listener. Large leaks and sparks may often be observed at night, especially in hot weather. However, sparks which

are too small to be readily noticed may cause serious interference to radio reception.

CLEAN THE COMMUTATOR.

"Where D.C. motors are in operation near a radio receiving set interference is sometimes caused, especially when the brushes on the motor are sparking badly. The sparking should be reduced as much as possible by cleaning the commutator and setting the brushes properly. The remaining interference is sometimes overcome by placing two condensers (about 2 microfarads each) in series across the power supply line and connecting their midpoint to a good ground system.

"Another source of interference is the ringing machine used in rural telephone exchanges. Telephone engineers can reduce or eliminate interference by connecting a filter between the machine and the ringing keys."

"VALVE" NOT "TUBE"

AMERICAN EDITOR'S PREFERENCE.

One American radio editor has perceived in the English term "valve" a more apt word than "tube" which is generally used in America. The editor of the New York "Popular Radio" of December, says:-

"After having received a number of letters questioning the license we have taken in using the term 'valve' in place of 'tube' we feel constrained to say something in defence of this policy. One slightly irate reader complains with some feeling that we have been 'high hatting' him. 'Popular Radio' obviously has no interest in 'high hatting' its readers, but it does have a sincere desire to keep its terminology as scientifically accurate as possible, and, following the growing tendency of the radio engineering profession, it has forsaken the ambiguous term 'tube' for the more descriptive one of 'valve.' After all, a tube may mean a container for toothpaste or the Hudson River Vehicular Tunnel."

BROADCAST TESTS

FROM HOME LINER.

Aboard the Aberdeen liner Demosthenes, which left England for Australia on December 7, is Mr. H. A. Hankey, secretary of the Wireless Association of Great Britain, who was on his way to Australia to carry out short-wave broadcasting tests. Mr. Hankey will conduct experiments both on the voyage out and home and during the five weeks he will be in Australia. Messrs. Geo. Thompson and Co., Ltd., owners of the Aberdeen Line, attach so much importance to it that they are providing Mr. Hankey with a first-class passage to Australia and back in the Demosthenes. Unfortunately Mr. Hankey's wavelength is unknown, but any listeners "picking up" the Demosthenes on the voyage will be able to report to Mr. Hankey, care of the agents, Dulgety and Co., Ltd. The Demosthenes was due at Melbourne on January 28.

MOTOR-CAR AERIAL

EASY TO INSTAL.

A condenser-aerial is one of the best types of pick-up devices to use with a radio set in a motor-car. The idea of the condenser-aerial is old, and it is surprising that it is not more used by the experimenter who wants an aerial that will give a maximum of signal strength with a minimum of size. The condenser-aerial, as its name suggests, is formed of two plates of metal suspended several feet apart, with the upper one well insulated.

The lower plate is used for the earth, and the upper one for the aerial. This aerial may be modified for use in a car by fastening the upper plate just inside the top of the car, and using the body of the car for the lower plate.

The upper plate may be of almost any kind of metal. The larger this upper plate the better will be the results. Medium-mesh copper or brass screening, or a piece of thin sheet copper or brass will make the most efficient and best looking aerial. Even ordinary tinfoil or lead foil may be used by fastening a large sheet of it to the top of the car and sewing a piece of cloth over it to keep it from getting torn.

An insulated wire should be soldered to the metal plate and brought down to the aerial binding post on the set, taking care that the plate and the lead to it do not touch any of the metal parts of the car body. The ground binding post should be connected to the metal body of the car, or to the grounded terminal of the storage battery.

A student failed in an examination in all the five subjects he took.

He telegraphed to his brother: "Failed in all five. Prepare papa."

The brother telegraphed back: "Papa prepared. Prepare yourself."

SHORT-WAVE RECEPTION

NEW VALVE PROMISES WONDERS.

Important developments in the construction of short-wave receivers are likely to be one outcome of the invention of the new English shielded plate receiving valve which was mentioned recently in these columns. The main effect of the shield is to reduce the capacity of the valve almost completely. In the ordinary valve the capacity between the plate and the grid is comparatively great, and the valve really resembles a small condenser. The effect of this, if the valve is used as a high-frequency amplifier for very short waves, is that the capacity of the valve acts as an almost complete short-circuit in the valve itself, to an incoming signal impulse. The consequence is that an incoming signal passes right across the valve without being amplified, and no gain is obtained in the high-frequency amplifying valve. This effect has hampered the construction of a short-wave receiver incorporating a high-frequency amplifier.

TO ADD RADIO FREQUENCY.

The new screened valve, however, will overcome this weakness of the ordinary valve, and its influence may ultimately be greatly to increase the scope of short-wave broadcasting. At present the real value of short-wave broadcasting is partially limited to the transmission of programmes from one country to another for rebroadcasting. The majority of listeners hear the programme after it is relayed, instead of picking it up direct from the overseas station. It is likely, however, that the use of screened valves in high-frequency amplifiers will result in the production of a simply operated short-wave receiver, which will give fairly consistent loudspeaker reception from short-wave stations in all parts of the world. The value of this will be that the listener will be able to tune-in whatever overseas station he likes.

ALL KINDS OF RADIO SETS

Accessories, Amplifiers, Repairs.

Free Advice to Home Builders at the BREMER TULLY AGENTS.

Mackys RADIO CO. LTD.
76-77 KENT TERRACE

The House of Service.

Ocean Deep Tone!

Arrange for a demonstration, and marvel at the wonderful depth of tone of the SONORA. It will surprise you.

RADIO Sonora
CLEAR AS A BELL

F.J. Pinny Ltd.

RADIO

58 Willis Street
WELLINGTON.

CROSLY TWO-VALVE SETS

COMPLETE WITH VALVES, BATTERIES, PHONES, AND LOUDSPEAKER, FOR

£9-10-0

AUSTRALIAN STATIONS ON PHONE STRENGTH GUARANTEED.

G. G. MACQUARRIE Ltd.

CROSLY SALES AND SERVICE,

93 WILLIS STREET, Phone 45-805. WELLINGTON.
Short Wave Sets and Adaptors Built to Order.

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.

LITERARY MATTER.

All literary matter and contributions must be addressed to the Editor.
If the return of M.S. is desired, enclose 1d. stamp.

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, FEBRUARY 10.

GUARANTEE OF CAPACITY WANTED.

It is stated by the writer of our section: "With Dealer and Customer" that radio trading circles in New Zealand are now experiencing something in the nature of an economic clean-up by reason of the fact that many who entered the business with little capital, and in many cases, insufficient technical knowledge to be sound guides to an enthusiastic but ignorant public, are now being forced out of business. A certain number of liquidations have taken place, and more seem to be pending. For this reason it is predicted that the number of radio dealers will show a decline after March 31, and the writer contends that this will be in the best interests of radio and the buying public. The line of reasoning followed seems sound. Throughout New Zealand there are nearly 1800 individuals holding dealers' licenses. Allowing for the fact that many of these are held by employees, we believe we are correct in saying there are approximately 1200 individual businesses licensed as radio dealers, and seeking for business from a present total of about 40,000 radio sets. On the face of the figures it can't be done; there is not sufficient business passing to maintain this overhead, and it will be a good thing for the public for wasteful duplication of effort to be cut down. It is incorrect that competition always means cheapness; under the conditions of a fairly good public demand, an excessive number of competitors for that business means the maintenance of unduly high prices, so that each may secure a reasonable personal profit to cover overhead.

Another factor in the situation has been the unchecked licensing of what the Australian Royal Commission called "the backyard manufacturer." It is to be feared that a big percentage of these have been mainly interested in becoming licensed for the sake of personal discounts. Our contributor points out that economic forces are helping straighten up the position, but he indicates that the position might have been controlled, and the public protected by the radio dealers' license being required first to indicate a standard of professional capacity, and secondly a financial standing sufficient to guarantee stability in business. In other words, the radio dealer's license fee should be very much heavier than it is—sufficiently heavy to require financial soundness on the part of those entering the business. We agree with this view, and certainly think that radio will benefit, and the public secure greater protection in the matter of price and service by a higher standard being required to qualify for a radio dealer's license. We believe it would be a good thing for the community if the request made in this direction—for a stiffer fee—could be agreed to. Pending that, economic forces must play their part.

FRANCE DRY TRICKLE CHARGERS

FRANCE DRY AUTOMATIC TRICKLER (With Relay Switch).

THE FRANCE DRY AUTOMATIC TRICKLER is equipped with relay switch and receptacle for "B" Eliminator Plug. Automatically, when switch on set is thrown "ON," "B" Eliminator is thrown "IN," and Trickler cut "OUT," and vice versa.

PRICE £5/17/6

FRANCE DRY TRICKLE CHARGER (Without Relay Switch).

THE FRANCE DRY TRICKLE CHARGER is not equipped with relay switch, being designed for continuous charging. It is noiseless in operation, and can be left "on charge" during reception.

PRICE £4/10/6

FRANCE TRICKLERS are of the dry disc type, employ neither bulbs, liquids, nor moving parts.

FRANCE TRICKLERS have THREE CHARGING SPEEDS—1, 2, and 1 1/2 Amperes.

Your Local Radio Dealer can procure FRANCE TRICKLE CHARGERS for you from the N.Z. Master Agents:

RADIO LIMITED

COMMERCE BUILDINGS (TOP FLOOR), 1 ANZAC AVENUE,
AUCKLAND.

SPORTING

NEXT WEEK'S FIXTURES

February 17 and 18: Australia v. Wellington, cricket—2YA.
February 18: Canterbury Jockey Club meeting—3YA.
February 19-22: Otahuhu Trotting Club.

Power Interruptions

2YA SUFFERS

Because of the very dry weather affecting the Mangahao electricity supply and necessitating economy and the use of alternative sources of supply, 2YA on several occasions recently has suffered temporary suspensions. This occurred several times on Saturday evening last. These interruptions are regretted, but are quite inadvertent on the part of all authorities concerned.

KEW GARDENS

LECTURE BY DIRECTOR

A lecture of wide interest will be broadcast from 2YA on the evening of Monday, February 13, when Dr. A. W. Hill, Director of the Royal Botanic Gardens, Kew, will speak on "The Royal Botanic Gardens, Kew, and their Connection with New Zealand." Dr. Hill is at present touring the Dominion.

Short Wave Notes

AN INTERESTING WEEK

ATLANTIC TELEPHONY

Mr. F. W. Sellens writes:—In reply to the query by Mr. G. C. McDiarmid re foreign station on about 40 metres. It may be the Japanese station JHBB on 37.5 metres, which is, I understand, carrying out tests on that wavelength.

Further telephony tests between England and America have been heard since writing last. Wednesday and Saturday mornings, from about 6 till 6.30, are the times to listen for these interesting tests.

On Saturday afternoon, January 28, KDKA was fair speaker strength at 4 o'clock. Soon after this a lady (soprano) sang, with orchestral accompaniment. At 4.28 p.m. it was announced: "— favourite — 'Home, Sweet Home,' — at the piano, Madame da Kutchka." (I am not sure of the lady's name, but that is what it sounded like.) This lady then sang "Home, Sweet Home," which was received very well at loudspeaker strength. After the song Madame da Kutchka said a few words (not understood). The announcer said, "Thanks, Madame da Kutchka, on behalf of the radio audience." After this the weather reports were given, after which the station closed down at 11.0 1/2 Eastern standard time (4.36 1/2 New Zealand summer time). R.F.N. was the only short-wave station heard during the evening.

KDKA were again heard on Sunday afternoon, relaying a meeting, signing off at 4.30, our time. Reception was fair speaker strength, but mushy.

2XAF was very good after 5 p.m. Dance music was being relayed by the Jazz Orchestra from the Rainbow Room, New Central Hotel, St. Albany, N.Y. After announcing that the programme was broadcast through WGY, WHAM, WDL, and WMAK, they signed off at one minute to midnight, R.S.T.

On Monday morning, from 7 o'clock, 2LO was heard, but I do not think they were quite as loud as usual. This transmission, according to cable news, was received in Britain better than any before.

R.F.N. was the only station heard this evening and on Tuesday.

2XAD and 5SW were having another little chat across the Atlantic on Wednesday morning.

At 5.55 a.m. 5SW was reading a report on reception from 2XAD; this was being repeated by the latter station, the American's voice being quite intelligible, but weaker than the Englishman's. During this report "sun spots" and "magnetic storms" were mentioned as being troublesome. As the American coughed several times, he was asked, "You could do with a drop of whisky, couldn't you?" Reply: "Yes!" At 6.25 a.m. 5SW said: "See you again on Friday. Well, cheerio. Hope your cold will be better by Friday. Bye-bye." I could not hear anything of 2XAD direct.

The same morning from 6.10 o'clock a foreign station was heard at 40 metres at good 'phone strength, but jerky, modulation, speaking English at times. The following was repeated several times: "Radio station—near—, I will spell that"; here followed as near as I could get them—BILL (B or C) URG. The wavelength was given as 40 metres, also 30.20 metres was mentioned. Something was said about every day except Sunday 17 (?) till 18 (?) G.M.T. Also, "We beg you to certify—longitude and latitude." This is a station to try for each morning, except Monday between about 6 and 7 a.m.

The Tasman Flight Special Maori Hymn of Prayer

With their Pakcha brethren throughout New Zealand, the Maori people were deeply moved by the tragic ending of the attempt so courageously made by Lieut. Moncrieff and Capt. Hood to blaze the air trail from Australia to New Zealand across the Tasman Sea. As a tribute to the passing of two brave men, and a mark of sympathy for those so dramatically bereaved, the members of the Wanganui Maori party, on Sunday evening, desired to express the sentiments of their people by the singing of a Hymn of Prayer for those who mourn. The words were set to the tune of the old, heart-stirring hymn, "Abide With Me," and its rendering over the air from 2YA was very effective and greatly appreciated by the listeners.

HYMN OF PRAYER FOR THOSE WHO MOURN.

*O God on High! Lord God of Sea and Sky;
In mercy listen; Lord to Thee we cry.
Two gallant airmen, once so brave and free,
Now sleep in myst'ry 'neath the Tasman Sea.*

*With hearts attuned to brave adventure they
Flew with full courage on that fateful day;
They sought no 'vantage save their country's
pride,*

*And as her warriors so they fought and died.
They, for New Zealand gave all man can give!
Lord, in Thy mercy, comfort those who live—
An aged Mother weeping through the night;
Widows who mourn for husbands lost to
sight.*

*These need Thy comfort in their sorrow
dear;
Draw near and bless them with Thy Presence
dear.*

*With the sweet solace of Thy wondrous love,
Lift their sad eyes up to Thy Throne above!*

5SW was again tuned in about 7.35 a.m., when a lady was advising her listeners how to prepare sandwiches for railway journeys. One item was, to include beet in ham sandwiches. This is the first time talk has been readable after 7.30 a.m. from 5SW.

2AT Wellington was testing in the evening.

Thursday morning ANE on 15.93 metres was quite good, but body capacity was troublesome. He called amateurs in America, Australia, New Zealand, etc., and gave their times of transmissions on 15.93 metres. They were, Wednesday, Thursday and Friday at 12.40 till 14.40 G.M.T. (1.10 a.m. till 3.10 a.m. the following days New Zealand summer time). Something was said about Sunday, February 5, which I could not get.

A friend told me that 2ME started transmitting a programme at 7.30 a.m. for American reception, which came through at good strength. I was "off the air" before this time.

2LG Goulburn, New South Wales, was quite good for a short time during the evening. On Friday morning PCJJ was heard at its old-time volume and clarity from 5.15 a.m. till 7.30 a.m. When I closed down it was still good strength. Static, morse and a howling valve spoilt what would otherwise have been a good programme.

The stranger on 40 metres heard Wednesday morning was heard again, but not clear enough to find out who it is.

At 6.50 p.m. 3AU Rangiora was calling "C.O."

Later on at just before 11 p.m., I tuned in a Japanese station on about 37.5 metres, which I think is JHBB. The call was not clear enough to be certain. At the end of each talk and musical item some morse was heard which I take to be the call. Volume

was very good with some fading. Modulation rough with an unsteady hum. At 11.25 a musical (?) item was heard played on a stringed instrument. Another item followed of the same description. After the usual morse, a string orchestra was heard. The Japs evidently like this sort of noise, but I did not think much of it—no ear for good music evidently!

On Saturday morning 5SW was heard at 6 a.m., calling "Hullo 2XAD" repeatedly, then "your signals are very weak," but apparently did not get any reply.

2XAD's signals were not audible here—just a faint carrier.

The 40 metres foreigner was again too rough in modulation to understand his talk, but signals were quite strong.

The last time the humorous Mr. Walpole was on the air at 2YA an incident happened in the studio that is too precious to go unrecorded. Mr. Walpole's theme, in which he had all sorts of funny things to say about politicians and things in general, was entitled "The World Outlook," or something like that. It so happened that the programme that evening was running a little beyond scheduled time, with the result that Mr. Walpole started his "oration" at the time actually appointed for the usual weekly lecturette by the Editor-Announcer. No sooner had Mr. Walpole stepped from the "mike" than there was a call on the studio 'phone, and in response to the answering query a youthful voice piped back: "Would you please ask the Editor-Announcer to recite his Imperial Affairs again!" If Mr. Walpole amused his listening audience, and there's no doubt that he did, then his youthful admirer simply convulsed the station staff. They haven't stopped laughing.

RALEIGH RADIO

BRITISH MANUFACTURE THROUGHOUT

Standardization to a quality product—results in
Unique value.

We invite you to inspect the Six 1928 Models
before purchasing elsewhere.

CONSULT US:

BRITISH IMPERIAL RADIO CO.

236 Lambton Quay Wellington. 'Phone 42-412

Edison Evening Changed to February 18

Programme of Honour for the Wonder Mind of the Age

THERE will be speeches befitting the occasion. Sir Frederick Chapman, the distinguished president of the English-Speaking Union, will give a eulogy of the great American inventor, and the American Consul-General in New Zealand, Mr. W. L. Lowrie, will reply.

The concert programme, which will be essentially American, will be one of the best broadcast from 2YA. A feature of the evening's entertainment will be community singing, in which Americans resident in Wellington will be well represented. Folk-songs, ragtime, military marches, Negro songs, vocal and instrumental solos, chamber music, and choral works will all find a place in the brief space of time of one and a half hours of musical programme. They will combine to make the musical setting for this unique occasion a worthy one.

Stephen Foster was a maker of songs that America will always hold dear. In such songs as "Old Folks at Home" and "My Old Kentucky Home" Foster touches a note so deep and so true that they would be welcome and understood almost anywhere in the world. Their simple eloquence and beauty reveal the genius of this untutored musician. Many of his songs, including "Old Black Joe" and "Massa's in de Cold, Cold, Ground" have been so unconditionally accepted by the American people that they may be called folk-songs. The same thing holds true of that inspired melody, "Dixie," by the wandering minstrel, Dan Emmett.

The wildly stirring marches of John Philip Sousa are world-famous. Their energetic rhythms and buoyant vitality are felt as much to-day as when they were first composed. They truly reflect the healthy vitality of the people.

Of great contrast are the highly imaginative, extremely poetic compositions of Edward MacDowell, probably the most individual and sensitive talent America has produced up to the present time. He was a poet, a nature-worshiper, a romanticist who dwelt outside the confines of period or community. The mystical and impressionable quality of the Celtic race was in his veins. His works for the pianoforte place him amongst the greatest for this instrument.

Charles Cadman is a melodist of great charm. Having come into close contact with Indian lore in the West he based a number of songs on Indian motives. His mood is romantic and he has written admirably for the voice. His "At Dawning" has a lyric beauty which has made it universally popular.

One of the most important numbers will be solos and choruses from the important choral work, "The New Earth" by Henry Hadley, one of the foremost of America's living composers. These will be given by members of the Orpheus Choral Society under the conductorship of Mr. Len Barnes.

The band music chosen for the evening will be played by the band of the 1st Wellington Regiment, and instrumental music will be played by the Symons-Ellwood-Short trio.

The Melodie Four will contribute to the vocal section of the programme, their items will be both national and popular songs.

The Wellington Orpheus Society will also be taking part. Their contributions will include the magnificent "Battle Hymn of the Republic" and "Hail Columbia." They will also sing "The Sword of Deliverance," with Miss Lily Mackie singing the solo "Agnus dei," and the chorus, "Song of Marching Men."

Unexpected delay in the arrival of the "Message to New Zealand" which Mr. Thos. A. Edison had had specially recorded for broadcasting from 2YA, Wellington, in commemoration of his 81st birthday, has necessitated the postponement of the programme specially arranged for that occasion.

In reluctantly making this announcement, the Broadcasting Company advise that at both ends every precaution was taken to ensure the arrival of the recorded message in time for use on February 11, the date of the great inventor's birthday. The Company was advised both by letter and cable that the record had been mailed in ample time to catch the Vancouver mail steamer "Aorangi." A letter from Mr. Edison confirming the cable message advising the dispatch of the record was posted in New York two days after the cable was sent, and duly arrived per "Aorangi" early last week. Unfortunately, however, the record was not included in the ship's mails. Inquiry of the Post Office authorities elicited the information that American parcel mail is not forwarded via Vancouver. All such mail comes via 'Frisco, either by the regular mail boats or by cargo or oil-carrying vessels. The assumption, therefore, is that the parcel containing the record is on the "Tahiti," due on the 13th inst. In the circumstances the Company could not do other than postpone the broadcast of the special programme for a week—from the 11th to the 18th inst.

To the ladies and gentlemen who are co-operating with them to ensure the success of a broadcast-programme of unique international interest, the Directors desire to express their regret for the inconvenience occasioned them by the unavoidable change of date. They will, the Directors feel sure, realise that in a programme designed to do honour to one who may well be regarded as one of the foremost citizens of the world, it were much better that there should be a week's delay in its presentation rather than the occasion should be robbed of its most unique feature—the opportunity of making known to the thousands of listeners the voice of Thos. A. Edison.



THOMAS ALVA EDISON.

American humour will be well represented. Mr. Byron Brown will give that delightful portion of Mark Twain's "Innocents Abroad," which describes the visit to Rome.

Another humorist will be Mr. Vernon Oswin. He will give "Melodrama" (by Dr. Oliver Wendell Holmes), and "Sargasso Sea" (by McIntosh).

Humour of a different kind will be that of Billy Hart, whose songs at the piano will include one by Billy Williams (winner of fame on Edison Bell Records), and "And a Little Child."

When the massed voices in the studio have sung "Yankee Doodle," and the "Double Eagle" has been played by the band, the American residents of Wellington will take part in a hearty "sing" of old time songs and choruses. It will be a fitting conclusion to what should be a memorable evening.

WIRELESS SHIPS' OPERATORS.

Thorough training in all subjects, under personal supervision of Instructor with 15 years' experience with Royal Navy (Imperial), for P.M.G. Certificate. **JOHNSON'S WIRELESS SCHOOL.** 8-10 Brandon St. P.O. Box 936. WELLINGTON.

ORDER THE "RADIO RECORD" REGULARLY!

Programmes, Radio News, Constructional Hints, Trade News, Listeners' Views, Record of Papers.

3d. Weekly 3d. ALL DEALERS AND STATIONERS, or 10/- Per Annum, Postage Free (Prepaid)

P.O. Box 1032

Wellington.

A Great Mind BIOGRAPHICAL NOTES

LIFE OF INSPIRATION

Than Thomas Alva Edison there is no more striking instance of a man commencing life with no prospects (so far as money is concerned), and yet achieving world fame. From the time he was 11 years of age he has worked—twenty, forty, sixty, eighty—and at 81 years he is still working. He was a very young man when, quick to perceive the field which electricity opened up, he said as he rushed off to breakfast after an all-night poring over technical books, "I have got so much to do, and life is so short, that I am going to hustle." It was Thomas A. Edison who said, "Genius is 2 per cent. inspiration and 98 per cent. perspiration." What has been accomplished by such a phenomenal worker as Mr. Edison in his long life?

Born of Canadian parents, who had taken up their residence in U.S.A., Thomas Alva Edison inherited nothing but a tireless constitution. In his flight from Canadian territory, because of having taken too active a part in the Papineau rebellion, his father walked 182 miles without sleep, for his powers of endurance were no less remarkable than those which have characterised his son.

An Early Start.

At eleven years of age Edison went to work of his own will to augment the family exchequer. He became news-boy on a train, and was very enterprising. The Civil War was on at the time, and when the news of battles came through he telegraphed down the line and had posters put up. When the train arrived at the stations the papers sold like hot cakes. When he was fifteen he was editing, printing, and publishing a small news sheet of his own. On the train there was a compartment which he used for a printing office and a laboratory. In it were stored jars of chemicals to make electrical currents, telegraph instruments,

a printing press, some type, and a couple of ink rollers. A friend of Edison's boyhood says: "His mother kept him supplied with clean shirts, and he always washed his face and hands, but I think in those days he did not often comb his hair. He would buy a cheap suit of clothes and wear them until they were worn out, when he would buy another suit. He never by any chance blacked his boots."

His career as newsagent and newspaper proprietor on the train came to an abrupt termination owing to an accident in the laboratory setting the carriage on fire. The conductor, a stalwart Scotsman, after putting out the fire, threw the boy, printing press, bottles, books, and papers out of the carriage. After that the boy set up his laboratory at home with some crude telegraph instruments, wire, etc., and was soon more deeply absorbed in his scientific studies than ever.

Skill in Telegraphy.

As a telegraphist Edison's life was full of vicissitudes. At fifteen he was very proficient in the sending and receiving of telegraph messages, and after his ejection from the railway carriage he had no difficulty in securing other employment. But he had difficulty in keeping his positions. He was so absorbed in his experimental tests in regard to electricity that he encroached on his employers' time, both for sleeping and working. He found himself frequently looking for a new billet, but such was his reputation as an expert telegraphist that he usually had little difficulty in securing one. In spite of his inattention to duty, Edison had given evidence over and over again of his wonderful skill and quickness in grappling with difficulties.

First 40,000 Dollars.

Edison's first successful invention was in regard to "ticker" machines used by brokerage firms. He was about to ask for 5000 dollars, but was offered and accepted 40,000.

The duplex was Edison's first important invention connected with electrical telegraphy, and embodied a method of multiple transmission, which doubled the capacity of a single wire. He sold this patent outright to the Western Union, and turned his attention to the now familiar duplex, which he devised in 1874. This made possible the simultaneous transmission of two messages each way. For this invention Edison received 30,000 dollars, the whole of which he spent trying to invent a wire which would carry six messages.

Another important invention was in connection with the automatic telegraph. Edison was now pouring in applications for patents for one thing and another, and public attention all over the country was being directed on him. He turned his attention to the telephone, for he saw that, if perfected, the telephone would be of colossal use in business. Very soon after taking the matter in hand he invented the carbon telephone transmitter—a device which made telephony practical, and without which Bell's invention was useless. There was a great contest between the two men, but a compromise was at last effected.

The Carbon Filament.

In 1879 Edison discovered the carbon filament for electric lamps and revolutionised lighting. He sat and watched his first lamp for 45 hours to see how long it would burn. In his researches and experiments for an incandescent electric lamp, Edison went long periods of days and nights without sleep. Electric lighting opened up a vast field for Edison's inventive genius, and he became known as the "Wizard of Menlo Park."

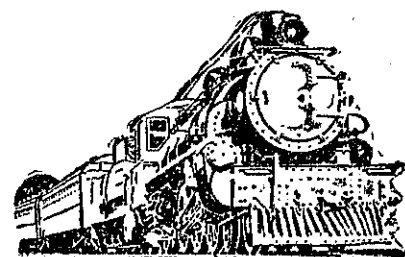
The phonograph was the result of pure reason based upon a happy inspiration, resulting from his early work with automatic telegraphs. The first model was made by a mechanic, John Krusei, after 30 hours' sleepless toil, for the assistants at Menlo Park, as well as Edison, were accustomed to work long spells. This first phonograph is now in South Kensington Museum. The first application for a phonograph patent was filed in 1877.

Tremendous Field Covered.

Mr. Edison's work as an inventor extends over a most varied field. In addition to his better-known patents, granted in connection with the electric light, the phonograph, the telephone, ore milling machinery, storage batteries, his inventions include typewriters, electric pens, megaphones, vocal engines, addressing machines, methods of preserving fruit, cast iron manufacture, wire drawing, electric locomotives, moving picture machines, the making of plateglass, compressed-air apparatus, and many other things.

As far back as 1885 Edison applied for a patent covering wireless telegraphy, and was allowed one in 1891, but he did not pursue his investigations in this direction with his customary zeal. He was content to give way to Marconi, for whom he had a very sincere admiration.

Have
a Safe
Holiday
this Summer.



Take the Safe Cheap Way

Your own railways offer you the cheapest, safest and altogether the best travel service. Whether your heart yearns for highlands or lowlands, rivers or lakes, sunny beaches or cool forests, your railways can take you comfortably to the desired scenic, sporting or health resorts.

Communicate with the nearest Stationmaster, Passenger Agent, or District Manager for full particulars.

BRITISH RADIO GOODS

A bit better quality;
A bit cheaper;
In short "a job!"

You get them from:

HARTLE & GRAY,
CUSTOMS ST., AUCKLAND.

From the Woman's Point of View.

By VERITY.

TO-DAY AND TO-MORROW

Thomas Hardy's Rationalism.

In the course of an able and interesting address on the late Thomas Hardy, delivered at All Saints' Church, Dunedin, Archdeacon Whitehead said:—

In the greater part of the novels and poems of this prince of modern literature we seem to see a fairly coherent philosophy, which in many cases resembles the doctrines of the notorious German pessimist Schopenhauer. Hardy represents the odds as always against virtue, innocence and unselfishness. Virtuous, well-meaning, pitiful souls are the sport of merciless forces, and under just the same doom as snarled rabbits, stuck pigs, pelted dogs, wounded pheasants. This novelist looked forward with complacency, if not with delight, to a time when all conscious beings will have ceased to exist, and unbroken silence will fall upon the universe. But towards the end of his life he gave expression in poetry to what may be called the ultimate belief, and we see him trusting the larger Hope more than faintly. His argument is this: In a scheme so vast as that of the universe there is always room for hope; we cannot build a doctrine of despair on what we do not know; a world which is a rational system must in the end be the scene of triumphant justice; so for every wound there is a healing; however harsh the means the result will justify them; every one of the pale, panting multitudes of earth shall find their joy in the great Well-wisher, the kindly Might, in whom all living live, and in whom all divine die.

Woman's Hour at 3.10

A new session at 3.10, the woman's hour, will begin at 11 a.m. Items of special interest to women will be dealt with during this period, which is being eagerly awaited. The busy housewife may complain that she has no time during the day to read those interesting books on household and cooking hints. It would take up too much time to read, she says, and the work would be at a standstill. But to listen is no hindrance. From February 13 she can go about her cooking, sweeping, and bed-making, while she listens to a sound, neighbourly talk on some household subject in which she is vitally interested. All she will have to do is tune in 3.10 on the wireless, and go on with her work.

From 11 to 12 every morning authorities on every household problem and question imaginable will give interesting, practical advice. No attempt will be made to entertain. The talker will just give his or her facts in the most concise, plainest, and most interesting terms possible.

FLOWERS TALK TO ME

*Flowers talk to me!
The beautiful blossoms you sent me
In every room are breathing your
thought of me!
Whispering low—
This fragrance that you have lent
me—
How very true a friendly heart
can be!*

*Flowers talk to me!
They tell me a truth abiding!
Life marches on though blossoms
may droop and wane.
Message of hope,
Each petal that falls confiding
There is no death! The roses bloom
again!*

Anne Campbell.

"Bring Your Own Servants."

So great is the shortage of domestic servants in England, particularly in country districts, that many hostesses who were entertaining for Christmas invited their guests to bring their own servants with them. This idea is one that is likely to become more and more popular with the increasing difficulty to obtain domestic service for the country.

A Song Unheard.

The superiority of modern radio apparatus to the human ear, considered as a listening device, was demonstrated recently in England during an attempt to broadcast the song of that seldom-heard bird, the nightingale. A feathered songster far off in the distance burst into song while the experiment was going on. The engineers at the microphone heard nothing, but the song was picked up by the especially sensitive microphone that was being used and was broadcast, without the knowledge of the engineers.

The Compleat Conversationalist.

An incident is related of the boyhood of Lord Carberry, or Mr. John Carberry, as he prefers to call himself, whose name is associated with a recent flight from England to Cape Town. He succeeded to the peerage at a tender age, and was told that when visitors came to the house it was his duty to pay them some attention. Shortly afterwards a Mrs. Daniell called and the small head of the house shook hands with her politely and exclaimed in his best drawing-room manner, "How do you do, Mrs. Daniell? I've just been reading about your husband in the den of lions."

Schoolgirl Howlers.

That schoolgirls are close rivals of schoolboys in the matter of "howlers" is revealed by the following from a well-known English Secondary School for Girls:—

Joan of Arc's father was a pheasant.

Aaron was a good man, who helped Moses with his conjuring tricks.

At the Battle of Crecy the soldiers found a Ford motor-van, by which they crossed the river, and so were saved. (The mistress neglected to explain the meaning of the word ford.)

The sun never sets on the British Empire because the British Empire is in the East and the sun sets in the West.

Rhinoceros is called lind because of its skin, and noceros because of its nose.

In order to give David a sign whether Saul was angry with him, Jonathan sent him out to play golf, and sent the ball a long way off.

Plumbing Made Easy.

If a lump of plasticene (obtainable at stationers in 1d. bars) is thumbed into the burst of a pipe, then tied with a linen bandage, it will last almost indefinitely, as it is impervious to water. Think of the saving of damage and the proverbial plumber's time!



—Wigglesworth and Binns.

MISS DOROTHY JENKIN, OF 3YA.

This talented young elocutionist received her tuition in Christchurch. She has competed successfully in Competition Festivals, and was a performing member of the Reade Wauchop School of Drama. She has also gained her A.T.C.L. in the Trinity College examinations for elocution.

WOMAN AND HER HOME

Veal and Ham Pie (Cold).

1lb. fillets veal, 1 teaspoon chopped parsley, pepper and salt, 1 egg, 6oz. rough puff pastry, 3oz. powdered gelatine, 1lb. ham, 1/2 teaspoon lemon rind, little water. Method: Put ham into cold water in a pan, bring to boil, and place in a basin of cold water; allow to get cold before using. Put veal and ham, cut into small pieces, in pie-dish, with pepper and salt, lemon rind, and chopped parsley. Add a little warm water, cover with pastry, decorate, glaze with egg, and cook one and a half hours. Dissolve the gelatine in a little water or stock, and when the pie is cooked pour in and serve cold.

Veal and Ham Pie (Hot).

Use ingredients as above, only toss veal in 3oz. flour, pepper and salt, and omit gelatine.

Cucumber Marmalade.

One large cucumber cut in thin slices, 1lb. granulated sugar, the grated rind of 1 lemon, and 3oz. ground ginger. Simmer one hour, and when done add 1 spoonful whisky.

Banana Boats for Children's Parties.

Small children are delighted to find a tiny boat on each plate when they sit down to tea. Allow a banana for each child, peel off a strip of skin lengthwise, scoop out the banana, and mash

with castor sugar; put it back with a dab of red jelly on top, capped with a dab of whipped cream. Use an orange stick for the mast, pierced through a piece of stiff, thick paper, on which is written the child's name, and stick up in the centre of the banana for a sail. These make an attractive table decoration.

New Lampshades.

Hand-painted parchment lampshades bring a bright note of colour to any room. Obtain a plain orange-tinted velum shade of the shape and size you require, draw your own design or trace a favourite one round the lower edge, and create your own colour scheme. The colours need to be well rubbed into the rather greasy surface of the parchment. When quite dry, outline the design with Mandarin black drawing ink and give the whole a coat of varnish.

Chocolate Fudge.

Two large bars of plain chocolate grated, one cupful of milk and one cupful of white sugar. Boil together, stirring all the time, until the mixture leaves the sides of the pan and collects round the spoon. Remove from fire and add a teaspoonful of butter, stirring lightly. Set aside until cold, when the mixture will be thick. Beat well with a strong wooden spoon until smooth and pliable. When it no longer sticks to the pan or spoon, turn onto a greased tin, smooth with a knife dipped in hot water, and cut into squares.

Cleaning and Restoring Garments or Hangings.

Boil 1lb. glue in saucepan with one pint of water, and when glue has dissolved place in a bath containing four gallons of hot water. Lay the article to be cleaned in the bath, and leave in soak for half an hour. The article should then be thoroughly worked about in the water and afterwards rinsed.

Hats.

One good trimming makes a hat. A grey felt hat has a strip of navy felt caught by an oxidised buckle, and is decorated by navy stitching. Another has simply an inset of grey broadtail into the crown. A simple black felt skull cap derives its individuality from a heavy twist of beige velvet running over the top to disappear in a loop bow over the left ear.

TO THE LISTENERS-IN

"I try to visualise my audience and think the listeners-in are friends," said Mr. Barry Coney, of 1YA, in an interview on broadcasting.

*I call you friends altho' I cannot see
If you are glad or sorry as I sing,
No clasp of friendship may there ever be
Nor yet in unison our laughter ring.
But quietly in this grey room I stand,
And send my song to you o'er sea and land.*

*It may be in some isolated place,
One listens-in who knows the loneliness
That birds and forest sounds cannot efface.
For him my song is one of friendliness.
I cross the space between, and by his side
Stand as a friend, who will not be denied.*

*And there are aged ones who ne'er again,
Will swell the concert crowd—but listening smile.
And sufferers upon their bed of pain,
Of pain forgetful for a little while.
And sailor lads at sea. Know that I send
My best to you because you are my friend.*

*From this grey room of sombre curtains,
I launch my songs upon the ethereal sea.
No smiling faces greet me as I sing,
No clapping or applause my minstrelsy.
All is so quiet—but I can see you there,
Dear "Listeners-in." My friends
"across the air."*

—Rathyn.

Orange Jelly.

3 oranges and 1 lemon, 3oz. gelatine, 1 pint water, 1lb. sugar. Peel the rinds very thinly, taking off only the coloured part. Let them simmer gently in the water 5 minutes. Squeeze the juice over the gelatine and let it soak. Strain the water from the rinds to the gelatine, add the sugar, and boil 5 minutes. Strain and pour into a mould.

Apricot Jam.

Cut the apricots into halves and remove the stones. To each pound of stoned apricots allow 1lb. sugar. Leave the sugar on the apricots over night. Put into a preserving pan and bring slowly to boiling point. Boil 30 to 40 minutes, or until it sets. Some of the stones cracked and the kernels added is an improvement.

To each pound of stoned apricots allow 1 1/2lb. sugar, and 1 pint water. Boil sugar and water for 20 minutes, then put in fruit and boil from 25 to 30 minutes.

The Letters of Annabel Lee

My Dear Elisabeth,

How trying, to be sure, are those expansive people with long memories. One such I met recently, with whom I "mixed" in the over-vaunted period of schooldays. Looking me over reflectively, she sighed with a sympathy as deep as though I were already defunct. "I'd never, NEVER, have known you again," she informed me encouragingly. "Once your hair was curly, and quite a nice colour" (examining it, suspecting Inecto). "And, you poor thing, what makes you so frightfully thin?" as though it were a crime to be in the mode. Truth, and a human desire for the retort discourteous prompted a reply on the same rudely familiar lines, that I preferred a straightly brushed coiffure and a weight of eight-stone-five to locks crisply crimped and a figure to which years had bestowed unmistakable portliness; but reflecting that, when dealing with banality, discretion is the better part, I made a hurried adieu, the while an appraising gaze took in my ensemble of success (I had hoped) of black and white, and the rest of me, down to reptile-clad feet. Later, chatting to Richard, this unwise woman commented adversely on my taste in clothes, adding, "Annabel must be . . . or thereabout!" (I draw a veil). "You won't believe me, but once upon a time she was pretty!" In consuming wrath Richard hastened to tell me this, and we both thought it an excellent joke, for, in the dear permissiveness of man, he thinks I still am!

On conveying myself and another to a sale of sales, to which furiously flocks the entirely female population, the wonder obtruded as to why some attractive garments lie submerged until the advent of the Great Hustle. Endeavouring hurriedly to clothe myself for the holidays, had my eye lighted upon a suit of sand-coloured stockinette, it would undoubtedly have been mine, with its elegant line, and buttoned to the chin in manner seductive to one the slender column of whose throat approximates to that of the giraffe. Similarly with some simple gowns of merit, gracefully fashioned of the ever welcome crepe-de chene of most excellent colour and quality. Alas, now that we have replenished the wardrobe and paid the piper—or, if spendthrifts, still have to foot the bill—temptation is spread as a net before our willing feet. Assuredly an inspiration of the Evil One was the

First Cheap Sale. It may be that Eve that day desecrated a wrinkle instead of a dimple, a shade in the beautiful sparkle of those eyes that Adam loved, a dimming of the roseate pallor of perfection; and, as other Eves have done right down the ages, reflecting that her day was dying, she recklessly plunged into the purchase of new clothes, garbed in which she emerged, the earliest New Woman of the World.

A coat, cinnamon in hue, is to be had for a quite inadequate sum, of a check not too overpowering, a collar not too high, and an enveloping voluptuousness so dear when the nights grow chill and we no longer fare forth in Mr. Sidey's too insistent sunshine. Elegant dinner gowns that apparently reduce the figure, and not too direfully deplete the exchequer, are to be had for the buying; and though just now it may be there is neither the time nor the place nor the loved one all together, the night will come when Just the Frock for Me will come into its own, and when dining and doing a theatre with a friend of friends, he will rejoice in, without understanding, an especial radiance.

First choose your frock, as Mrs. Beeton once said, or something like it. After that, success lies in the wearing. Yesterday I admired Mrs. G—, who made a graceful call in a gown of hemlock blue, boldly embroidered round the hem of the quite long tunic in modern barbaric design of colours the most bizarre. Of a height that is regal and unusually generous proportions in these thin times, with her poised grace and greying hair, her Junoesque figure never fails to attain distinction denied to smaller fry. The lawful possessor of one who does not weary in well-doing, and daily reminds her that she is a pearl among women, she is assured of an encouragement most welcome which, I am convinced, is a considerable aid to that perennial chic and charm.

Miss Maude Royden is triumphantly candid in her lately published book, "I Believe in God." Born orator and preacher, she will have many admirers in New Zealand, where, being human, we like to be admonished, so long as we don't have to live up to it. Actuated, there is no doubt, by a love for humanity, and ignoring natural reticence concerning intimate conviction, Miss Roy-

den proclaims an unflinching faith on lines of a tolerant Anglicanism. With conviction she states her view on matters ecclesiastical and the trend of religious thought; all most interesting in the present chaos of opinion, and provocative of reflection on the greatest of themes, Miss Royden's contribution to modern controversy being very helpful to those who fain would find a spiritual haven.

From this cheerful and inspiring attitude towards our pathetic humanity, it is a long cry to the pessimistic philosophy of the great poet and novelist who so lately left us, and whose ashes lie, with those of the good and great of our nation, in Westminster Abbey. "We are flies to the gods, who kill us for their sport," writes Thomas Hardy; and most of those imperishable novels of his leave us with a sense of depletion, a dreary impression of human effort futile against the decree of destiny, the jeer of the little gods, the laughter of the Immortals. Alas, for Tess, in her youth so beautiful, innocent and gay, but powerless in the clutch of the tragedy that closes in upon her, flapping its bat-like wings. Fortunately, as it happens, each of us looks at life through his own loophole, and mercifully to many is given a vision of ultimate good, and not of ultimate evil.

Emphasising the beauty of the world we live in are the poems of Mr. W. H. Davies, super-tramp, delightful dawdler by the wayside. With his rare gift of simplicity of poetic expression, it is puzzling to understand why Mr. Davies should try his hand at novel-writing—and such inconspicuous novel-writing too. It is only when he leaves his everyday plot to look after itself, and leads us and his hero to a boat and reeds and a river that we recognise the dreamer and rover that we know. Better a few simple verses and love therewith, than a pretentious novel and ineptitude. Mr. Davies should stick to his last, so appealing in love of beauty of hedgerow, the golden world of morning, and butterfly "Songs of Joy."

*A poor life this if, full of care,
We have no time to stand and stare;
No time to turn at Beauty's glance,
And watch her feet, how they can dance.*

Your
ANNABEL LEE.

A Deed of Darkness.

An English set owner landed before the bar of justice the other day in the Southend police court, according to "Popular Wireless." He was charging his "B" battery on the power circuit (current for which is cheaper than that for lighting) and had a lamp in the circuit as a resistance. On the facts, he was acquitted; but supposing he had been reading the programmes when the constable entered!

Chain Broadcasting in Scotland.

The Aberdonians have given up buying eggs. They now send the shells to the B.B.C. and have them relayed.

Static?

Harry: "Isn't that pretty good music for a simple hook-up?"

Carrie: "Oh, I suppose, but I wish you would do something to eliminate that simple hic-cup."

For Manicure.

Another novelty that has come into being in order to make the busy woman's life simpler is a polishing cloth in place of the usual paraphernalia of the manicure set. It is made on the same principle as a silver-cleaning cloth, being dressed with nail polish. If used after washing and thoroughly drying the hands, a brilliant and lasting lustre is the result of a moment's rubbing.

Some Features of Next Week's Programmes

1YA NOTES

"RIGOLETTO" AT 1YA

The next opera, from which excerpts will be sung by the Madame Ainsley Quartet for the delectation of all listeners-in to 1YA, will be "Rigoletto." Some of the finest arias from this famous opera have been chosen for broadcasting on Tuesday.

In "Rigoletto" Verdi reached the zenith of his career. The story concerns the gay Duke of Mantua (Mr. A. Ripley), whose life is one long adventure with pretty women. His hunchback jester, Rigoletto (Mr. W. Brough), aids and abets him, to the disgust of others in the court. Unknown to the Duke, Rigoletto has a pretty daughter, Gilda (Mrs. J. Parry), whom he keeps in hiding from the Duke. But they meet, and Rigoletto, not knowing that it is his own daughter, becomes a party to a scheme to abduct the pretty girl to the Duke's quarters. He discovers the plot too late, and vows revenge on the Duke. He seeks a hired assassin, Sparafucile (Mr. M. Ballance), who agrees to murder the man who calls and asks for his sister, Maddalena (Madame Ainsley) that night. Rigoletto induces Maddalena to entice the ever amorous Duke to her house that night. Gilda overhears the plot and resolves to save her ducal lover. Maddalena also would save him. Gilda, dressed as a page, presents herself at the door and is stabbed by Sparafucile; he has been paid to kill a man who calls to see his sister. The body is sewn in a sack and taken to the riverbank, by Rigoletto. Hearing the Duke singing a love-song in the distance, Rigoletto cuts open the sack and finds Gilda, expiring. He collapses on the body.

In the first portion of the programme, which will be of a miscellaneous character, Madame Irene Ainsley will be heard in "Softly Awakes my Heart" and "Absent," two songs in which her beautiful contralto voice will be displayed to advantage. Mr. Walter Brough will be singing the stirring "Border Ballad."

The song which Mr. Arthur Ripley will sing on Tuesday evening at 1YA, "Like a Dream" (from Florenz's "Martha") is believed to be the last air in which Caruso let his voice be heard.



—Webb, photo.

MR. E. A. DOWELL,
Always welcomed on the air at 3YA, where he sings popular songs.

Mr. T. Bloodworth, a name well known in Labour circles, will give a talk at 1YA on Tuesday on the work of the International Labour Office at Geneva, under the auspices of the League of Nations.

The concert of the Auckland Municipal Band in Albert Park will be relayed by 1YA on Wednesday. Interspersed between the band items will be the vocal contributions of the Hazell-Sutherland Duo. First will sing two solos, and there will be two duets, one of them being Tosti's "Parted."

Mr. F. E. Powell will give one of his instructive talks to farmers when he speaks from 1YA on "Concrete and its uses," on Wednesday evening.

A further talk on "Physical Culture" will be given by Mr. Norman Kerr, of the Garryowen Institute, at 1YA on Wednesday evening. These lectures should prove of great service to listeners.

The Premiere Quartet (Miss Mina Caldwell, Miss C. Ormiston, Mr. Barry Concy and Mr. B. O'Malley) will provide the concert on Thursday at 1YA. Two concerted pieces that are sure to be delightful will be "The Bells of St. Michael's Tower" and the "Spinning Chorus" (from "Martha"). Each member of the quartet will also sing solos, and the Bosworth-Hemus-Towsey Trio will play selections from Saint Saens and Tschai-kowsky. Miss Lalla Hemus, cellist, will render a sixteenth century aria. Jazz medleys and popular selections will be played by Mrs. Hugh Morton, pianiste.

An interesting literary talk will be given by Mr. Calford Bell on Thursday evening, when he will speak on "Great Authors."

Breton Folk Songs will be sung at 1YA on Friday evening by the Waita Quartet. In all, three quartets and a trio of these pretty melodies will be rendered. The members of the quartet—Madame C. Towsey, Miss Lola Solomon, Mr. Jas. Simpson and Mr. John Bree—will all sing solos.

The Snappy Three have a very attractive quartet of items for 1YA on Friday evening. They are all of the popular type.

For Mr. J. F. Montague's two appearances at the microphone at 1YA on Friday three items of most diverse character have been chosen. The first will be, "The Impeachment of Warren Hastings" (by Macaulay), and then will follow "A Denominational Garden" and a Dickens sketch, "Montague Tigg." These three items will indicate the versatility of the Auckland elocutionist.

Selections from Schubert and Schumann will be played by the Bosworth-Hemus-Towsey Trio at 1YA on Friday.

The Lyric Quartet (Messrs. McElwain, Thomas, Richards and Ripley), reinforced by the Pali Duo, who play popular selections and Hawaiian melodies, will provide the studio concert at 1YA on Friday until such time as the dance music from Dixieland is relayed.

A special studio concert will be broadcast from 1YA on Sunday evening, after the relay of the service from the Church of Christ. This concert will be provided by the St. Andrew's Quartet, and by the Bosworth-Hemus-Towsey Trio.

NOTES FROM 2YA

"THE MELLOW FELLOWS"

2YA is not unmindful of the fact that its big audience is on the lookout for something new in the way of entertainment, and it is doing its very best to supply the demand.

It has recently discovered a combination living unsuspected in its midst, going under the style of "The Mellow Fellows," and the men who compose it have ideas on the subject of entertainment which should appeal to listeners-in. They are going "on the air" for the first time on Thursday, February 16, and they are determined to give listeners "something different." The party's repertoire runs from coon songs, through musical sketches and ballads to opera—and they claim that they can do one just as badly as the other. We must leave the audience to judge. Some of the "Mellow Fellows" are already well known to 2YA listeners; we know that what this party gives will be worth while.

Associated with the "Mellow Fellows" in what should prove a delightful evening will be Mr. Billy Hart with his inimitable songs at the piano.

The instrumental music will be provided by the Salvation Army's Citadel Silver Band, whose reappearance after an absence from Radioland of over three months will be warmly welcomed. The event is signalled by the further fact that this will be the band's first radio performance under their new conductor, Mr. Herbert J. Dutton, recently from Melbourne. Mr. Dutton for some five years was conductor of the National Staff Band, one of the most outstanding bands in Victoria, and prior to that he conducted the band of the Third Military District. Conductor Dutton is himself an expert cornetist. Listeners will, we feel sure, give him and the members of the Salvation Army Band a cordial greeting.

For Monday evening, February 13, a particularly attractive programme has been arranged by the Renshaw Quartet, some of the best items being taken from the more modern light operas and works.

Miss Nora Greene will sing that glorious aria, "Ahi Rendi Mi," from the opera "Mitrane," which will bring to the fore her rich and appealing contralto voice, while Mrs. Amy Dunn is to render "Love and Music" from "La Tosca," in her own charming and pleasing manner.

Mr. William Renshaw is to give on this occasion that most delightful gem from "Hiawatha," "Onaway, Awake Beloved," and his pure sweet tenor will once again charm Radioland.

Mr. William Davies' fine full bass voice will earn fresh laurels by his rendition of "The Vulcan Song."

The duet from "Merrie England," "It is the Merry Month of May," is to be sung by Miss Nora Greene and Mr. William Renshaw. These two artists are continually being asked for duets, and we are sure that their rendition of this beautiful duet will be more firmly establish them in the esteem of listeners.

The Renshaw Quartet will again present one of their popular Sunday

"The Two Boiled Owls"



S. P. Andrew, 'Photo.

Comical looking gentlemen, are they not? Judging by their picture they are well able to keep each other amused. As a matter of fact they are a pair of very clever entertainers. One of them is a really brilliant musician, one of those fellows who seem able to get all sorts of fun out of a piano without the slightest sacrifice of artistic technique. Jazz, manipulated by this Boiled Owl, is a revelation. It has been said that his sparkling improvisations would make even an Egyptian mummy want to dance the Charleston. As for his companion, his forte is humour. He's so full of it that he can't stop it from bubbling over even when he wants to be serious. Between them they promise to give listeners-in to 2YA some really rollicking times. The Two Boiled Owls will be heard in humorous elocutionary numbers, both verse and prose, novelty piano work, and comedy sketches. These genial customers cannot fail to amuse you. If you're feeling "blue" tune in for them at 2YA on Friday, and the dose of merriment they will give you will be as good as a tonic. The Two Boiled Owls have but one slogan: "Cheerio!"

programmes on February 19. The concerted numbers will include the beautiful quartet "Across the Bar" and Pinstrip's "Spring Song."

Miss Nora Greene and Mr. William Renshaw will be associated in the duet "Beauty's Eyes" (by Foster).

Mrs. Amy Dunn is to present "Spring Had Come," from the famous "Hiawatha," while Mr. Wilbur Davies, ever popular with his sea songs, is to render "The Sea Road."



—Tornquist, photo.

MR. NORMAN KERR.

A striking photograph of the well-known Auckland physical culturist, who is a regular lecturer at 1YA.

The Orpheus Quartet will on Tuesday, February 14, sing "Rose of my Heart," "Goodnight, Pretty Stars," and "A Song of the Sea"—a very breezy number. Mrs. Harris will sing a glorious number from "The Legend of Nerbudda," by Hubert Bath. This work was given by the Orpheus Musical Society last year, and this solo "Shall the Rose Pine" was one of Mrs. Harris' outstanding contributions. It describes a slave telling her mistress not to grieve because her lover has not yet arrived, as he will come all in due season.

Mr. Len Barnes will sing Schubert's famous song "The Erl King." Schubert (1797-1828) was the world's greatest song writer, and he wrote this number at the age of eighteen. The story is one telling of the ride of a father

The Etude Quartet have arranged an interesting programme for Friday, February 17. The quartets comprise "My Own Countess," an arrangement of the beautiful Londonderry air; "O Dry Those Tears," by Del Riego (this is a splendid arrangement of this popular song). The final number is of the lighter variety, Mr. Len. Barnes having arranged that popular fox-trot, "My Blue Heaven," for the four voices. Mr. Ray Kemp delves into negro music for his two numbers. "De Ol' Ark's A-moverin'" is an old negro spiritual, and he sings "Massa's in the Cold, Cold Ground" with the quartet. Miss Rita Arnold is singing "Trees," by Rasbach, one of the most beautiful of modern songs, both in words and music, likening a tree to a beautiful poem. Mr. Frank Skinner has chosen Sinding's "Selvelin," and Miss Gretta Stark will sing "One Morning Very Early," an adaptation of an old English song.

Supplementary to the entertainment provided by the Etude Quartet, "The Two Boiled Owls" will be heard as "The Two Black Crows."

LECTURES FROM 2YA

Dr. A. W. Hill, director of the Royal Botanical Gardens, England, will give a lecture on Monday.

A talk on "Tourists Resorts" will be given by Mr. D. Black on Thursday.

"For the Man on the Land," will be the subject of a talk by a representative of the Agricultural Department on Thursday.

Mr. D. G. Paris will speak on "Athletics" on Friday.

3YA NOTES

The Christchurch Municipal Band, assisted by such well known artists as Miss Renetta Kings, Miss Mabel Spiller, Mr. Robert Samson, Mr. W. Bradshaw, and Mrs. J. S. Temple (elocutionist) will provide the entertainment at 3YA on Monday evening.



—Webb, photo.

MR. CYRIL RISWORTH.
Mr. Cyril Risworth, baritone, who is frequently heard from 3YA.

Following on the London travelogue last week, a form of entertainment which caused quite a furore in listeners' circles in Christchurch and elsewhere, an equally acceptable form of entertainment, although of a different stamp, has been prepared for next week at 3YA. This will take the form of a Mendelssohn oratorio concert. Every item sung by the members of the quartet will be a gem from the magnificent works of this most popular composer. "St. Paul," "Elijah," and "Hymn of Praise" are the works which have been looked to for some of Mendelssohn's

(Continued on Page 14.)

VALVES:—

FOR ALL TYPES OF SETS, AT NEW REASONABLE PRICES.

HIGH-MU 200A SPECIAL DETECTOR	21/-
HIGH-MU 199 UX BASE	10/-
HIGH-MU 201A UX BASE	8/6
HIGH-MU 112 SPECIAL POWER VALVE	17/6
ALLTRON 171 UX SPECIAL POWER	17/6
ALLTRON 201A UX BASE	10/-

ALSO MULLARD-RADIOTRON AND PHILLIPS VALVES.

Add Postage to Money Orders.

Special Discount to Dealers.

Every Valve Tested.

L. B. SCOTT LTD.

CORNER,

MANCHESTER & WORCESTER STS., CHRISTCHURCH.

S. P. ANDREW,

Photographer,

QUEEN ST., AUCKLAND.

STEFFANO WEBB,

Photographer,

HIGH ST., CHRISTCHURCH.

OFFICIAL PHOTOGRAPHERS

To

N.Z. RADIO BROADCASTING COY. LTD.

S. P. ANDREW,

Photographer,

WILLIS ST., WELLINGTON.

DUNEDIN.

ART-LITE STUDIOS

(Chas. M. Brown).

81A PRINCES ST., DUNEDIN.

(Above the Ritz).

Full Programmes for Next

—Copyright—

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

NOTES AND COMMENTS

(By "Switch.")

The following question has been passed on to me by "Maximum" (Wanganui): "Should the lead-in end of an inverted 'L' aerial be higher than the free end? Please quote an authority for your reply." The lead-in should be attached to the lower end of the aerial according to "500 Wireless Questions Answered" (G. P. Kendall, B.Sc., and E. Redpath, authors), and "The Construction of Amateur Valve Stations" (Alan L. M. Douglas, author). A local authority, however, after intense experimentation, considers that the higher mast should be at the lead-in end of the aerial.

Many who took up radio in the natural way have a crystal detector set somewhere in the attic. Anyone with a family, or, even with neighbours, sees times when he would be glad to have a little set all to himself and clamp on a pair of phones to keep out extraneous noises while listening to broadcasts that do not interest the entourage. The weak point of the crystal detector is its limited receiving range. That can be extended, inexpensively, by using a one-valve radio frequency amplifier. Very likely it will make the little receiver reach out five hundred miles, which is about twenty times the usual range of the simple crystal detector hook-up and far enough to pull in an earful any time.

An English writer in drawing a comparison between an entertainment which is broadcast and one which takes place in a hall, says, "It must be borne in mind that the broadcast entertainment is brought into the homes of all sorts and conditions of people, of all ages and both sexes, whereas the ordinary entertainment is attended only by those who, knowing what they will see and hear, feel that they will enjoy the fare which is provided." In broadcasting, the listener is served with a far more diversified programme than is offered at a theatre or hall, and, it naturally follows, that few will enjoy every item of such a programme, but every item will be relished by different listeners.

Some have found it difficult to understand how a radio frequency amplifier amplifies weak signals more in proportion than strong signals, while an audio frequency amplifier amplifies strong signals more than weak ones. The secret lies in the fact that the radio frequency amplifier amplifies the voltage applied to the detector valve, and is not concerned with increasing the power output, while the audio frequency amplifier must amplify the power available to actuate the diaphragm of the phones or the loudspeaker. Vibrating a diaphragm or cone and propagating sound waves that must run through thousands of cubic feet of air and make themselves heard by many ears requires much more energy than it does to increase the grid potential of a valve.

A potentiometer is a useful device in radio frequency amplification. It is known also as a stabiliser, for it helps to prevent the valve from oscillating. It resembles a rheostat in having a coil of resistance wire as its principal element, but instead of being connected in series it is shunted across the terminals of the "A" battery. There is a variable contact in the middle of the coil as well as the terminal contacts at the two ends. From this middle contact a wire leads to the grid, sometimes by way of the inductance coil. The result is that the grid is made positive and the grid circuit absorbs an appreciable amount of power. The effect is similar to that of a "C" battery used to place a biasing potential on the grid.

To the average radio listener "resonance" means very little, but in view of the fact that all reception and broadcasting depends on it, one should become well acquainted with the use of this term. Resonance, in radio, is simply a condition existing in a number of electrical circuits, which allows the action of one to cause the greatest possible response in another. When circuits are in resonance they are said to be "tuned," and one will then have the maximum effect upon the other. When you turn the dials on your receiver you are simply bringing your set into resonance with the broadcast frequency; that is, you are tuning the circuits in the set to the same frequency to which the circuits at the broadcast station are tuned, and, therefore, bringing your set into a condition which will allow the maximum effect to be produced.

"Rongotai" (Rongotai) writes:—"Owing to their proximity to 2YA, many local listeners with valve sets (say four or five) seem unable to get rid of a certain amount of 'mushiness,' even though the radio frequency valves are cut of action. Those whose sets will tune low enough (and most sets do) will find, as I have done, that a marked improvement in sharpness and clarity will be obtained if 2YA's first harmonic (210 metres) is tuned in. On my set a five-valve neutrodyne, 2YA comes in ordinarily at about 45 degrees on the dial, but the harmonic reading is about 5 degrees. Of course, in the latter case it will be necessary to make use of the radio frequency amplifiers to get normal loudspeaker strength. I have found this harmonic of 2YA to give signals slightly stronger than those of 3YA, as received in Wellington."

Sunday, February 12th

1YA AUCKLAND (333 METRES)—SUNDAY, FEBRUARY 12.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's song service, conducted by Uncle Leo, assisted by scholars of the Auckland Baptist Sunday School Choir.
6.55: Relay of church service from St. David's Church. Preacher, Rev. D. C. Herron; organist, Mr. E. C. Crasdon.
8.15: Vocal quartet—St. Andrew's Quartet, "Abide With Me" (Thompson).
8.19: Tenor solo—Mr. Robert Peter, "Believe Me If All" (traditional).
8.24: Contralto solo—Miss Phyllis Gribben, selected.
8.28: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio, Op. 56—Allegro and Andante" (Reissiger).
8.37: Vocal Quartet—St. Andrew's Quartet, "God So Loved the World" (Stainer).
8.42: Bass solo—Mr. Arthur Colledge, "The Lord Worketh Wonders" (Handel).
8.47: Instrumental—Bosworth-Hemus-Towsey Trio, "Trio, Op. 56—Finale" (Reissiger).
8.57: Soprano solo—Miss Adelaide Taylor, "For Every Day."
9.1: Vocal quartet—St. Andrew's Quartet, "O, Gladsome Light" (Sullivan).

2YA WELLINGTON (333 METRES)—SUNDAY, FEBRUARY 12.

- 6 p.m.: Children's service, conducted by Uncle Ernest.
6.55: Relay of evening service from Vivian Street Baptist Church. Preacher, Rev. F. E. Harry; organist, Mr. Chas. Collins; musical director, Mr. A. R. Don.
8.30 (approx.): Studio concert.
Contralto solo—Miss Ngaire Coster, "Cast Thy Burden" (Hamlin).
Instrumental quartet—Symons-Ellwood String Quartet, "Lento from Quartet in F Major" (Dvorak).
Vocal quartet—The Ariel Singers, "This World Is All a Fleeting Show" (Waley).
Instrumental quartet—"Scherzo from Quartet in F Major" (Dvorak).
Tenor solo—Mr. Roy Hill, "In Native Worth" from "The Creation" (Haydn).
Cello solo with string accompaniment—Mr. Geo. Ellwood, "Russian Song" (Lalo).
Soprano solo—Miss Jeanette Briggs, "On Mighty Pens" from "The Creation" (Haydn).
Pianoforte solo—Mr. Frank Crowther, "The Rosary" (Mr. Crowther's own arrangement) (Nevin).
Bass solo—Mr. J. M. Caldwell, "To-morrow" (Keel).
Instrumental quartet—Symons-Ellwood String Quartet, "Marche Militaire" (Schubert).
Vocal quartet—Ariel Singers, "Lead, Kindly Light" (Sullivan).

3YA CHRISTCHURCH (306 METRES)—SUNDAY, FEBRUARY 12.

- 5.45 p.m.: Children's song service from 3YA Studio by Uncle Sam, assisted by scholars from St. Andrew's Presbyterian Sunday School.
7.0: Relay of evening service from St. Luke's Church of England. Preacher, Venerable Archdeacon F. N. Taylor; organist and choirmaster, Mr. G. E. Lomas.
The following after-service concert will be given from 3YA Studio:—
Cello solo—Mr. Harold Beck, "L'Agreable" (Marias).
Tenor solo—Mr. P. Angus, "The Village Blacksmith" (Weiss).
Instrumental trio—Christchurch Broadcasting Trio, "Russian Waltz, Hornpipe, and March Militaire" (Bridge).
Contralto solo—Mrs. D. W. Stallard, "Hold Thou My Hand" (Briggs).
Cello solo—Mr. Harold Beck, "Melody in F" (Rubenstein, arr. Beck).
Tenor solo—Mr. P. Angus, "Love's Coronation" (Aylward).
Instrumental trio—Christchurch Broadcasting Trio, (a) "Cantabile" (Widor); (b) "Hungarian Dance in G Minor" (Brahms).
Contralto solo—Mrs. D. W. Stallard, "Nearer, My God to Thee" (Carey).
God Save the King.

4YA DUNEDIN (403 METRES)—SUNDAY, FEBRUARY 12.

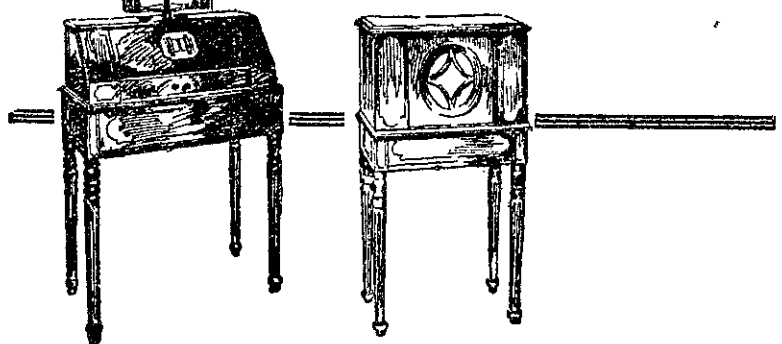
- 5.45 p.m.: Children's song service—Big Brother Bill and children's choir.
7.0: Relay of evening service from Hanover Street Baptist Church. Preacher, Rev. E. S. Tuckwell; choirmaster, Mr. H. P. Desmoulin.
8.15: Studio concert.
9.15: Close down.

Monday, February 13th

1YA AUCKLAND (333 METRES)—MONDAY, FEBRUARY 13.

SILENT DAY.

Music as you never had it in your home before



YOU can just plug in on the house current—tune in with one finger—turn the music up to any volume you want. The music in the concert hall is no clearer or finer than the music Radiola 28 and the famous RCA power Loudspeaker 104 bring to your home. It is the latest in modern radio—thoroughly tried, tested and perfected.

RCA — RADIOLA

SEND FOR ADDRESS OF LOCAL AGENT:

Amalgamated Wireless (Australasia) Ltd.
BOX 830 :: WELLINGTON.

2YA WELLINGTON (420 METRES)—MONDAY, FEBRUARY 13.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
3.30: Lecturette by representative of Messrs. James Smith, Ltd., on "Fashions."
3.45: Selected gramophone items.
5.0: Close down.
6.0: Children's hour—Toby and Jeff. Piano solo, Cousin Irene, selected Songs, Cousin Gerda, (a) "A Tumble-down Shack," (b) "A Little Pink Rose." Birthday greetings, Toby and Jeff. Recitation, Cousin Katie, (a) "Katie Gets the Neck," (b) selected. Aunt Barry talks to little women.
7.0: News, information, market reports, and sports results.
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—"Miserere" from "Il Trovatore" (Verdi).
8.5: Vocal quartet—William Renshaw Quartet, "In England, Merrie England" (German).
8.9: Humorous recital—Miss Isa McLeay, "On Lovers" (Jerome).
8.15: Bass solo—Mr. Wilbur Davies, "The Fishermen of England" from "The Rebel Maid" (Phillips).
8.20: Instrumental trio—Symons-Ellwood-Short Trio, "First Movement" (Rachmaninoff).
8.30: Soprano solo—Mrs. Amy Dunn, "Love and Music" from "La Tosca" (Puccini).
8.34: Steel guitar duo—Berthold and Bent, "Because I Love You" (Berlin); (b) "What Does It Matter?" (Berlin).
8.42: Tenor solo—Mr. Wm. Renshaw, "Onaway, Awake, Beloved" from "Hiawatha" (Coleridge-Taylor).
8.47: Violin solo—Miss Ava Symons, "Berceuse" (Cui).
8.52: Contralto solo—Miss Nora Greene, "Ahl Rendi Mi" from "Aria dell'Opera Mitrane" (Rossi).
8.59: Lecturette—Dr. A. W. Hill, Director of the Royal Botanic Gardens, Kew, England, "The Royal Botanic Gardens, Kew, and Their Connection With New Zealand."
9.15: Bass solo—Mr. Wilbur Davies, "The Vulcan Song" from "Philemon et Baucis" (Gounod).
9.20: Instrumental trio—Symons-Ellwood-Short Trio, "First Movement (2)" (Rachmaninoff).
9.30: Vocal duet—Miss Nora Greene and Mr. William Renshaw, "In This Merry, Merry Month of May" from "Merrie England" (German).
9.35: Violin solo—Miss Ava Symons, "Canzonetta" (D'Ambrosio).
9.39: Recital—Miss Isa McLeay, "Queen Sigrid the Haughty" (Longfellow).
9.45: Soprano solo—Mrs. Amy Dunn, "Waltz Song" from "Tom Jones" (German).
9.50: Steel guitar duo—Berthold and Bent, (a) "Oh, If I Only Had You"; (b) "Me and My Shadow" (Berlin).
9.56: Vocal quartet—William Renshaw Quartet, "At Eventide" from "Cavatina" (Raff).
10.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—MONDAY, FEBRUARY 13.

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Uncle Jack and Aunt Edna. Bedtime stories, songs, and birthday greetings.
7.15: News and reports.
8.0: Chimes. Relay of orchestral selections from Strand Picture Theatre Orchestra, under the direction of Mr. Harry Ellwood.
Studio concert by Christchurch Municipal Band, under the conductorship of Mr. A. J. Schnack, assisted by 3YA artists.
8.15: Tenor solo—Mr. W. Bradshaw, "O, Vision Entrancing" (Thomas).
8.19: March—The Band, "On the Trail" (Chadwick).
8.25: Baritone solos—Mr. Robert Samson, (a) "Good Morning" (Cleaver); (b) "My Friend" (Behrend).
8.31: Selection—The Band, "Souvenir de Russe" (Rimmer).
8.37: Soprano solo—Miss Renetta Rings, "L'Ete" (Chaminade).
8.41: Waltz—The Band, "Victory" (Baynes).
8.47: Humorous recitals—Mrs. J. S. Temple, (a) "A Lesson With the Fan" (Weatherley); (b) "After the Marriage" (M.S.).
8.52: Hymn—The Band, "Bradford" (Owen).
8.56: Mezzo-soprano solos—Miss Mavis Spiller, (a) "The Quiet Country Places" (d'Hardelet); (b) "Youth and Spring" (Steinel).
9.0: Weather forecast.
9.1: Relay of orchestral selections from Strand Picture Theatre.
9.10: Baritone solo—Mr. Robert Samson, "Ora Pro Nobis" (Piccolomini).
9.14: Selection—The Band, "The Great Little Army" (Alford).
9.20: Soprano solo—Miss Renetta Rings, "The Fairy Pipers" (Brewer).
9.24: Fantasia—The Band, "Austral" (Bulch).
9.32: Humorous recitals—Mrs. J. S. Temple, (a) "How Paddy Stole the Rope" (M.S.); (b) "Domestic Asides" (McNeale).
9.34: Fox-trot—The Band, "When Lights Are Low in Cairo" (Myers).
9.40: Mezzo-soprano solo—Miss Mavis Spiller, "Not Understood" (Houghton).
9.43: Selection—The Band, "Spring's Awakening" (Hume).
9.50: Tenor solo—Mr. W. Bradshaw, "Thora" (Adams).
9.54: March—The Band, "Twentieth Century" (Hume).
God Save the King.

4YA DUNEDIN (403 METRES)—MONDAY, FEBRUARY 13.

SILENT DAY.

Tuesday, February 14th

1YA AUCKLAND (333 METRES)—TUESDAY, FEBRUARY 14.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's session—Uncle Leo.
7.15: Talk on "Crops and Their Demand on the Soil," by Mr. H. H. Edwards.
7.30: News and reports.
8.0: Chimes.
8.1: Relay of orchestral overture from Majestic Theatre Orchestra, under the direction of Mr. J. Whiteford-Waugh.
8.10: Baritone solo—Mr. Walter Brough, "Border Ballad" (Cowen).
8.14: Cornet solo—Mr. Eustace Tregilgas, "Hailstorm" (Rimmer).
8.20: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio No. 1—Andante and Allegro" (Handel).
8.28: Tenor solo—Mr. Arthur Ripley, "Like a Dream" from "Martha" (Flotow).
8.32: Contralto solo—Madame Irene Ainsley, "Softly Awakes My Heart" from "Samson and Delilah" (Saint-Saens).
8.37: Relay of orchestral selections from Majestic Theatre.
8.41: Bass solos—Mr. Maurice Ballance, (a) "Ombra Mai Fu" (Handel); (b) "In Cellar Cool" (Old German).
8.47: Instrumental trio—Bosworth-Hemus-Towsey Trio, "At Sunset" (Tofft).
8.54: Relay of vocal interlude from Majestic Theatre.
8.59: Weather forecast.
9.1: Talk on "The Work of the International Labour Office," by Mr. T. Bloodworth, under the auspices of the League of Nations.
9.16: Violin solo—Miss I. Bosworth, "Spanish Romance" (Sarasate).
9.20: Soprano solo—Mrs. J. Parry, selected.

To

Prest-O-Lite

RADIO

BATTERY USERS

For full Recharging and Better Service, bring your Battery to the Authorised Service Station, or ring 42-475.

L. J. PURDIE & CO., LTD.,

MERCER STREET,

Opp. "Evening Post."

WELLINGTON.

Week - All Stations - to Feb. 19

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

- 9.23: Cornet solos—Mr. E. Tregilgas, (a) "Intermezzo" (Mascagni); (b) "Thora" (Adams).
9.31: Contralto solo—Madame Irene Ainsley, "Absent" (Metcalf).
9.34: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio No. 1—Larghetto, Gavotte, and Finale" (Handel).
Scenes from "Rigoletto," produced under the direction of Madame Irene Ainsley. Cast: The Duke, Mr. Arthur Ripley; Rigoletto, Mr. Walter Brough; Gilda, Mrs. J. Parry; Maddalena, Madame Irene Ainsley; Sparafucile, Mr. Maurice Ballance.
Act I.
9.44: Aria—Gilda, "Caro Nome." So intense has been the Duke's love-making that Gilda has quite lost her heart. She, in an ecstasy of love, sings his dear name aloud, saying that it is for ever graven on her heart, and that she loves him.
Act III.
9.50: Aria—The Duke, "La Donna e Mobile." It hardly becomes the Duke to sing of fickleness, he having a lady-love in nearly every street in Mantua; but, disguised as a soldier, he comes to the inn next door to Sparafucile's house, and calls for wine.
9.55: Scene and quartet—Gilda, "Bella Figlia Dell'amore." Rigoletto and Gilda find the Duke making love to Maddalena. In this, the most wonderful of all quartets, the respective pleadings of the Duke, the coquetry of Maddalena, the fierce cries of the outraged father, and the heart-broken sobs of Gilda, who sees another woman in the arms of the man she has given herself to, are vividly brought out.
10.1: Trio and Finale—Gilda, Maddalena, and Sparafucile, "Somiglia un Apollo." Once more before she dies, Gilda speaks to her father and assures him that she will be waiting in Heaven for him with her mother. Calling out: "At last the curse hath crushed me!" Rigoletto falls senseless over the body of his beautiful daughter, the victim of the Duke's perfidy.
10.6: A thought.
10.8: God Save the King.

2YA WELLINGTON (420 METRES)—TUESDAY, FEBRUARY 14.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
3.30: Lecturette—Mrs. Sinclair, of Messrs. S. Brown, Ltd., "Electric Cooking."
3.45: Selected gramophone items.
4.0: Lecturette—Dr. E. A. Line, "First Aid."
4.15: Selected gramophone items.
5.0: Close down.
6.0: Children's hour—Uncle Jasper. Birthday greetings, songs, stories, Mr. Frederick Bentley (Hard-Boiled Herman), of the "Rose Marie" Company. This famous comedian will entertain the children between 6 p.m. and 7 p.m.
7.0: News, information, market reports, and sports results.
8.1: Overture—"La Traviata," Prelude to Act I (Verdi).
8.5: Quartet—Orpheus Quartet, "A Song of the Sea" (Stebbins).
8.9: Italian mandolin—Mr. Lad. Haywood, "Angels' Serenade" (Braga).
8.14: Contralto solo—Miss Lily Mackie, "The Bitterness of Love" (Dunn).
8.18: Instrumental trio—Symons-Ellwood-Short, "Allegro Con Brio and Allegretto—B Flat Trio" (Beethoven).
8.28: Baritone solo and quartet—Len. Barnes and Orpheus Quartet, "In the Hazel Dell" (Root).
8.32: Cello solo—Mr. George Ellwood, "Coronach" (Barratt).
8.36: Tenor solo—Mr. Arthur. Coe, "Thoughts" (Fisher).
8.40: Humour—Mr. Doug. Stark, "Glesca" (Fyffe).
8.46: Quartet—Orpheus Quartet, "Good Night, Pretty Stars" (Shartan).
8.50: Weather report.
8.52: Lecturette—Mr. H. C. South, "Books—Grave and Gay."
9.7: Organ solos—Mr. H. Temple White, "Andante and Allegro" (Bach); (b) "Barcarolle" (Rockwell); (c) "Scherzo" (Faulkes).
9.19: Baritone solo—Mr. Len Barnes, "The Erl King" (Schubert).
9.24: Instrumental trio—Symons-Ellwood-Short Trio, "Allegretto and Finale—B Flat Trio" (Beethoven).
9.34: Duet—Mrs. Alice Harris and Miss Lily Mackie, "Song of the Wind" (Fletcher).
9.38: Cello solo—Mr. George Ellwood, "Chanson de Matin" (Elgar).
9.42: Humour—Mr. Doug. Stark, "Boxing: A Burlesque Lecture."
9.48: Soprano solo—Mrs. Alice Harris, "Shall the Rose Pine?" (Bath).
9.52: Italian mandolin—Mr. Lad. Haywood, "Light Cavalry Overture" (Suppe).
9.57: Quartet—Orpheus Quartet, "Rose of My Heart" (Lohr).

3YA CHRISTCHURCH (306 METRES)—TUESDAY, FEBRUARY 14.

SILENT DAY.

4YA DUNEDIN (463 METRES)—TUESDAY, FEBRUARY 14.

- 3 p.m.: Town Hall chimes.
3.1: His Master's Voice recital.
3.30: Fashion talk by a representative of the D.S.A.
3.45: Studio music.
4.0: Address on the "Domestic Uses of Electricity," by a representative of Turnbull and Jones, Ltd.
4.15: His Master's Voice recital.
4.30: Close down.
6.0: Children's hour—Big Brother Bill and little cousins.
7.15: News session.
7.30: Address by Mr. A. E. Wilson, of the Tourist Department.
8.0: Town Hall chimes.
Concert by the Kaikorai Band, under the direction of Mr. E. Franklin, also assisting artists.
8.1: March—Kaikorai Band, "The Australasian" (Rimmer).
8.5: Humorous songs—Mr. Chas. Rowand, (a) "P.C. 49" (Rickaby); (b) "I Haven't Done It Till Now" (Rowand).
8.13: Recital—Miss Anita Winkel, "Little Tan Shoes."
8.17: Waltz—Kaikorai Band, "Thoughts" (Alford).
8.27: Tenor solos—Mr. Alfred Walmsley, (a) "There Is a Flower that Blooms" (Wallace); (b) "Only the River Running By" (Hopkins).
8.34: Recital—Mr. J. B. McConnell, "The Hand that Might Have Been" (Anon).
8.39: Overture—Kaikorai Band, "The Magic Flute" (Mozart).
8.51: Baritone solo—Mr. Reg. Richards, "The Ginchy Road" (Edward).
8.55: Recital—Miss Anita Winkel, "Not Understood" (Bracken).
9.0: Weather report and forecast.
9.2: Hymn—Kaikorai Band, "Jesu, Lover of My Soul" (Dykes).
9.8: Recital—Mr. J. B. McConnell, "If You Like" (Barker).
9.14: Humorous song—Mr. Chas. Rowand, "That Little Bit Sticking on the Top" (Rowand).
9.19: Selection—Kaikorai Band, "Euryanthe" (Weber).
9.34: Recital—Miss Anita Winkel, "Oh."
9.38: Tenor solo—Mr. Alfred Walmsley, "Maire, My Girl" (Aitken).
9.42: Air varie—Kaikorai Band, "Simeon" (Rimmer).

- 9.50: Trombone solo—Kaikorai Band, "Let Me Like a Soldier Fall" (Wallace).
9.59: Baritone solo—Mr. Reg. Richards, "Friend" (Davie).
10.3: March—Kaikorai Band, "March" from "Tannhauser" (Wagner).
10.8: God Save the King.

Wednesday, February 15th

1YA AUCKLAND (333 METRES)—WEDNESDAY, FEBRUARY 15.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's session—Uncle Tom.
7.15: Talk on "Concrete and Its Uses," by Mr. F. E. Powell.
7.30: News and reports.
7.45: Talk on "Physical Culture," by Mr. Norman Kerr.
8.0: Chimes. Relay of Auckland Municipal Band from Albert Park. Bandmaster, Mr. Christopher Smith.
The Band programme will be interspersed with the following vocal items performed by the Hazell-Sutherland Duo:
Contralto solos—Miss Phyllis Hazell, (a) "The Star" (Rogers); (b) "Beyond the Night" (Meade).
Baritone solos—Mr. Frank Sutherland, (a) "From Oberon in Fairyland" (Slater); (b) "Less Than the Dust" (Woodford-Finden).
Duets—Hazell-Sutherland Duo, (a) "Arise, O Sun" (Craske-Day); (b) "Parted" (Tosti).
10.0: A thought.
10.2: God Save the King.

2YA, WELLINGTON (420 METRES), WEDNESDAY, FEBRUARY 15.

SILENT DAY.

3YA CHRISTCHURCH (306 METRES)—WEDNESDAY, FEBRUARY 15.

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Uncle Peter and Mother Hubbard. Bedtime stories, birthday greetings, and songs.
7.15: News and reports.
8.0: Chimes. Relay of orchestral selections from Grand Picture Theatre Orchestra, under the direction of Mrs. Black.
A Mendelssohn oratorio concert programme by Mr. A. G. Thompson's Dulcet Quartet.
8.15: Soprano solo—Miss Mary Shaw, A.R.C.M., "O, For the Wings of a Dove" from "Hymn of Praise" (Mendelssohn).
8.19: Tenor solo—Mr. T. G. Rogers, "Then Shall the Righteous Shine" from "Elijah" (Mendelssohn).
8.23: Recitals—Mr. H. R. Wilkinson, (a) "The Bishop and the Caterpillar"; (b) "Trouble in the Amen Corner" (Harbough).
8.29: Contralto solo—Miss Nellie Lowe, "Woe Unto Them" from "Elijah" (Mendelssohn).
8.33: Instrumental trio—Christchurch Broadcasting Trio, "First Movement, Trio in C Minor" (Mendelssohn).
8.45: Bass solo—Mr. A. G. Thompson, "O God, Have Mercy" from "St. Paul" (Mendelssohn).
8.50: Tenor solo—Mr. T. G. Rogers, "On Wings of Song" (Mendelssohn).
8.53: Soprano and contralto duet—Misses Mary Shaw and Nellie Lowe, "I Waited for the Lord" from "Hymn of Praise" (Mendelssohn).
8.58: Weather forecast.
9.0: Relay of orchestral music from Grand Theatre.
9.15: Soprano recitative and tenor and bass duet—Miss Mary Shaw, A.R.C.M., Messrs. T. G. Rogers and A. G. Thompson, "And Paul Prayed to the Congregation," "Now We Are Ambassadors" from "St. Paul" (Mendelssohn).
9.20: Vocal quartet—The Dulcet Quartet, "How Lovely Are the Messengers" from "St. Paul" (Mendelssohn).
9.25: Violin solo—Miss Irene Morris, "Andante" from "Concerto in E Minor" (Mendelssohn).
9.35: Soprano recitative and aria—Miss Mary Shaw, A.R.C.M., "So They Were Filled With the Holy Ghost," "I Will Sing of Thy Great Mercies" from "St. Paul" (Mendelssohn).
9.39: Bass recitative and bass solo and quartet—Mr. A. G. Thompson and Dulcet Quartet, "Lord God of Abraham," "Cast Thy Burden Upon the Lord" (Mendelssohn).
9.43: Contralto solo—Miss Nellie Lowe, "But the Lord Is Mindful of His Own" from "St. Paul" (Mendelssohn).
9.47: Instrumental trios—Christchurch Broadcasting Trio, (a) "Serenata" (Tosselli); (b) "Bolero" (Ravina).
9.56: Recital—Mr. H. R. Wilkinson, "Angel Jim" (Hales).
God Save the King.

4YA DUNEDIN (463 METRES)—WEDNESDAY, FEBRUARY 15.

SILENT DAY.

Thursday, February 16th

1YA AUCKLAND (333 METRES)—THURSDAY, FEBRUARY 16.

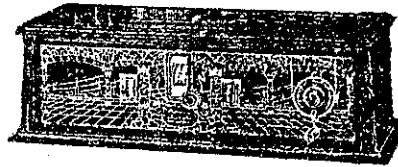
- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's session—Peter Pan.
7.15: News and reports. Book review.
8.0: Chimes.
8.1: Relay of orchestral overture from Rialto Theatre Orchestra, under the direction of Mr. Henry C. Engel.
8.16: Vocal quartet—The Premiere Quartet, "The Bells of St. Michael's Tower" (Stewart).
8.20: Baritone solo—Mr. H. Barry Coney, "What a Wonderful World It Would Be" (Lohr).
8.24: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio, First Movement" (Saint-Saens).
8.34: Contralto solo—Miss Mina Caldwell, "Still as the Night" (Bohm).
8.38: Cello solo—Miss Lalla Hemus, "Sixteenth Century Aria" (Tanaglia).
8.43: Talk on "Great Authors," by Mr. Culford Bell.
8.58: Weather forecast.
9.0: Pianoforte solo—Mrs. Hugh Morton, "Jazz Medley."
9.5: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Chant Sans Paroles" (Tschalkowsky).
9.11: Tenor solo—Mr. Birrell O'Malley, "O, Vision Entrancing" (Thomas).
9.16: Relay of orchestral interlude from Rialto Theatre.
9.31: Soprano solos—Miss Christina Ormiston, (a) "Mighty Lak a Rose" (Nevin); (b) selected.
9.37: Baritone solo—Mr. H. Barry Coney, "When the King Went Forth to War" (Koeneman).
9.42: Pianoforte solo—Mrs. H. Morton, "Popular Selections."
9.46: Contralto solos—Miss M. Caldwell, (a) "Trees" (Rasbach); (b) "Requiem" (Homer).
9.51: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio, Third and Fourth Movements" (Saint-Saens).
9.59: Tenor solo—Mr. B. O'Malley, "Dreams" (Strelles'i).
10.3: Soprano solo—Miss Christina Ormiston, "Solveig's Song" (Grieg).
10.7: Vocal quartet—Premiere Quartet, "Spinning Chorus" from "Martha" (Flotow).
10.11: A thought.
10.13: God Save the King.

2YA WELLINGTON (420 METRES)—THURSDAY, FEBRUARY 16.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
5.0: Close down.
6.0: Children's hour—Uncle Sandy. Birthday rhymes, specially written by Uncle Sandy. Gramophone selection, march. Sketches, Cousin Irene, (a) "Fairies on the Lawn," (b) "Santa Claus and the Mouse." Songs, choruses, and stories.
7.0: News session, market reports, and sports results.
7.40: Lecturette—Representative of Agricultural Department, "For the Man on the Land."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: March—Salvation Army Silver Band, "The Veteran" (Coles).

Metrodyne

7 Tube Set Single Dial Radio



Model 75 (as illus.) £230
Six Tube Table Set £210
Seven Tube Console £238
Six Tube Console £227

Easy to operate. Clear Tone. Good Volume. Will not howl or squeal. Handsome walnut cabinets. A Radio anybody can operate. Write for Catalogue and Price List. Agents Wanted Everywhere. Sole N.Z. Agents:

Royd's Motors Ltd.

CHRISTCHURCH.

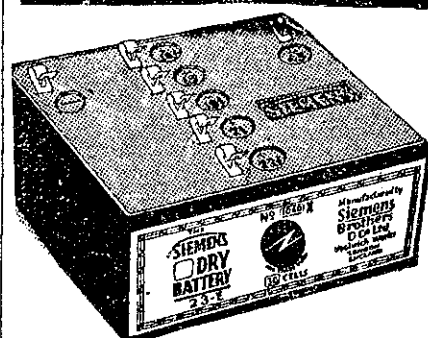
The fundamental wavelength of an aerial is that wavelength to which it will respond when directly connected to the earth. Thus if an aerial has a fundamental wave-length of 200 metres, a transmitting station sending out waves of this length will cause electrical vibrations or oscillations to be set up in the receiving aerial.

It is not generally known that a slight A.C. hum, produced by the nearness of a wire carrying A.C. current, seems to work well as a background for DX reception. The static does not seem so sharp, and the so-called rushing of air background entirely disappears. Make sure too much A.C. hum is not introduced to your set, for that would spoil results altogether.

In many cases when you buy a new condenser, templates are not furnished, and it is often a matter of extreme difficulty to mount the instrument on the panel. A template may easily be made from a piece of cardboard, by cutting a hole for the shaft, then the other holes may easily be marked with an awl.

Many loudspeakers and headphones are not designed to handle high voltages, which, when applied, exerts such a strong pull on the diaphragm, that it is permanently bent into a concave form. This may be repaired by a simple remedy. Take the cap off the unit and reverse the diaphragm. The magnetism will draw it back into its original position.

Where power operated or electrified sets have the eliminators housed in the same cabinets as the set itself, care is necessary in bringing the 110 volt leads into the set. If these run parallel to aerial or earth leads, an objectionable hum may result. The best plan is to separate the 110 volt line as far away as possible from all the other set wiring.



Do you own a moderate sized set?

Then the ideal "B" Battery to ensure perfect reception is the

SIEMENS

Improved

45 Volt Standard Battery.

This thoroughly tried and tested British Built Battery is absolutely reliable and exceptionally long-lived.

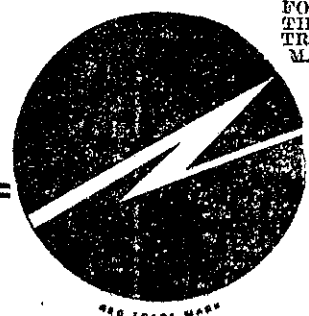
Price £1 0s. 0d.

Enquiries should be placed at once, as the demand is very heavy.

N.Z. Agents:

CORY-WRIGHT & SALMON.

Engineers, Wellington and Auckland.



LOOK FOR THIS TRADE MARK

FADA Radio



No Fada customers except satisfied customers

North Otago Agents for
ELECTRICAL SUPPLIES CO.,
2 Itchen Street,
OAMARU.

FADA Radio

Programmes Continued

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

An Australian listener is becoming impatient over the non-appearance of the promised broadcasting and reception of radio-vision as developed by Mr. Baird, the Scottish inventor. The listener writes to the Sydney "Wireless Weekly":—"Time rolls on, we save our pence, and polish our spectacles, and yet Mr. Baird does not produce even the most modest beginning of commercially-possible television. He demonstrates 'noises' of red-haired heads, and publishes blurred photographs, but when is he going to give the public a receiver and a television service of even twenty miles range? And when he does that, what is he going to show the public that will interest them more than that which they may see at the pictures? I ask because we hear much talk, but see no vestige of 'performance'."

A moderately powered amplifier, using valves of the UX112 or UX171 type, with plates supplied from a 150 or 180 volt source, can, in most circumstances, give results that will satisfy the most critical. The main advantage to be expected through the use of high power is a gain in volume and the increased realism that comes in having, let us say, the volume of an orchestra as it comes from the speaker, equal or exceeds that of the orchestra itself. However, it is obvious that the average set owner is not desirous of having a twenty or sixty piece orchestra going full tilt in his or her living room. In a small room—and most rooms are small nowadays—this would be unpleasant, even painful. Therefore when an amplifier is capable of giving this volume, it is seldom used for reception of the local station.

A fixed condenser installed on the transmitting plant at Bellmore, New York, stands about eight feet high, yet only has a capacity of .002 mfd.

Glazed porcelain insulators and high-grade types of moulded composition insulators are best suited for aerial insulation. Spracers should not carry parallel insulators on each wire; this reduces the insulation instead of improving it. The insulators should be placed in series and strung at each end of the spreader rope.

Many radio workers have formed the bad habit of using a sharp knife to strip off the insulation from wire. While this seems to accomplish the desired results more or less satisfactorily, it is a dangerous practice since the sharp blade of the knife almost invariably cuts not only the insulation but also the fine strands of the wire. In the case of solid wire, the knife often nicks this, weakening it and usually results in a break at the most inopportune time. Good practice calls for the use of a pair of pliers for scoring the insulation, which can then be removed with a pair of blunt notched pliers. A rat-tail file may be used to notch the pliers.

If you are a home-constructor and have unsightly holes in the front panel of your set, procure a piece of black heelball, obtainable from any boot-maker. Fill the holes with this substance, making sure to put something flat at the back of the holes whilst the preparation is being pressed in. A knife may be used with advantage for smoothing off level with the panel, after which it should be polished.

The wireless press of the world is to be represented in a special section in the International Press Exhibition next May. More than 330 wireless periodicals will be represented.

Radio clubs operate broadcasting stations in Sweden, in cities where a company having a monopoly on commercial broadcasting has not taken action. These nineteen stations generally rebroadcast programmes from the official company's stations, especially that at Stockholm.

Germany has twenty-three broadcasting stations in twenty-one cities, all owned by the postal service. License fees from receiving sets pay expenses.

A three-cornered file can be used to drill a hole in a glass panel by locking it in the chuck of a hand drill, and pressing lightly but firmly where the holes are desired to be made. A small cup of putty should be made on the glass around the intended hole. Into this cup is poured a small quantity of turpentine, this serving to keep the point of the file well lubricated.

Quite a number of listeners are surprised to find that in some cases it is possible to hear signals without an earth connection. It is possible to do this because the internal wiring of the set, the leads to the speaker, batteries, etc., are acting as a counterpoise, which is simply another form of an earth. Such a counterpoise, however, is not an efficient one, and for this reason signals are, as a rule, much weaker when the earth is disconnected, and also tuning is likely to be affected. Further, the reception of signals without an earth, indicates that the coils in the set are picking up transmitted currents from local broadcasters (which is bad), and shows that the set should be shielded.

Be very careful when soldering contacts on to lugs of transformers, condensers, or sockets, as the heat held by the lugs is likely to unsolder the other end, and thus an open circuit will be made which may be difficult to find. A good idea is to immediately douse the joint with a piece of rag moistened with cold water, as this will set both the joints.

- 8.6: Old Irish song—The Mellow Fellows, "The Dear Little Shamrock" (Jackson).
8.10: Pianoforte solo—Master Haydn Rodway, "Autumne, Op. 35" (Chaminade).
8.15: Recital—Miss Gladys Gunn, "The Telegram" (Anon.).
8.19: Vocal solo—The Tenor Fellow, "She is Far from the Land" (Lambert).
8.23: Selection—Salvation Army Band, "The Voyage to Heaven" (arr. Hawkes).
8.32: Vocal solo—The Tenor Fellow, "Grendon Fair" (Marie).
8.36: Hymn and selection—Salvation Army Band, (a) "Horbury" (arr. Hawkes); (b) "St. Agnes" (arr. Hawkes).
8.40: Song at piano—Mr. Billy Hart, "Russian Lullaby" (Berlin).
8.44: Cornet solo—Conductor H. Dutton, "Largo in G" (Handel).
8.49: Dirge—Two Fellows, "The Merry Vagabonds" (arr. by The Fellows).
8.54: Selection—Salvation Army Band, "Songs of Ireland" (arr. Sirecton).
9.1: Weather forecast.
9.2: Lecturette—Mr. Black, of the Tourist Department, "Tourist Resorts."
9.15: Cornet duet—Conductor Dutton and Bandsman Goffin, "Ida and Dot" (Losey).
9.20: Humour—The Funny Fellow, "Joe Murgatroyd Says."
9.25: Pianoforte solo—Master Haydn Rodway, "Y Deryn Pur" (Richards).
9.30: Chorus—Salvation Army Band, "And the Glory of the Lord" from "Messiah" (Handel).
9.35: Spasm—The Bass Fellow, "MacNamara's Band."
9.39: March—Salvation Army Band, "Keighley Citadel" (arr. S.A. Band).
9.44: Recital—Miss Gladys Gunn, "The Day Is Done" (Longfellow).
9.49: Song at piano—Mr. Billy Hart, "Positively, Absolutely" (Goslow).
9.53: Selection—Salvation Army Band, "In Immanuel's Praise" (Coles).
9.57: Novelty—The Mellow Fellows, "A Quartet Rehearsal."
10.0: Chorus—Salvation Army Band, "Hallelujah Chorus" (Handel).

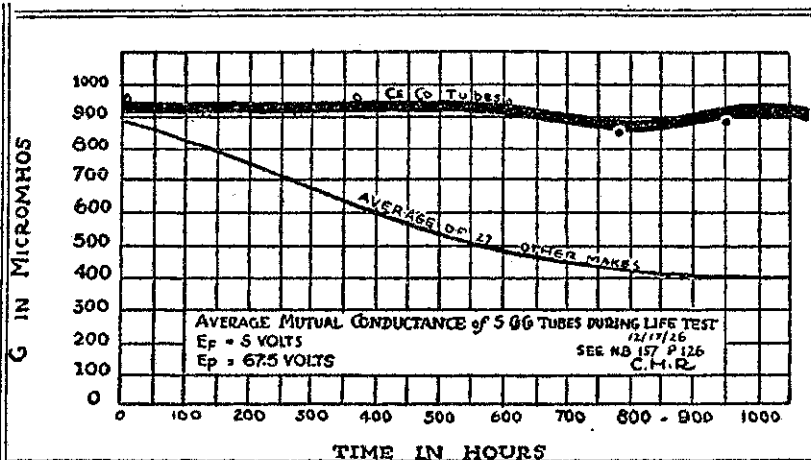
3YA CHRISTCHURCH (306 METRES)—THURSDAY, FEBRUARY 16.

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Chuckle and Aunt Pat. Bedtime stories and birthday greetings.
7.15: News and reports.
7.30: Talk—Mr. A. L. Chappell, of Philatelic Society, "Stamps with Stories."
8.0: Chimes. Relay of orchestral selections from Everybody's Picture Theatre Orchestra, under the direction of Mr. Albert Biggood.
Madame Gower-Burns's Grand Operatic Quartet will present a Maori vocal musical concert.
8.15: Tenor solo and quartet—Mr. Harold Prescott, Madame Gower-Burns, Miss Jessie King, and Mr. Bernard Rennell, "Two Poi Songs" (Alfred Hill).
8.20: Reading—Miss Dorothy Jenkin, A.T.C.L., "Discovery of New Zealand" (Newman).
8.26: Contralto solo—Miss Jessie King, "Waiata Maori" (Hill).
8.30: Instrumental trio—Christchurch Broadcasting Trio, "Andante and Scherzo from Trio in C Minor" (Mendelssohn).
8.41: Baritone solo—Mr. Bernard Rennell, "Hari Tome Moari" (war song) (Horne).
8.44: Cello solo—Mr. Harold Beck, "Rawhiti" (Anson).
8.49: Soprano solo—Madame Gower-Burns, ballad from the Maori opera, "Hinemoa" (Hill).
8.53: Tenor solo—Mr. Harold Prescott, selected.
8.56: Duet, with quartet—Madame Gower-Burns and Miss Jessie King and Grand Operatic Quartet, "Titi Toreia" (Hill).
9.0: Weather forecast.
9.1: Relay of orchestral selections from Everybody's Theatre.
9.15: Contralto solo—Miss Jessie King, "A Maori Slumber Song" (Princess Te Rangipai).
9.18: Tenor solo—Mr. Harold Prescott, selected.
9.22: Instrumental trio—Christchurch Broadcasting Trio, (a) "Farniente" (Cui); (b) "Andante Scherzo" (Mathias).
9.32: Soprano solo—Madame Gower-Burns, "Waiata Poi" (Hill).
9.36: Maori recitals—Miss Dorothy Jenkin, (a) "Hearare Tarotoa" (Jessie Mackay); (b) "A Maori Battle Song" (Jessie Mackay).
9.44: Baritone solo—Mr. Bernard Rennell, "Pokaie Hare Haie" (Hill).
9.48: Cello solo—Mr. Harold Beck, "Maori Lullaby" (James, arr. Beck).
9.53: Baritone solo and quartet—Solo by Mr. Bernard Rennell, and Madame Gower-Burns, Miss Jessie King, and Mr. Harold Prescott, "Song of the Locust" (Hill).
God Save the King.

ASTOUNDING PROOF!!

THE LONGER LIFE AND STEADIER PERFORMANCE OF "CECO" VALVES

GRAPHICALLY ILLUSTRATED IN COMPARISON WITH TWENTY-SEVEN OTHER MAKES.



YOU WILL NOTE THAT

CECO VALVES

PROVED TO BE AS EFFICIENT AFTER 1000 HOURS OF USE AS WHEN NEW.

This test was conducted by one of the best known set manufacturers.

ALSO

CECO VALVES

Improve TONE, CLARITY and VOLUME of any set to such an extent that they are recommended by the most famous Radio authorities.

"THERE'S A CECO VALVE FOR EVERY RADIO NEED."

TRY THEM AND BE CONVINCED.

BOND & BOND LTD.
AUCKLAND, N.Z. AGENTS.

ROYD'S MOTORS LTD.
CHRISTCHURCH, South Island Distributors.

4YA DUNEDIN (463 METRES)—THURSDAY, FEBRUARY 16.

- 7 p.m.: Town Hall chimes.
7.1: Request gramophone concert.
7.30: News session.
8.0: Town Hall chimes.
8.1: Relay of light orchestral music from the Octagon Theatre Orchestra, under the direction of Mr. L. D. Austin.
8.11: Contralto solo—Miss Winnie McPeak, "A Request" (Woodforde-Finden).
8.15: Pianoforte solo—Miss Alice Wilson, F.T.C.L., "Impromptu in G Major" (Schubert).
8.20: Bass solos—Mr. E. G. Bond, (a) "The King's Minstrel" (Pinsuti); (b) "Chip of the Old Block" (Squire).
8.26: Cello solo—Mr. Malcolm Robilliard, "Nocturne" (Chopin).
8.31: Soprano solo—Miss Rita Holmes, "Lovely Spring" (Coenon).
8.35: Relay of orchestral music from the Octagon Theatre.
8.45: Baritone solo—Mr. F. M. Tuohy, "Melisande in the Wood" (Goetz).
8.49: Address by Pastor W. D. More.
9.6: Contralto solos—Miss Winnie McPeak, (a) "Alla Stella Confidente" (Robaudi); (b) "Let Me Sit in Your Garden" (Russell).
9.13: Pianoforte solo—Miss Alice Wilson, "Swan Song" (Farjeon).
9.18: Bass solo—Mr. E. G. Bond, "The Toast" (Squire).
9.23: Cello solo—Mr. Malcolm Robilliard, "Andantino" (Lemare).
9.29: Relay of orchestral selections from the Octagon Theatre.
9.39: Soprano solos—Miss Rita Holmes, (a) "Like a Damask Rose" (Elgar). (b) "Bird of Love Divine" (Wood).
9.46: Pianoforte solo—Miss Alice Wilson, "Nocturne in E Minor" (Chopin).
9.51: Baritone solos—Mr. F. M. Tuohy, (a) "Uncle Rome" (Homer); (b) "Harvester's Night Song" (Power).
9.57: Cello solo—Mr. Malcolm Robilliard, "Aria" (Tengalia).
10.3: God Save the King.

Friday, February 17th

1YA AUCKLAND (333 METRES)—FRIDAY, FEBRUARY 17.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's session—Nod.
7.15: Talk on "Motoring," by Mr. Geo. Campbell.
7.30: News and reports.
8.0: Chimes.
8.1: Relay of orchestral overture from Strand Theatre Orchestra, under the direction of Eve Bentley.
8.16: Vocal quartet—Waiata Quartet, "Sir Fauch and the Fairy" from Breton Folk Songs" (Lehmann).
8.20: Baritone solo—Mr. John Bree, "For the Green" (Lohr).
8.24: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Romance and Humoresque" (Schumann).
8.33: Soprano solo—Miss Lola Solomon, "Voi Che Sapete" from "Nozze di Figaro" (Mozart).
8.38: Recital—Mr. J. F. Montague, "Impeachment of Warren Hastings" (Macaulay).
8.43: Vocal trio—Waiata Trio, "The Nightingale" from "Breton Folk Songs" (Lehmann).
8.48: Pianoforte solos—Mr. Cyril Towsey, (a) "Berceuse" (Barnett); (b) "Valse Caprice" (Barnett).
8.53: Mezzo-soprano solo—Madame Mary Towsey, "Hame" (Davies).
8.57: Relay of orchestral interlude from Strand Theatre.
9.11: Vocal trio—The Snappy Three, (a) "Birth of the Blues"; (b) "Oh, If I Only Had You."
9.18: Recitals—Mr. J. F. Montague, (a) "A Denominational Garden"; (b) Dickens sketch, "Montague Tigg."
9.26: Instrumental trios—Bosworth-Hemus-Towsey Trio, (a) "Cradle Song" (Schubert); (b) "The Wood Nymph" (Lind).
9.34: Vocal quartet—Waiata Quartet, "The Spinning Wheel" from "Breton Folk Songs" (Lehmann).
9.38: Tenor solo—Mr. James Simpson, "Sylvain" (Sinding).
9.42: Mezzo-soprano solo—Madame Mary Towsey, "A Memory" (Thomas).
9.46: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio—Duetto and Finale" (Schumann).
9.53: Vocal trio—Snappy Three, (a) "Me and My Shadow"; (b) piano, jazz selection, (c) "You Don't Like It, Not Much."
10.0: Baritone solo—Mr. J. Bree, "Lolita" (Buzzi-Peccia).
10.4: Vocal quartet—Waiata Quartet, "Sir Peter's Night" from "Breton Folk Songs" (Lehmann).
10.8: A thought.
10.10: God Save the King.

2YA WELLINGTON (420 METRES)—FRIDAY, FEBRUARY 17.

- 2 p.m.: Relay resumes of cricket match—Wellington versus Australia, from Basin Reserve, Mr. A. Varney announcing.
Relay interspersed with selected gramophone items, and lecturette by Miss Christian, of Wellington Gas Company on "Gas Cooking."
6.0: Children's hour—Uncle Ernest. Piano solos, Cousin Claudia, "Sea Pictures" (Harris). Birthday greetings, Uncle Ernest. Stories and poems. Song, Cousin Cecily, "Are You Listening-in, To-night, Mother Dear?" (Williams). Gramophone selection, orchestral.
7.0: News session, market reports, and sports results.
7.40: Lecturette—Mr. D. G. Paris, Wellington Centre, A.A.A., "Athletics."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—Introduction, "Merrie England" (German).
8.5: Vocal quartet—The Etude Quartet, "My Own Country" (traditional).
8.9: Humorous recital—Mr. Peter Dorrian, "The Subaltern Buys the Ring" (Thomas).
8.14: Baritone solo—Mr. Ray Kemp, "De Ol' Ark's A'movering" (Guion).
8.18: Instrumental trio—Symons-Elliwood-Short Trio, "First Movement, D Minor Trio" (Schumann).
8.28: Contralto solo—Miss Rait Arnold, "Trecs" (Resbach).
8.32: Hits and harmonies—The Glad Idlers, (a) "Go, Wash an Elephant" (Terkker); (b) "The Good Little Boy" (Feist).
8.42: Pianoforte solo—Mr. Gordon Short, "Minuet and Scherzo from Sonata in E Flat" (Beethoven).
8.48: Vocal quartet—The Etude Quartet, "O, Dry Those Tears" (Del Riego).
8.52: Humour—The Two Boiled Owls, "The Two Black Crows."
9.0: Weather forecast.
9.1: Lecturette—Editor-Announcer, "Imperial Affairs."
9.12: Tenor solo—Mr. Frank Skinner, "Sylvain" (Sinding).
9.16: Instrumental trio—Symons-Elliwood-Short Trio, "Scherzo from D Minor Trio" (Schumann).
9.26: Humorous recitals—Mr. Peter Dorrian, (a) "A Code of Morals" (Kipling); (b) "Shelter" (Anon.).
9.34: Baritone solo and quartet—Mr. Ray Kemp and Etude Quartet, "Massa's in the Cold, Cold Ground."
9.38: Hits and harmonies—The Glad Idlers, (a) "Hetty the Hard 'Un" (McGill); (b) medley of popular hits.
9.46: Soprano solo—Miss Greta Stark, "One Morning Very Early" (Sander-son).
9.50: Humour—The Two Boiled Owls, "Building a Chicken House."
9.57: Vocal quartet—The Etude Quartet, "My Blue Heaven" (Donaldson).
10.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—FRIDAY, NOVEMBER 17.

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Big Brother. Bedtime stories and birthday greetings.
7.15: News and reports.
7.30: Talk—Mr. J. Stout, president, Christchurch Practical Psychology Club, "Psychotherapy, the Mental Factor in Health."
8.0: Chimes. Relay of orchestral selections from Crystal Palace Picture Theatre Orchestra, under the direction of Mr. A. J. Bunz.
8.15: Vocal quartet—The Melodious Four, "Softly Falls the Shades of Evening" (Hatton).
8.19: Pianoforte solo—Miss Lucy Fullwood, "In the Woods" (Heller).
8.23: Bass solo—Mr. T. D. Williams, "Revenge" (Hatton).

Programmes Continued

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

- 8.27: Dramatic recital—Mr. W. H. Moses, "The Outlaw" (Ogilvie).
8.32: Soprano solos—Miss Frances Hamerton, L.A.B., (a) "Still, the Lark Finds Repose" (Linley); (b) "By Dimpled Brook" (Arne).
8.37: Banjo solo—Mr. Gordon Jackson, "Drifting and Dreaming" (Curtis).
8.41: Contralto solo—Miss Belle Renaut, "The Message" (Purcell).
8.45: Pianoforte solo—Miss Lucy Fullwood, "The Return," being the last and third movement of "Sonata, Op. 81" (Beethoven).
8.50: Tenor solo—Mr. Russell Sumner, "I Attempt from Love's Sickness to Fly" (Purcell).
8.54: Banjo solo—Mr. Gordon Jackson, (a) "Blue Skies" (Berlin); (b) "Doll Dance" (Brown).
8.59: Weather forecast.
9.0: Relay of orchestral selections from Crystal Palace Theatre.
9.10: Soprano and contralto duet—Misses Frances Hamerton and Belle Renaut, "The Moon Reappears" (Purcell).
9.14: Jazz dance music—Lyndon Christie's Dance Orchestra, "Me and My Shadow" (Jolson).
9.19: Baritone solos—Mr. T. D. Williams, (a) "Cease, O My Sad Soul" (Purcell); (b) "More Love or More Disdain" (Purcell); (c) "Ah! How Pleasant 'Tis to Love" (Purcell).
9.26: Jazz dance music—Lyndon Christie's Dance Orchestra, "There's Everything Nice About You" (Wendling).
9.31: Vocal quartet—The Melodious Four, "When Evening's Twilight" (Hartton).
9.35: Jazz dance music—Lyndon Christie's Dance Orchestra, "Spanish Moon" (Terese).
9.40: Soprano solos—Miss Frances Hamerton, L.A.B., (a) "Sweet Robin" (Anon.); (b) "All Will Hail the Joyous Day" (Storace).
9.45: Jazz dance music—Lyndon Christie's Dance Orchestra, "Stepping on the Ivorys" (McLaughlin).
9.50: Contralto solos—Miss Belle Renaut, (a) "Shall I Be Wasting in Despair?" (King); (b) "Since First I Saw Your Face" (Ford).
9.55: Jazz dance music—Lyndon Christie's Dance Orchestra, "Muddy Waters" (De Rose).
10.0: Humorous recital—Mr. W. H. Moses, "The Frenchman and the Flea Powder" (M.S.).
10.9: Tenor solos—Mr. Russell Sumner, (a) "The Thorn" (Shield); (b) "Phyllis, Talk no More of Passion" (Monro).
10.15: Jazz dance music—Lyndon Christie's Dance Orchestra, "The Whole World's Laughing at Me" (Olsen).
10.22: Vocal quartet—The Melodious Four, "Hark, 'Tis the Indian Drum" (Bishop).
10.27: Jazz dance music—Lyndon Christie's Dance Orchestra, "He's the Last Word" (Donaldson).
Lyndon Christie's Dance Orchestra will play dance music at short intervals until 11 p.m.
God Save the King.

4YA DUNEDIN (463 METRES)—FRIDAY, FEBRUARY 17.

- 3 p.m.: Town Hall chimes.
3.1: His Master's Voice recital.
3.15: Address on "Fashions," by a representative of the D.I.C.
3.30: Afternoon tea music from the Savoy.
3.45: Studio music.
4.0: Music from the Savoy.
4.15: His Master's Voice recital.
4.30: Close down.
6.0: Town Hall chimes.
6.1: Children's hour—Big Brother Bill and the cousins.
7.15: News session.
8.0: Town Hall chimes.
8.1: Bass solos—Mr. J. B. Macpherson, (a) "It Is Enough" from "Elijah" (Mendelssohn); (b) "Love That's True" (Anon.).
8.7: Pianoforte solo—Miss A. D. Allan, "Coronach" (Barratt).
8.12: Soprano solo—Miss Roma Buss, "Blue Butterflies" (Dixon).
8.16: Recital—Miss Sheila Neilson, "Hiawatha" (Longfellow).
8.21: Tenor solo—Mr. L. E. Dalley, "Friend o' Mine" (Sanderson).
8.25: Pianoforte solo—Miss A. D. Allan, "Birds in the Tree" (Schäfer).
8.30: Mezzo-soprano solos—Miss Mollie Andrews, (a) "Love's a Sailor" (Kent); (b) "My Old Irish Mother" (Von Tilzer).
8.37: Monologue—Miss Sheila Neilson, "My Tea Shop".
8.41: Bass solo—Mr. J. B. Macpherson, "When a Maiden You Have Chosen" (Mozart).
8.45: Pianoforte solo—Miss A. D. Allan, "Humoresque" (Dvorak).
8.50: Soprano solos—Miss Roma Buss, (a) "Moonlight Song" (Cadman); (b) "Waltz Song" from "Romeo and Juliet" (Gounod).
8.57: Recital—Miss Sheila Neilson, "The Dentist" (Leacock).
9.2: Tenor solos—Mr. L. E. Dalley, (a) "Homeland" (Drummond); (b) "I Hear You Calling Me" (Marshall).
9.8: Mezzo-soprano solos—Miss Mollie Andrews, "Waltz Song" from "Tom Jones" (German).
9.12: Relay of dance music from the Savoy.
10.0: God Save the King.

Saturday, February 18th

1YA AUCKLAND (333 METRES)—SATURDAY, FEBRUARY 18.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's session—Cinderella.
7.15: News and sports results.
8.0: Chimes.
8.1: Relay of orchestral overture from Rialto Theatre Orchestra, under the direction of Mr. Henry C. Engel.
8.16: Vocal quartet—Lyric Quartet, "O, Peaceful Night" (German).
8.20: Tenor solo—Mr. Herbert Richards, "So Fair a Flower" (Willeby).
8.24: Instrumental—Le Pali Duo, "Hawaiian Melodies."
8.31: Humour—Mr. Alan McElwain, "Musical Moments."
8.35: Vocal quartet—Lyric Quartet, "In Absence" (Buck).
8.40: Bass solo—Mr. Ernest Thomas, "When a Maiden You Have Chosen" (Sullivan).
8.44: Relay of orchestral interlude from Rialto Theatre.
8.59: Weather forecast.
9.1: Tenor solo—Mr. Arthur Ripley, "Love Lily" (Davies).
9.5: Humour—Mr. Alan McElwain, selection from the "Sentimental Bloke" (Dennis).
9.10: Instrumental—Le Pali Duo, popular selections.
9.18: Vocal quartet—Lyric Quartet, "The Long Day Closes" (Stillmann).
9.22: Relay of dance music from Dixieland Cabaret by "The Internationals" under Mr. Clyde Howley.
11.0: God Save the King.

2YA WELLINGTON (420 METRES)—SATURDAY, FEBRUARY 18.

- 2 p.m.: Chimes of the General Post Office clock, Wellington.
2.1: Relay resumes cricket match—Wellington versus Australia, from Basin Reserve, Mr. A. Varney announcing.
Relay interspersed with selected gramophone items.
6.0: Children's hour—Aunt Gwen and Aunt Dot and party.
7.0: News, market reports, and information.
7.40: Latest cricket news.

SPECIAL EDISON EVENING.

- 8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—First Battalion, Wellington Regiment Band, "Stars and Stripes Forever" (Souza).
8.5: Introductory announcement.
8.6: Quartet—Melodie Four, (a) "Doan Ya Cry, Ma Honey" (traditional); (b) "Cornfields Medley" (traditional).
8.13: Trio—Symons-Ellwood-Short Trio, "Characteristic" (Hadley).
8.20: Chorus—Wellington Orpheus Musical Society, "Battle Hymns of the Republic"; (b) "Hail, Columbia" (Phyla).
8.28: Violin—Miss Ava Symons, "Alabama" (Spalding).
8.32: American humour—Mr. Vernon Oswin, "Melodrama" by Dr. Oliver Wendell Holmes; and "Sargasso Sea," by McIntosh.
8.39: Song at piano—Mr. Billy Hart, "Where Does Daddy Go?" (Williams).
8.43: Selection—Wellington Regiment Band, "American Airs" (Greenwood).

- 8.47: Speech—Sir Frederick Chapman, president of the English-Speaking Union, "A Eulogy of Thomas Edison, the Great Inventor."
9.0: Soprano solo—Miss Greta Stark, "At Dawning" (Cadman).
9.4: March—Wellington Regiment Band, "Manhattan Beach" (Souza).
9.9: Speech—Mr. W. L. Lowrie, American Consul-General, "Response to Sir Frederick Chapman."
9.20: Chorus—Wellington Orpheus Musical Society, "Sword of Deliverance." Solo—Miss Lily Mackie, "Agnus Dei." Chorus—"Song of the Marching Men" from "The New Earth" (Henry Hadley).
9.32: Address, with musical honours—Mr. Thomas A. Edison, "Message specially recorded for New Zealand listeners on the occasion of his eighty-first birthday."
8.36: Quartet—Melodie Four, "Yankee Row" (arr. Frank Crowther).
9.40: Piano—Mr. Gordon Short, "Keltic Sonata" (McDowell).
9.49: Humour—Mr. Byron Brown, "Our Guide in Rome" from "The Innocents Abroad" (Mark Twain).
9.56: Song at piano—Mr. Billy Hart, "And a Little Child" (Harris).
10.0: Reverie—Wellington Regiment Band, "Bells at Sunset" (McKenzie).
10.6: Chorus—Wellington Orpheus Musical Society, "Dixie."
10.12: Cello solo—Mr. Geo. Ellwood, "Serenata" (Baron).
10.17: Massed voices—"Yankee Doodle" (traditional).
10.22: March—Wellington Regiment Band, "Double Eagle" (J. F. Wagner).
(At the conclusion of the above programme, prominent American residents will give a series of old-time songs and choruses.)

3YA CHRISTCHURCH (306 METRES)—SATURDAY, FEBRUARY 18.

- 6 p.m.: Children's hour—Uncle Sam and Aunt May, bedtime stories and birthday greetings.
7.15: News and reports.
7.30: Sports results.
8.0: Chimes. Relay of orchestral selections from Liberty Picture Theatre Orchestra, under the direction of Mr. Ernest Jamieson.
8.15: Soprano and tenor duet—Miss Mabel Thomas and Mr. David McGill, selected.
8.19: Banjo Band—Beresford Banjo Band, "Minstrel Melodies, Part 1" (Dare).
8.24: Songs at piano—Mr. E. A. Sargeant, (a) "Spring, Spring, Glorious Spring" (Gill); (b) "And there We Went Very Well Then" (Spurr).
8.29: Banjo Band—Beresford Banjo Band, "Fun and Frolic" (Kennedy).
8.34: Soprano solo—Miss Mabel Thomas, "Jewel Song" from "Faust" (Gounod).
8.38: Instrumental trio—Christchurch Broadcasting Trio, "Finale from Trio in C Minor" (Mendelssohn).
8.50: Humorous talk—Mr. Sydney Comfort, "Sydney Speaks to Himself."
8.55: Tenor solo—Mr. David McGill, "Doloroso" (Phillips).
8.59: Weather forecast.
9.0: Relay of orchestral selection from Liberty Theatre.
9.15: Banjo Band—Beresford Banjo Band, "What Good is Good Morning" (Santly).
9.20: Songs at the piano—Mr. E. A. Sargeant, (a) "Bahren Bem Borem" (Kirby); (b) "Two Little Irish Songs."
9.25: Instrumental trio—Christchurch Broadcasting Trio, (a) "To a Fairy Boat" (Hope); (b) "Scherzo from Trio in E Flat" (Reissiger).
9.35: Soprano and tenor duet—Miss Mabel Thomas and Mr. David McGill, selected.
9.39: Banjo Band—Beresford Banjo Band, "Minstrel Melodies, Part 2" (Dare).
9.44: Soprano solo—Miss Mabel Thomas, "I Passed by Your Window" (Brahe).
9.47: Instrumental trio—Christchurch Broadcasting Trio, (a) "Reverie" (Ganne); (b) "Gypsy Song" (Bizet).
9.54: Humorous talk—Mr. Sydney Comfort, "Sydney Once Again Speaks to Himself" (M.S.).
9.57: Banjo Band—Beresford Banjo Band, "Merry-Go-Round" (Folkestone).
10.2: Tenor solo—Mr. David McGill, "Heart of Gold" (Manney).
10.6: Banjo Band—Beresford Banjo Band, "Bonnie Scotland" (Kennedy).
10.11: Relay of opening night dance music from the new Palais Royal Cabaret (by kind permission of Mr. George Bennett). Dance music by Mr. Teddy Jones's Orchestra.
God Save the King.

4YA DUNEDIN (463 METRES)—SATURDAY, FEBRUARY 18.

- 7.15 p.m.: News session.
8.0: Town Hall chimes.
8.1: Orchestral music under the direction of Mr. Chas. Parnell, relayed from the Empire Theatre.
8.12: Baritone solos—Mr. Arthur Lungley, (a) "Phyllis is My Only Joy" (Hobbs); (b) "Go to Bed, Muse" (Jones).
8.19: Violin solo—Mr. A. R. Watson, "In a Monastery Garden" (Ketelby).
8.24: Contralto solo—Miss Irene Horniblow, L.R.A.M., "Slumber Song" (Schubert).
8.28: Flute solo—Mr. J. Stewart, "Hamlet Fantasia" (Gewin).
8.34: Tenor solos—Mr. R. A. Mitchell, (a) "Serenade" (Schubert); (b) "Who is Sylvia?" (Schubert).
8.40: Relay of orchestral music from the Empire Theatre.
8.50: Cornet solo—Mr. D. J. Robertson, "Softly Awakes my Heart" from "Samson and Delilah" (Saint-Saens).
8.55: Soprano solo—Miss Florence Sumner, "The Kerry Dances" (Molloy).
9.0: Town Hall chimes. Weather forecast.
9.2: Baritone solo—Mr. Arthur Lungley, "Since I Saw Your Face" (Ford).
9.6: Violin solo—Mr. A. R. Watson, "Chanson Triste" (Fontaine).
9.11: Contralto solos—Miss Irene Horniblow, (a) "The Linden Tree" (Schubert); (b) "Impatience" (Schubert).
9.17: Flute solo—Mr. J. Stewart, "Les Soupirs—First Nocturne" (Kralkreimer).
9.22: Tenor solo—Mr. R. A. Mitchell, "Lorraine" (Sanderson).
9.26: Cornet solo—Mr. D. J. Robertson, "The Dream of Love" (Millars).
9.31: Relay of orchestral music from the Empire Theatre.
9.40: Soprano solos—Miss Florence Sumner, (a) "Cradle Song" (Schubert); (b) "Robin Adair."
9.46: Violin solo—Mr. A. R. Watson, "Suite in F Major" (Corelli).
9.51: Vocal duet—Miss Irene Horniblow and Mr. Arthur Lungley, "Sweet Kate" (Ford).
9.55: Flute solo—Mr. J. Stewart, "Morceau de Salon" (Terschak).
10.0: Cornet solo—Mr. D. J. Robertson, "Absent" (Metcalfe).
10.5: God Save the King.

Sunday, February 19th

1YA AUCKLAND (333 METRES)—SUNDAY, FEBRUARY 19.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's song service, conducted by Uncle Leo.
6.55: Relay of evening service from Church of Christ. Preacher, Mr. Aldridge; organist, Mr. Ivan Lambert.
To be followed by special concert from studio:—
8.15: Vocal quartet—St. Andrew's Quartet, "Evening and Morning."
8.20: Bass solo—Mr. Arthur Colledge, "It Is Enough" from "Elijah" (Mendelssohn).
8.25: Instrumental trio—Bosworth-Hemus-Towsey Trio, "First Movement, Allegro, from Trio in B Flat Major, No. 9" (Haydn).
8.35: Vocal duet—Misses A. Taylor and P. Gribben, "Lead, Kindly Light."
8.39: Tenor solo—Mr. Robert Peter, "Ye People Rend Your Hearts" (Mendelssohn).
8.44: Contralto solo—Miss Phyllis Gribben, "Woe Unto Them" (Mendelssohn).
8.49: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Andante and Finale from Trio in B Flat Major, No. 9" (Haydn).
8.59: Vocal quartet—St. Andrew's Quartet, "Prologue" from "The Holy City" (Gaul).
9.4: A thought.
9.6: God Save the King.

2YA WELLINGTON (420 METRES)—SUNDAY, FEBRUARY 19.

- 6 p.m.: Children's song service, conducted by Uncle Ernest.
6.55: Relay of evening service from St. Thomas's Anglican Church. Preacher, Rev. C. V. Rooke; organist and choirmaster, Mr. W. A. Collie, L.L.C.M.

The Radio Conference in Washington has adopted the word "Mayday" as the distress call for radio telephony. It is derived from "M'aidez," which, in turn, means "aid" or "help."

A loop aerial is much less effective as a pick-up agency than an indoor aerial, and very much less effective than outdoor aerial, so that by coupling a loop aerial to an elevated aerial, the volume and range obtained from the set connected thereto is materially increased. This refers more particularly to the more distant signal strength obtainable than when the "local" station is being tuned in.

The Wurlitzer Organ at the Arcadia Theatre, Chatswood, Sydney, one of the sweetest toned instruments in the world, will in future be a regular item on 2BL's Sydney programmes. In response to numerous requests, 2BL's musical director has now decided to set apart the higher class music for Tuesdays, Thursdays, and Sundays, whilst jazz and the lighter class music will be broadcast on other days of the week.

In radio, harmonics refer to the incidental waves mostly noticeable in undamped wave operation. These harmonics differ in length and frequency from the true and original operative wave of such transmitters. At times, listeners will hear the harmonics of high-power long-wave stations, while their tuners are set for much shorter wavelengths.

The telephony transmitter at Kootwijk (Holland) is provided with a beam aerial, and experiments have shown that thereby the angle of radiation has been reduced to 30 degrees. Kootwijk sends out voice messages in French, German, English, and Italian every Wednesday between 14 and 15 G.M.T., asking for reports on strength, modulation, and constancy. The call sign is P.C.L.L., and the wavelength is 19 metres.

Cuba has forty-five amateur radio broadcasting stations, and only two others. The amateurs use broadcast wavelengths, and put entertainment on the air.

The hot wire ammeter is an instrument used in radio transmission work, which measures current in amperes by means of a wire expanding in proportion to the heat generated by the passing current.

Very few people seem to realise what a delicate piece of apparatus a fixed condenser is. Those who have taken this little device to pieces will have found that it contains layer upon layer of very thin waxed tissue paper coated on either side with tinfoil. Naturally, it would be a very foolish thing to lay a red-hot soldering iron on such a piece of apparatus, as the heat of the iron would melt the wax on the tissue paper, and thus lead to a breakdown in the dielectric of the condenser.

All builders of their own sets know the difficulty in rubbing down the ebonite bought for panels to the necessary matt surface, as for some reason it is only to be bought in the polished state. The usual recommendation is to rub down with emery or crocus powder, but the result is usually a scratched piece of ebonite that looks ugly. The private individual cannot get hold of the machinery that makers have for the purpose, but a really fine matt surface can be gained by getting a small piece of the cream grit that monumental masons use for rubbing down lead letter inscriptions, and using that instead of the emery or crocus powder.

A lady who had two songs to sing, seemed perfectly at ease until she entered the studio of 2BL, Sydney, and handed her music to the accompanist. Mr. Vern Barnett, who was to accompany the lady, was suddenly startled to find that she, owing to "microphone fright," had forgotten completely the names of the pieces she had to sing, and looking feverishly at the two pieces on the piano stand, found the artist was singing something different altogether. Reconciling himself to his fate, Mr. Vern Barnett had, perforce, to vamp without music, and the result can easily be imagined.

If it became necessary for a Frenchman to explain in detail some intricate radio circuit, it would be certain to take some time, judging by their means of saying "wire" and "base-board." For the former item they say "fil de metal," and for the latter "table et pedestal."

A shortwave wireless service has been opened between Paris and Hanoi (French Indo-China). This will assist in the relaying of messages from France to the most distant colonies, via French Indo-China.

Beginners sometimes express curiosity as to the system of allotting the call signs to the various Australian broadcast stations. In the Australian system the figure denotes the State or district in which the broadcasting or experimental station is located. The figure 1 is not used for some reason or other, but 2 represents New South Wales, 3 Victoria, 4 Queensland, 5 South Australia, 6 West Australia, 7 Tasmania, and 8 the interior as at Alice Springs. The letters following the figure are arbitrarily fixed. The authorities endeavour to indicate the name of the operating company by using two of the initial letters, except when they might be confusing. For instance: 2FC stands for 2—New South Wales; F—Farmers; C—Company. Also 8AR means 8—Victoria; A—Associated; R—Radio.

The Browning Drake Four Valve Receiver

A useful resume of constructional details

(By Megohm)

THE construction by readers of the Browning Drake four-valve receiver as described in this column some time back, has been generally attended by good results, and many spontaneous letters of appreciation have been received from satisfied constructors. As the numbers of the "Record" containing this article have been out of print for some time, it is evident from inquiries continually received, that many readers are still desirous of constructing this popular and efficient receiver. A resume of the descriptive article is here given in altered, and, in some parts, abridged form.

Illustrations include the theoretical circuit diagram, construction of the aerial tuning coil with strips of celluloid, the radio-frequency transformer with primary and tickler coils, construction of the primary from cardboard discs, and the neutralising condenser.

THE AERIAL TUNING COIL.

This is wound on a 3-in. cardboard former, the 20's s.w.g. tinned, or enamelled wire being spaced with 24's enamel wire, which is then wound off, leaving the correct spacing between turns. Celluloid cement is then applied to hold the wires to the celluloid strips.

ture must be made up in a very small bottle, 1oz. or less, kept well corked, and applied with a stick. It sets in two to three hours.

VARIABLE CONDENSERS.

Two are required, .0005 mfd. being most suited for the aerial tuner. If a condenser of less capacity is used, more turns are required on the coil. For the R.F. secondary tuner any of the following may be used. Vernier dials are necessary.

- Condenser .0005, 3in. coil, 56 turns.
- Condenser .00035, 3in. coil, 68 turns.
- Condenser .00025, 3in. coil, 78 turns.

AERIAL SERIES CONDENSER.

Either a variable midget or a fixed .0001. The smaller this value, the greater the selectivity, but too small a capacity reduces volume unduly.

NEUTRALISING CONDENSER.

With space-wound coils as specified, the self-capacity of the circuit is kept to a minimum, with the consequence that many factory-made neutralising condensers have too great a minimum capacity, and therefore some of the moving plates must be removed. The only alternative is for the constructor

pointer and scale on the front, the pointer of brass soldered to the head of bolt.

At the top are three 1-8-inch brass bolts, the two outside ones for connections, the centre one, B on side view, has the head outside the ebonite, inside the connecting strip (A), a nut, then the fixed plate, kept in place by another nut. At C is the bolt supporting the moving plate, the head outside the ebonite, then the pointer soldered on, then a washer, the ebonite, connecting strip A, two nuts, the moving plate, and a securing nut. The nuts must be adjusted so that the plate may be smoothly turned by a screw-driver inserted in the slot in head of bolt. A metal screw-driver introduces too much capacity to be any use to turn the neutraliser, so a tapered stick 10 inches long should be sharpened like a screw-driver, or a piece of celluloid cemented into a slot at the end (D)—metal should not be used. AA are strips of 30's brass or copper to connect the corner bolts to the fixed and moving plates as shown.

THE RADIO-FREQUENCY TRANSFORMER.

In three parts, the primary, a coil of few turns, inserted inside the first

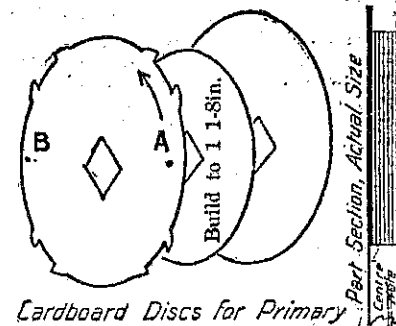
THE WIRING DIAGRAM.

This is drawn to scale, and the position of all components on the radio-frequency side should be carefully noted and followed, as no crowding is permissible here.

British valve holders are shown in the diagram, but constructors are advised to adopt American UX holders, as British valves are now all stocked with American bases. A wire connects the filament positive of each valve, as shown, running under the baseboard. An output filter is shown incorporating a choke coil, as described in another column, but this is only necessary if a power valve is used in the last audio stage, with more than 90 volts on the plate. If the filter is not to be included, connect output jack to plate of last valve, and to "positive B power," which if the same B voltage is to be used on both audio valves,

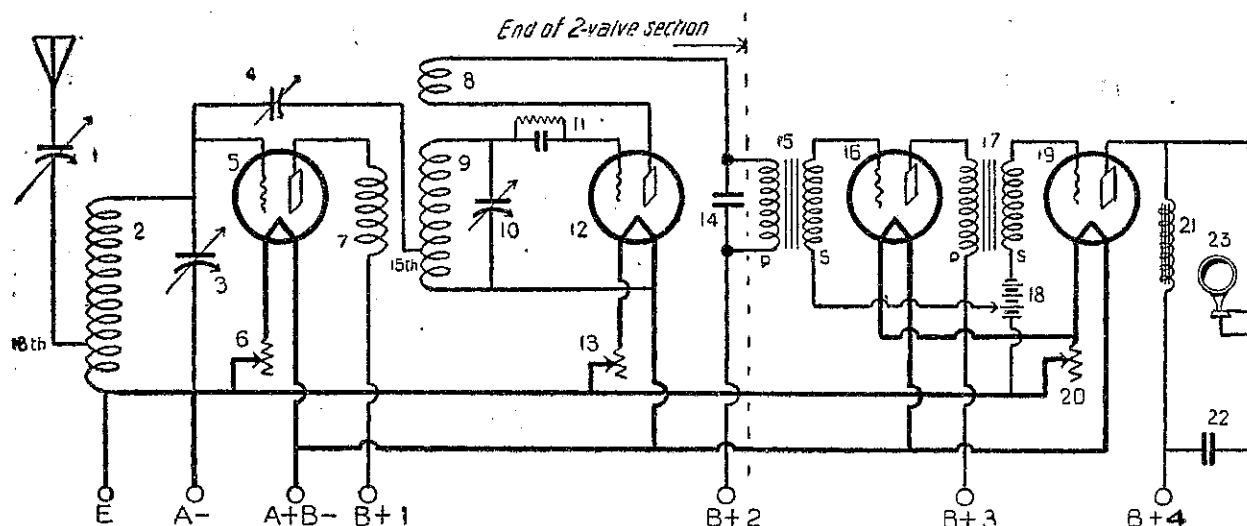
HOW TO NEUTRALISE.

When all is complete, the operation of neutralising is carried out as follows: Tune in a loud station near



Cardboard Discs for Primary

3YA, maximum volume being carefully obtained without oscillation, re-centre of broadcast waveband, 1YA for



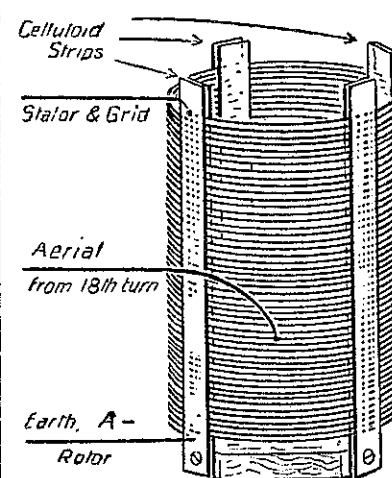
THEORETICAL CIRCUIT DIAGRAM.

- (1) Aerial series condenser, midget variable or fixed .0001. (2) Aerial inductance, 20's enamel spaced with 24's, tapped at 18th from earth end. (3) Aerial tuning condenser, .0005 mfd. (4) Neutralising condenser. (5) I.F. valve, medium impedance. (6) R.F. rheostat, 30 ohms. (7) Primary of R.F. transformer, 14 to 20 turns of 30's wire. (8) Rotating tickler, say, 16 turns 30's. (9) Secondary coil of R.F. transformer; 22's wire, spaced, tapped 15th from filament or primary end. (10) Secondary tuning condenser. (11) Grid leak, 2 to 4 megohms, and condenser, .00025. (12) Detector valve, medium or high impedance. (13) Detector rheostat, 30 ohms. (14) Fixed .001 condenser over 'phones or primary of transformer. (15) First audio transformer, or resistance unit. (16) First amplifier valve, low impedance. (17) Ferranti A.F.3 transformer. (18) Grid bias or C battery, voltage to suit valves. (19) Second amplifier, power or super-power valve. (20) Output choke, 20 to 50 henries. (21) Fixed condenser, 2 mfd. (22) Loud speaker. B1, 2, 3, 4, are connected to various B voltages as required by valves. All wire sizes are S.W.G.

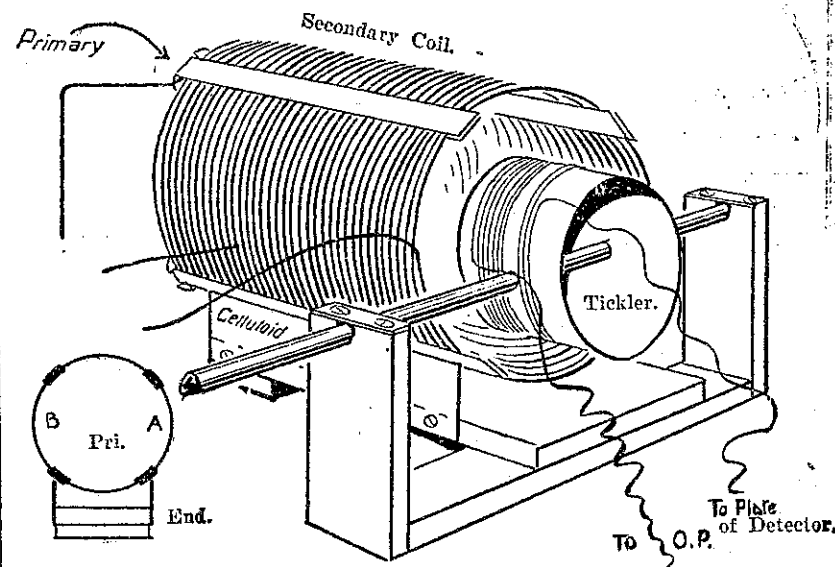
underneath, then duplicate strips are pressed over the cement on the outside, and the whole left to set for a few hours, when the former can be cut through and taken out, leaving the 65 turns supported by the celluloid strips alone. A tip is soldered to the 18th turn from the earth or lower end. The coil is screwed to a wood base by screws through the celluloid strips. The celluloid cement is made by dissolving chips of celluloid in liquid acetone obtained at the chemist's. The mix-

to make a suitable one, which is not a difficult matter. The diagram illustrates the construction of such a neutraliser. A piece of ebonite 2 1/2 by 1 1/2 in. forms the panel, supported by a slip of wood, 1 1/2 by 3/4 by 3/8 in. Only two plates should be required, made of 22's brass sheet the size shown. If the capacity is found to be too small, another fixed plate may be added, spaced with a nut. Though not essential, it is handy to have a

turn of the secondary coils, which is wound on a 3-in. former in the same way as the aerial coil, with celluloid trip supports. Note how celluloid strips are screwed to the sides of the wood base, the coil strips being cemented to the top edge of these. At the opposite end to the primary coil, is a rotatable tickler, 2 inches in diameter, on which are wound unspaced, ten turns on one side and four or more extra turns on the other side as required. The wire to use is 30's enamel or cotton-covered. The wire for the secondary coil is 22's tinned or enamelled, turns as given under "Variable Condensers." Care must be taken that the three coils of the R.F. transformer are all wound in the same direction and so placed in position. The primary coil may be wound in a 1-8-in. slot formed by two discs of cardboard cut as shown to just fit in the end of secondary coil, the 1-8-in.



space between being made by discs 1/8-in. less in diameter glued together to make 1-8 thickness, the two larger discs being glued outside. The beginning of the wire comes through the hole A and winding is carried out in the direction of the arrow, finishing through B. A connects to plate of R.F. valve and B to positive of R.F. valve. The primary coil is to be wound as irregularly as possible in the slot, and is sometimes constructed without a slotted former by winding the wire closely jumbled on a former or bottle to make the coil a fit for the inside of secondary, then it is bound with thin thread and tied in position by threads over the ends of the celluloid strips of secondary coil. The secondary coil is tapped at the fifteenth turn from the primary or filament end, this tap connecting to one side of the neutralising condenser.



will be connected to "positive B audio" with a short piece of wire, or "jumper." If the filter is not fitted, a fixed condenser of .001 or more, best determined by trial, must be placed across the output, and in any case this may be found to effect a great improvement in tone of the speaker.

A fixed condenser of not less than .001 mfd is shown across the primary of the first audio transformer, and those constructing a two-valve set should not omit this across 'phones, otherwise regeneration may be difficult to obtain. Sometimes a grid-leak of 4 megohms will be found necessary to produce smooth oscillation. This depends to some extent upon the valve used.

Two transformers are included in the audio circuit, any good make of 3 or 5 to 1 ratio in the first stage, and a Ferranti A.F. 3 in the second. In place of the first transformer, especially if a cone speaker is employed, a Philips resistance-coupling unit will give extremely good results. This unit, costing 25s., is provided with four market terminals, and connects up in place of the transformer without any alteration in the wiring.

The valve preceding the Ferranti transformer should not require a plate current exceeding 4 milliamperes at the voltage employed on the plate.

action being turned well down. Next turn out the filament of the R.F. valve, then with the neutralising stick turn neutralising condenser until signals are inaudible or at minimum strength, then turn on filament of R.F. valve, and the station should come through well. Now see that the variable condensers are both at maximum tuning; if not, they must be altered to get the

EARN MORE MONEY—

SEE THE WORLD!

In this day of specialisation, the trained Wireless Operator commands a highly paid position in congenial surroundings. His responsibilities are increasing every year, and the demand for trained men exceeds the supply.

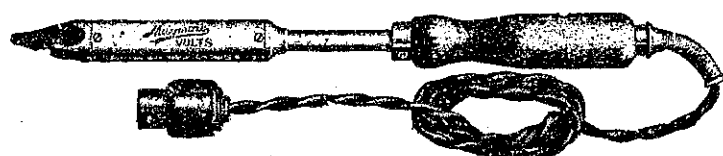
Get into the lucrative profession NOW.

Write To-day for Prospectus.

MARINE WIRELESS SCHOOL,

248 THE TERRACE, WELLINGTON.

10 Years' Coaching Experience.



ELECTRIC SOLDERING IRONS.

	(Post Free)		
Radio Pattern	No. 10026	14/6	15/2
Light Duty	No. 10020	17/6	18/2
Medium Duty	No. 10022	21/-	22/-
Heavy Duty	No. 10027	25/-	26/-

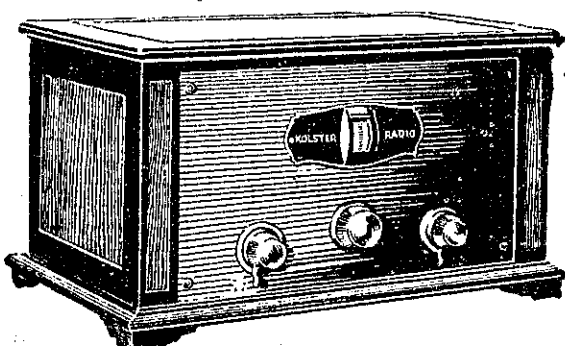
Obtainable at all stores, or write:

McLEAN & ARCHIBALD

New Zealand Agents,

29 WILLIS STREET, Box 940. WELLINGTON.

KOLSTER RADIO



Hearing a Kolster 6 Valve Set will make you dissatisfied with anything less.

Let us demonstrate, without obligation, this latest product of Federal-Brands.

PRICE (Set only):

INTERNATIONAL RADIO CO. LTD.

FORD BUILDINGS WELLINGTON. AUSTRALASIAN AGENTS.

SILVERTOWN RADIO ACCESSORIES

BUY BRITISH GOODS

Interval transformers,—	22/6 each	Ebonite Panels, 24 x 7 x 3-16,	11/-; 21 x 7 x 3-16, 9/6;
Straight line Condensers,—	.0005, 13/- each	19 x 7 x 3-16, 9/-.	
	.00025, 11/6 each	Filament Rheostats, 30 ohm and	6 ohm, 6/- each.
Variable Condenser, Ebonite		Antimicrophonic holders—	3/- each
ends—	9/6 each	Silvertown Speakers, 70/- each	

165 MANCHESTER STREET, CHRISTCHURCH. SILVERTOWN CO.,

BROWNING DRAKE PARTS

OFFICIAL "NATIONAL" KIT (for Home Assembly)	£6 0 0
AIRZONE COILS, on Celluloid Former	1 2 6
AIRZONE COILS, on Bakelite Former	2 0 0
W.R.C. CONDENSER, .0005, variable	12 0
AMSCO CONDENSER, .0005, variable	1 0 0
W.R.C. 11-PLATE AERIAL SERIES CONDENSER, variable	5 3
BENJAMIN SPRING UX SOCKETS	4 6
PARKINSON UX SOCKETS	2 6
FORMO, ENGLISH TRANSFORMER	15 0
GENERAL RADIO TRANSFORMER	1 15 0
AMSCO RESISTANCE COUPLING UNIT, complete	14 6
CHOKES, Thorndarson, 30 Henries	1 1 0
CHOKES, Emeco, 10, 20, 50 or 100 Henries	1 1 0
2 mfd. DUBILIER, fixed Condenser	9 0

VALVES, PHILIPS, RADIOTRON, OR MULTIARDS.

ASK FOR OUR 1928 CATALOGUE.

Thos. Ballinger & Co. Ltd.

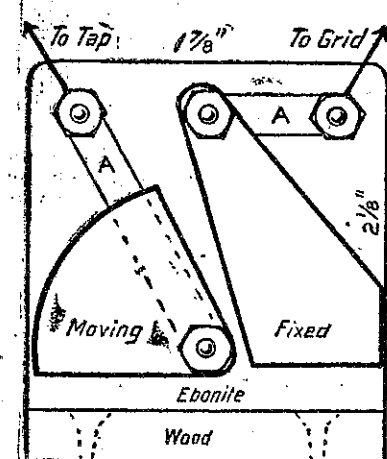
SHOWROOM:

58-62 VICTORIA STREET, WELLINGTON.

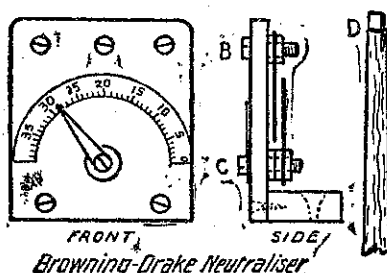
"Where the Quality Goods are Sold."

The Browning Drake Receiver---Continued

best tuning, and the process of neutralising is gone through again. The second attempt is practically certain to be correct. If neutralisation cannot be obtained, reverse the connections to the R.F. primary marked A and B, and try again. If it cannot be obtained either way, it may be an indication that the capacity of the neutraliser is too great or too small, and in either case the correct valve must be substituted.



Back View—Full Size



Browning-Drake Neutraliser

SUITABLE VALVES.

It is important that a valve of only medium impedance be used in the R.F. stage. This means an impedance of 12,000 to 16,000 ohms, the UX201A (15) having the former figure, and the PM3 (16) the latter. The figures in parentheses are the requisite number of primary turns, approximately, as a turn or two more or less may be found to give greater volume.

A useful list of valves and their characteristics was published on January 13, and every constructor should file this for reference. From this list a valve may be chosen for any purpose with a knowledge of its exact suitability. Primary turns increase as impedance increases, and it is advantageous to keep primary turns to the minimum that will give good results. The following are approximate turns to suit

varying impedances: 20,000, 22; 18,000, 20; 16,000, 16; 14,000, 15; 12,000, 14; 8,000, 12.

The 201A valve has been used in all four stages of this receiver, but

such an arrangement is not always the best, and would not suit dry-cell A batteries. As detector the 201A, PM3, or BM3A, the latter especially suited where a first stage of resistance comp-

ing is included. To precede a resistance unit the PM3A (4 volts), or Philips A224, A425, or A360 valves are suitable, requiring 2, 4, and 6 volts on the filament respectively.

The matter of audio valves was treated last week in a two-valve amplifier article, and perusal of this will prove useful to intending constructors.

THE "RECORD" B BATTERY ELIMINATOR

LETTER FROM A SATISFIED CONSTRUCTOR

A Christchurch reader set out to construct the B eliminator a while ago, and up to completing the transformer was successful, when a hitch occurred, the symptoms were explained to the writer, and a "short" was suspected, as subsequently turned out to be the cause of the trouble. Here is the constructor's letter.

"I have got the eliminator going at last, and the results are splendid, quite equal to the accumulator high-tension battery I have. On two occasions have had continuous runs of approximately six hours, and the transformer was as cool at the end of the run as at the start. The trouble with the transformer was caused by one of the 'stampings' cutting through the insulation when pushing in the last few to get them as tight as possible, thus 'shorting' the filament winding. Needless to say, this did not occur the second time. Again thanking you for your kind help, and congratulating you on designing such an efficient instrument.

"Megohm" congratulates this constructor on his perseverance in face of bad luck. The construction of an eliminator is no small affair, and calls for care and patience from start to finish. But for the amount of trouble it will save when working, it is well worth while. Careful construction will bring its reward, and no "sling-together" methods should be attempted.

The care required in putting in the last few laminations was mentioned in the instructions, and a recommendation was given to slope off the lower corners of the last few T's. It would be a wise additional precaution if constructors would, as soon as the laminations begin to get tight, narrow the long leg of the T's by an eighth of an inch on each side to prevent any chance of cutting the manilla, which should be double thickness. It is important that the packing should be tight as any looseness tends to produce mechanical hum. Another point is to put each of the last few laminations in under the outside one, so that friction on both sides is taken by metal instead of by the manilla. If it is found that a short piece of tin can be pushed in at either end to tighten the pile, this should be done. All sharp edges should be carefully rounded off the last few laminations—it pays.

This constructor was unable to procure a Raytheon tube, and is for the time being using two P.M. 4's as rectifiers. With these valves the total current consumption of the eliminator is about six watts. With a BH Raytheon tube the consumption increases to about ten watts, owing possibly to a small amount of current being by-passed between the electrodes in the tube.

It is quite an easy matter to check the amount of current consumed by

reading the household electricity meter during the daytime when no other current is being drawn. The "hundreds" dial only need be watched. Each division on this dial equals ten watts. Take the consumption of the eliminator for one hour, and if it is efficiently constructed it should not show much more than one division (10 watts) on the dial in question. If only a little over half a division is indicated in one hour, the highest efficiency has been secured.

A thousand watts for one hour is one unit of electricity, for which the average price is sixpence. One unit will therefore provide ten watts for one hundred hours, and six watts for 166 hours.

Quite a number of readers are wisely "taking their time" in building the eliminator, and the constructor in question is the first to report the finish of his task.

WIRING UNDER BASEBOARD.

In the issue of October 28 a diagram was given of the wiring under baseboard, with figures for reference. As the instructions progressed, there appeared to be sufficient data to guide constructors without referring to these numbers. A correspondent has just written asking for references to these figures, and as it took some time to trace out the numerous connections, they are given here as an additional guide to constructors.

- 1 to one side of all fixed condensers, and joins to 2.
- 2 to H.T. negative terminal on left of panel.
- 3 to H.F. resistance: Other end to condenser 5.
- 4 to detector resistances: Other end to condenser 4.
- 5 to L.F. resistance: Other end to condenser 3.
- 6 to three resistance arms: Other end to condensers 1 and 2.
- 7 to condensers 6, 7, 8.
- 8, 9, to rheostat.
- 10 to H.T. 1 on transformer (fuse).
- 11 to H.T. centre tap.
- 12 to H.T. 2 on transformer (fuse).
- 13, 14, to choke coil.
- 15 to filament centre tap.
- 16 to plate terminal valve socket.
- 17 to transformer panel (marked "rheo.").
- 18 to Fil. 1 on transformer panel.
- 19 to Fil. 2 on transformer panel.
- 20, 21, to same filament terminal of each socket.
- 22, 24, to other do.
- 23 to plate terminal valve socket.
- S to tin case. Tin partition and condenser holders should be connected to the case by a soldered wire.

SUPER-POWER VALVES.

When running a super-power valve in the last audio stage, an extra fuse and terminal can be provided below the rheostat, and through this the full high-tension may be applied to the plate of the last valve, a 2 mgd. condenser being placed across this output in the eliminator. This method gives increased plate voltage for the last valve, and also reduces the work for the L.F. resistance.

A reminder is given that when the filament output is no longer required for rectifier filament heating, it may be quite successfully used to heat the filament of the last power-valve, provided that it has a robust filament to retain the heat between cycles. The P.M. 254 or 256 type work well on this system, but leads from the eliminator to the set must be twisted together to neutralise the a.c. hum, which might otherwise be picked up by the set. Alterations required for power-valve filament heating are described in the article.

The eliminator construction articles appeared in seven issues of the "Record," commencing October 14 and ending November 25, 1927.

A correspondent points out that the gravity type of Daniel cell will work quite well with a 1 to 80 solution of sulphuric acid and water.

A correspondent asks for advice regarding the use of a kite to hold a vertical aerial. This is an early and primitive method of getting a wire skywards. Marconi used small balloons

for the purpose in early attempts. Under modern conditions a kite aerial cannot be more than an experiment, and would be just about as unreliable as possible, and the best advice is to leave it alone and put the money into a pair of good high poles.

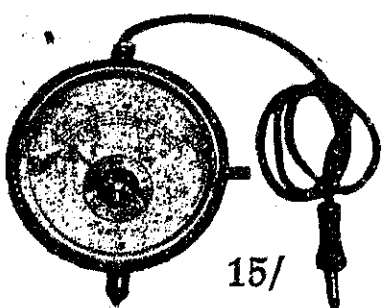
A Christchurch correspondent inquires about the possibility of an amateur constructing a bar amplifier. Depends upon the constructor's capabilities—failing considerable experience in construction, this is best left alone.

It is estimated that upon a basis of five persons to each receiver, 90 million people at present listen-in. This represents 9 per cent. of the total population in zones which to-day enjoy a reliable broadcasting service.

"Megohm" does not claim "perfect" reception for the amplifier recently described, although that word inadvertently appeared in the heading. However, the set is one that will give highly-satisfactory results if proper care is taken in construction.

"Fuzzled" (Ohakune), (no name).—Call at P.O. for letter.

The latest type of Brandes variable condenser impresses one as a well-constructed piece of apparatus, precision, and finish being at once apparent. A four-inch bakelite dial carries the scale, and the central knob actuates a 60 to 1 vernier with milled friction drive, giving perfectly smooth action free from any suspicion of backlash. A shipment of these in two values, .0005 and .0003, has just been landed by the International Radio Co., Ltd., Wellington.



DON'T GUESS! BE SURE! USE A BATTERY VOLTMETER.

Buy BRITISH Goods!

Agent for:

FERRANTI TRANSFORMERS
FORMO COMPONENTS.
DUBILIER GOODS.
T.C.C. CONDENSERS.

A. E. STRANGE

404 Worcester Street,
CHRISTCHURCH.
Telephone 3707.



If you haven't a Good Radio—Hail the World

is Passing you by!

KING 5-VALVE NEUTRODYNE SETS, complete with

Speaker, Batteries, Aerial Wire, etc. From £36/10/-.

BROWNING-DRAKE SETS, made to order. Amplifiers,

Crystal Sets, Speakers, in large variety.

SEND FOR CATALOGUE.

F. J. W. FEAR AND CO.,

63 WILLIS STREET, WELLINGTON, N.Z.

Programmes Continued

(CONTINUED FROM PAGE 11.)

8.30 (approx.): Studio concert.

Quartet—William Renshaw Quartet, "A Spring Song" (Pinsuti).
Instrumental quartet—Symons-Ellwood String Quartet, with assistance of Mr. Gordon Short, "Scherzo from Quintet" (Dvorak).
Bass solo—Mr. Wilbur Davies, "The Sea Road" (Wood).
Vocal duet—Miss Nora Greene and Mr. William Renshaw, "Beauty's Eyes" (Tosti).
Instrumental quartet—Symons-Ellwood String Quartet, with assistance of Mr. Gordon Short, "Finale from Quintet" (Dvorak).
Soprano solo—Mrs. Amy Dunn, "Spring Had Come" from "Hiawatha" (Coleridge-Taylor).
Tenor solo—Mr. William Renshaw, "Absent Yet Present" (White).
Symons-Ellwood String Quartet, "Melody in F" (Rubens).
Contralto solo—Miss Nora Greene, "O, Flower Divine" (Wood).
Vocal quartet—William Renshaw Quartet, "Across the Bar" (Sampson).

3YA CHRISTCHURCH (306 METRES)—SUNDAY, FEBRUARY 19.

5.45 p.m.: Children's song service from 3YA Studio by Uncle Sam, assisted by Congregational Sunday School scholars.
7.0: Relay of evening service from Durham Street Methodist Church. Special preacher, selected from New Zealand Methodist Church Conference. Organist and choirmaster, Mr. Ernest Firth, F.R.C.O.
After-service concert from 3YA Studio:—
Instrumental trio—Christchurch Broadcasting Trio, "Allegro Vivace from Trio in D Major" (Beethoven).
Soprano solos—Miss Ella Skurr, (a) "Angels Ever Bright and Fair" (Handel); (b) "Come Unto Him" from "The Messiah" (Handel).
Instrumental trios—Christchurch Broadcasting Trio, (a) "The Wood Nymph" (Lind); (b) "Minuetto" (Boresen).
Soprano solo—Miss Ella Skurr, "Fear Ye Not, O Israel" (Buck).
Instrumental trios—Christchurch Broadcasting Trio, (a) "Octobre" (Tschalkowsky); (b) "Gavotte" (Leclair).
God Save the King.

4YA DUNEDIN (463 METRES)—SUNDAY, FEBRUARY 19.

5.45 p.m.: Children's song service by Big Brother Bill and choir of young people.
7.0: Relay of evening service from First Church of Otago. Preacher, Dr. E. N. Merrington; organist, Dr. V. E. Galway.
8.15: Studio concert.
9.15: Close down.

Features Continued

(FROM PAGE 7.)

grandest pieces. These excerpts comprise solos, duets, and quartets. The members of the quartet are Miss Nellie Lowe, Miss Mary Shaw, A.R.C.M., Mr. T. G. Rogers, and Mr. A. G. Thompson, B.A. (leader).

After the great success of the Maori radio pageant at 2YA, everyone will tune in to 3YA on Thursday, when another Maori concert of a different style will be given. The vocalists will be the Madame Gower-Burns Quartet. Concerted and solo items will be sung. A number of the items will be Mr. Alfred Hill's compositions. The songs will range from the soothing poi to a Maori battle song.

Recitations with the Maori as the theme will be given by Miss Dorothy Jenkins. One of the items will be Newman's description of the discovery of New Zealand, and two others will be from the pen of the well-known Christchurch writer, Miss Jessie Mackay.

Continuing the series of talks on stamps, Mr. A. L. Chappell will speak on Thursday on "Stamps with Stories."

Old English songs will be the feature of Friday evening's concert at 3YA. This will be a delightful entertainment. The works of some of the old composers have been largely drawn upon, such as Purcell and Hattton. Though old, a number of these songs will be new to most listeners. The vocalists of the Melodious Four are Miss Frances Hamerton, L.A.B., Miss Belle Renaut, Mr. T. D. Williams, and Mr. Russell Sumner.

In connection with the items by Henry Purcell (1658-95) it should be unnecessary to remind anyone that, according to all leading writers from Purcell's day onward, most of his work is among the freshest and most vital music ever written.

"The Outlaw," Ogilvie's fine dramatic piece, will be one of the items to be given by Mr. W. H. Moses at 3YA on

Friday. A piece of an altogether different type will be the humorous "Frenchman and the Flea."

Interspersing the vocal items on Friday evening will be dance music from Mr. Lyndon Christie's orchestra.

A new banjolin artist to be heard at 3YA will be Mr. Gordon Jackson, who will make his debut on Friday.

"Psychotherapy—the Mental Factor in Health" will be the subject for a talk by Mr. James Stout, president of the Christchurch Practical Psychology Club on Friday evening.

Those who look forward to a vaudeville entertainment on Saturday evenings will have one of the highest type to appreciate next week-end. It is calculated to banish dull care and melancholy. Variety is the secret of the evening. From the "Jewel Song" (from "Faust") to negro melodies the programme will range, from classical music by the Broadcasting Trio, with humorous talks and selections from Miss Elaine Moody's Hawaiian Trio to a grand finale in dance music from the new Palais Royal.

A combination which will make its initial appearance at 3YA on Saturday will be the Beresford Banjo Band, from whom much favourite music, including negro minstrel melodies, can be expected.

Miss Mabel Thomas and Mr. David McGill, two very popular contributors to Saturday evening programmes at 3YA, will appear again with duets and solos next week-end.

Mr. Ed. Sargent, entertainers, whose songs at the piano are so reminiscent of the late Mel. B. Spurr, will be in the studio on Saturday evening. One of the items to be given by him will be a composition by the great entertainer mentioned.

"Sydney speaks to himself"—and to the microphone, too, it is to be hoped, for what Sydney says on Saturday evening will be too good to be missed by listeners. Two humorous talks are to be given by Mr. Sydney Comfort.

4YA NOTES

A fine series of concerts will be broadcast from 4YA next week. All the leading artists in Dunedin, both vocal and instrumental, are contributing.

On Tuesday the Kaitorai Band, which has a Dominion-wide reputation, will be at the studio. A splendid programme has been arranged, concluding with the march from "Tannhauser." The vocalists to assist the band will be Mr. A. Walmsley and Mr. Reg. Richards. Humorous songs will be sung by Mr. Charles Rowand, who has had English experience, and who frequently sings his own compositions. Elocutionary recitals will be given by Miss Anita Winkel and Mr. J. B. McConnell.

WHAT'S RIGHT IN RADIO?

Consult

L. H. WRIGHT CO.

The right shop for Accessories and Expert Radio Service.
One and Two-stage Amplifiers (guaranteed), English Loud-speakers, at £2.

153 Willis Street, Wellington.

'Phone 23—147.

(Opp. Y.M.C.A.)

Our Mail Bag

Sunday Afternoon Session.

G. C. H. (Masterton).—I would like to renew my agitation (?) of some months back, for a Sunday afternoon session from 2YA. From several letters which have appeared in "The Record" lately, I find I am not the only listener who is of the opinion that a Sunday afternoon programme would be appreciated by the majority of listeners. This, of course, applies more particularly to the winter months, when a little music would make a lot of difference to the enjoyment of a wet afternoon spent at home. Already Auckland listeners enjoy such a session and the writer has never fathomed why one centre should be so favoured in preference to the other districts, when listeners pay the same license fee. Can it be because of the fact that Auckland Province used to possess more licenses than any other province? If so, then the privilege will now have to be transferred to Wellington, but in any case one would expect that the Broadcasting Company would, in fairness, extend the same service to all listeners. I would like to take this opportunity of expressing my appreciation of the service given by the Broadcasting Company during Christmas and New Year (not forgetting the rebroadcasts of 5SW Chelmsford, England by 1YA and 3YA respectively) and also the programmes submitted, which were of high order. These and the extra hours of transmission were greatly appreciated by listeners and dealers both. From the manner in which the number of listeners' licenses have increased since early December, I think the Broadcasting Company's efforts will have been amply repaid; and it serves as a very good illustration of the fact that to enrol further numbers to the "happy band of listeners," the company must make every effort to make the appeal of radio felt by prospective purchasers of receiving sets. As regards the programmes given, it is perhaps needless to say that the quality of same has improved wonderfully during the past six months. The thanks of all listeners are due to the Broadcasting Company for the relay from Trentham on the occasion of the trans-Tasman flight. This transmission will live long in the memory of all who listened—and they were many.

It is greatly to be regretted that there should have been any difficulty regarding the broadcasting of the present meeting at Trentham, and it is to be hoped that some agreement will be reached between the Broadcasting Company and the Wellington Racing Club before the next meeting, as the broadcasting of races has done, and is still doing, much to popularise radio.

With reference to the children's sessions, one can only express unmitigated approval of the manner in which these are conducted from all stations but there is one fact that I think is at times inclined to be lost sight of, which is that it is a session for children. For instance a number of the items given by the children who go to the studio, while rendered perfectly and greatly appreciated by adults (myself included) are not what, in the writer's opinion, the children would like to listen to. Also, would it not be a good idea for each station to procure a few kiddies' gramophone records for this session in place of the records sometimes played? One record I heard at a recent children's hour was a selection from Grand Opera! My idea is to make the children's session attractive to the children.

Altered Programmes for Saturday February 11 at 2 YA

Because of the alteration in the date of the Edison evening, the programme arranged for February 18 will be given on February 11. Details are as follow:—

2YA, WELLINGTON (420 METRES), SATURDAY, FEBRUARY 11.

8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—"The Kiss Waltz" (Strauss).
8.5: Vocal quartet—Melodie Four, "The Moon Man" (Macy).
8.9: Italian mandolin—Mr. Lad Haywood, "Red Lips, Kiss My Blues Away" (Pendling).
8.13: Tenor solo—Mr. Sam. Duncan, "An Evening Song" (Blumenthal).
8.17: Instrumental trio—Symons-Ellwood-Short Trio, "Allegro—G Major Trio" (Mozart).
8.27: Baritone solos—Mr. R. S. Allwright, (a) "The Day I Get to Heaven" (Lehmann); (b) "Ma Little Banjo" (Dichmont).
8.33: Humorous recital—Mr. R. Walpole, "Monty on Politics and So Forth" (Hayes).
8.38: Vocal quartet—Melodie Four, "Wha Dtoes It Matter?" (Berlin).
8.42: Instrumental trio—Symons-Ellwood-Short Trio, "Andante and Finale—G Major Trio" (Mozart).
8.50: Songs at the piano—Mr. Billy Hart, (a) "I Wonder How I Look When I'm Asleep" (De Sylva); (b) "That Saxophone Waltz" (Sisk).
8.56: Italian mandolin—Mr. Lad Haywood, (a) "Cheerie, Beerie, Be"; (b) "Honolulu Moon" (Lawrence).
9.4: Weather forecast.
9.5: Tenor solo—Mr. Frank Bryant, "A Little Coon's Prayer" (Hope).
9.8: Humorous recital—Mr. R. Walpole, "Egbert at the Races" (Walpole).
9.13: Vocal duet—Messrs. Frank Bryant and Sid. Allwright, "The Battle Eve" (Adams).
9.16: Selected jazz and dance items.
11.0: Close down.

To change the subject, I expect that, like myself, all other listeners are anxiously awaiting the return of "winter" reception. As far as the writer is concerned the only stations not affected by summer conditions are 2YA, 3YA and 1YA. But there is one station that is still prominent, and that is the "wonder station," KFON, Long Beach, California. Using a six-valve receiving set, I am able to log this station every evening, or to be more precise I have listened to KFON on every evening except two since 23rd October last, which means on 91 out of the 98 evenings since that date (and still going strong—with reception now a lot better than say a month ago). On several evenings volume has been very poor, but at this time of the year one could hardly expect otherwise. However, on several evenings during the past week volume has been astonishing for summer reception, the music being easily audible all over the house. On Friday evening last for a few minutes I had actually to detune slightly as the volume was too great! At present I am picking up this station (on the speaker) at about 7.45 p.m., and on almost every evening of late it is 9.30 p.m. before the station signs off. Another station with surprising strength is 3ZC, Christchurch (50 watts) which the writer frequently listens to—on the speaker—at mid-day as well as on Tuesday evenings. Reception of the Australian stations is improving here.

Check the Howling.

Disgusted (Hastings): From my point of view, and I think many will agree with me, that the best thing to make broadcasting more popular is for the Government to appoint experienced men to find out and put down the howling that goes on. Last night in Hastings it was awful at times. I have complained several times to the P.O., both here and Napier, and nothing is done; in fact, I don't think they have the things to detect it with.

Longer Sunday Evenings.

R. L. Jones (Wellington) suggests that during the operation of summer time the night (musical) session should not begin until 8.30 o'clock, and that the stations should not shut down on Sunday nights until at the earliest 10 p.m., preferably later. There are no meetings or business to attend to on Sundays; most people are able to devote the evening to listening-in, and, naturally, when the family are able to be together it does seem ridiculous to shut down a station such as 2YA at 9.30 p.m. The suggestion is made that 2YA should provide a good programme to 10.30, and let the other three stations relay same.

No Difference.

Two New Chums (Milton): As you are inquiring what country listeners think of "Sider time," and having read a Southland listener's letter on the subject, we thought we would like to give you our experiences. First of all, let it be known we are just new members of the radio circle, having purchased a 5-valve set in October, so we are unable to speak of winter reception, also we live about 40 miles south of Dunedin. As far as we can see, summer time has made no difference to the machine, but we ourselves are often out of doors until dusk. However, during the week before Christmas the radio was going daily from 12 noon until bedtime, and 2YA and 3YA were heard very distinctly by a patient in a room across the hall from the loudspeaker, and a considerable distance from the machine. We have heard all four stations without effort in the evening when the concert programme has commenced. Although we have never heard 1YA's children's sessions, we hear 2 or 3YA quite easily. With regard to Australian stations, these did not usually come through very well until New Zealand had closed down, it being impossible on our machine to eliminate New Zealand stations to hear 2GB and 2FC. During these last few weeks we have been hearing Australian stations quite easily after 10 p.m., when the concert programme commenced. At 9.30 p.m., Sunday, January 15 (7 p.m. over there), we heard 2BL. The congregational singing was quite easy to pick up, also a solo, the "Holy City," but owing to static it was difficult to follow the preacher.

Two Suggestions.

43349 (Wellington): As the columns of the "Radio Record" are always open to suggestions, may I make the following? In the article last week on "Dealers and Customer" the writer remarks that "many customers have exceedingly crude ideas about aerials," a statement which I think is applicable to a great many other things in connection with wireless, and especially so with respect to its nomenclature. To many, perhaps the majority, of beginners, the terms commonly used to define the construction and operation of radio sets are as understandable as a dead language. Consequently when the tyro is confronted with any defects in the operation of his set he is simply helpless in knowing how to proceed in order to put things right. This, I submit, is common experience. What I suggest is that you should open in the "Radio Record" a dictionary column in which all the technical terms should be defined and explained in words that any person could readily understand. This information would not entail the use of extended space, and could, therefore, be cut out and kept by purchasers of sets for future use and guidance.

Another suggestion which I think would meet with considerable approval is this: Would it not be possible and advisable for the New Zealand stations to relay each other, saw on one night a week, in order that further variety could be given to the entertainment now provided? I am not suggesting that the programmes from 2YA are inferior in any way to those from the other stations—to my mind they are not surpassed by any of them—but for users of crystal sets in Wellington to be able to listen in to Auckland, Christchurch, and Dunedin once a month would, I think, be an advantage that would be appreciated.

(We will endeavour to meet the first suggestion at an early date. The second idea has merit, too, and doubtless will be applied later as opportunity offers. Under present conditions, however, satisfactory reception suitable for re-broadcasting cannot always be guaranteed. Readers will have noticed that the rebroadcasts of 2YA and other stations that have been attempted have always been safeguarded by the condition "circumstances permitting."—Ed.)

Drama Wanted.

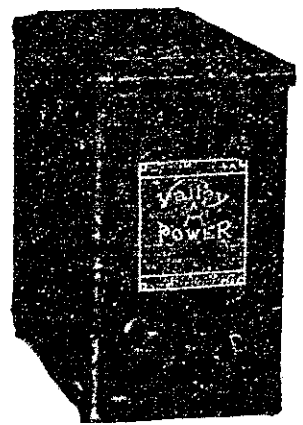
Robert Davidson, Tauranga, North Auckland, asks why the programmes neglect drama. "I do not refer to ten-minute drawing-room sketches, but to short one and two-act plays lasting from, say, 30 minutes to an hour. There are amateur dramatic and play-reading associations in all four broadcasting centres, who would be quite competent to put over such short plays once or twice a week, especially as no acting would be needed and the performance would be more in the nature of a reading." The writer also mentions the suitability of chamber music (such as our Trios play) to the tastes of the majority of listeners. An analogy, to his mind, would be a professor of mathematics giving a lecture on the differential calculus to a class of elementary school children. Even a budding Newton would derive neither instruction nor amusement from the calculus at the age of 8 or 9, and he thinks his analogy represents closely the difference in level between chamber music and the general listening-in public. Lastly, it is suggested that talks should be given before or after the evening programme.

FREE TO SMOKERS.

A VALUABLE and interesting booklet has been published by a reputable firm for the benefit of smokers. This booklet is full of instructive information, and contains extracts from statements made by some of the highest authorities in the medical world. Every smoker should read this booklet, which will be posted free on request.

HOME WELFARE PROPRIETARY,
4J Willis Street,
WELLINGTON.

Valley "A" Socket Power Features



This I.T. Power Unit replaces both the I.T. Battery and charger. Simply connect in place of storage battery. Contains no batteries or moving parts; noiseless.

Apply for full details to
Sole Wholesale N.Z. Distributors:

TEAGLE, SMITH,
& SONS, LTD.,
BOX 405, WELLINGTON.

Our Mail Bag Continued

Country Reception.

W. H. Potter (Horahora).—One hears much adverse comment on 4YA, and perhaps a lot of it is justified. I operate a "Record" Browning-Drake four, and can generally raise 4YA on the speaker, using only three valves. Last Tuesday, between 8.45 and 9.15 p.m., 4YA band music came in at good speaker strength on three, whilst reception from 1YA and 2YA was not as good as usual. The modulation of 4YA seems cloudy or blurred, I have noticed.

3YA is my best station for purity of tone and clarity. 2YA is the loudest at night, usually, with 1YA and 3YA about equal strength, dependent upon conditions, of course. Fading in experienced with all stations, although not necessarily affecting each one at the same time—often when one station has faded out I have tuned in another at full strength. A peculiar, intermittent distortion takes place in reception from 1YA, generally during both day and night transmissions—1YA is good during daylight hours; 2YA at good 'phone strength, with occasional volume sufficient to operate the speaker. 3YA and 4YA are absolutely missing during bright daylight. My receiver is located about 300 yards from the powerhouse and transformer substation, and 50,000-volt transmission lines are quite close. The set uses a "B" eliminator, and the earth is anything but a good one (in shingle and sand), yet results seem remarkably good, considering local interference, due to power mains and screening by trees and lines.

Some of the Australian stations are frequently heard at good strength as early as 9.30 p.m. even now—2BL has been the best lately.

Daylight saving has proved a boon to the city and country day workers, and is, I think, greatly appreciated. Radio reception has been upset by daylight saving to a certain extent, and country listeners with mediocre sets do not appreciate it. Radio listeners are in the minority, and although it is agreed that radio has been adversely affected by summer time, it is a small argument against the benefits received by the thousands of business and work-people throughout the Dominion.

The Sunday afternoon programme from 1YA is greatly appreciated, and the Sunday evening transmissions from all stations is good now, and would be still further appreciated if the stations carried on until at least 10 p.m. The cutting-out of the silent day, and the commencement of day sessions 10 to 11 a.m., and 12 noon to 2 p.m., are something we are looking forward to.

Uncle Ernest Lauded.

"Appreciation" (Manawatu) writes: "I would like to write a few lines of appreciation in reference to the Sunday evening children's session from 2YA. Uncle Ernest, with his little group of singers, does much to teach my children their religion. Out in the country we have no Sunday Schools, and the kiddies are generally left to read Bibles and story books. But now, thanks to Uncle Ernest and his never-failing energy, we have a first-class Sunday School in our own home. The conductor of this session understands children perfectly. He tells the right stories, has the right hymns sung, and speaks to the young people in language they can understand. Good luck to Uncle Ernest!"

Sidey Time No Good!

E. A. Hammond (Hikurangi).—I was very interested to read the remarks on "Daylight Saving" in a recent issue of the "Radio Record," and seeing that you are asking for opinions on the question, particularly from the country people, I should be glad to let you know how we are affected by it. In the first place, I may say that I am a cow farmer in an isolated district, situated twenty-two miles by bridle track to the nearest railway station. From a cow farmer's view, to my mind, at any rate, the idea of Daylight Saving is the essence of madness, although I quite realise it must be very nice in the towns. Now, if a cow farmer works strictly to Sidey's Time, even in mid-summer, he must rise before daylight in the morning, and can a man persist in doing that sort of thing in the very longest days of the year, and still make it appear as if his mind is evenly balanced? In many cases, no doubt, the farmer is forced to observe "Sidey's Time," while there are others who are able to dodge it. I am one of the latter, but still there is a catch in it too, for, as the Broadcasting Company, of course, observes the new time, the result is that we miss the first half of the evening's programme, and which, to my mind, is the most important, all the news items. I have never yet heard the news items since Daylight Saving came into force, and it was for the news and market report, principally, that I had the 5-valve set installed, although I also thoroughly enjoy the musical programmes as well. It is hard to estimate the boon that a wireless set is to a back-block settler, and can he be blamed for wanting to have all he can get out of it. To the town people, no doubt, the farmers stand against Daylight Saving, appears selfish, but there are two sides to the question, and it means inconveniencing the principal industry of the country, for the sake of providing more time for recreation in the towns. Without Daylight Saving the towns have ample time for recreation compared with the farmers in the country, particularly the dairy farmer, whose sole amusement, in many cases, is the radio set, and now that we have to do without, or without the best part of it, at any rate. It took Mr. Sidey eighteen years to get the scheme working, if in that time he had had eighteen days on an ordinary farm in mid-summer, he would then have realised what Daylight Saving would mean to

the dairyman. However, there it is, and as long as it is law we will have to put up with it, but if Mr. Sidey would care to have a holiday next summer, I would be very pleased to accommodate him for a week or two, I would willingly observe his time for a while then.

Not Wanted Next Year.

M.C. (Feilding): I do not think the majority of country listeners will want Sidey time next year. We have a five-valve, and reception is generally good, especially Wellington. The trouble is that by the time we come in for our evening leisure the radio concert is about half over. The children's session, and news and reports, are just wasted. The children naturally miss their hour, and the men folk are fairly disgusted at getting no news and reports. We are quite satisfied with our reception of all stations, but are very dissatisfied with Sidey time. I hope the time will soon come when a Sunday afternoon session will be given from 2YA. I am sure such a session would be greatly appreciated by all country listeners.

Daylight Appreciated.

Mrs. H.E.A. (Taranaki): Personally, we really enjoy Sidey Time. From the start, everything seemed to run along just as before. We live in the country, five miles from school, post office, and telephone, and in the wet weather even have to use chains on our car to get anywhere. The Sideyised time certainly cut us off from the usual Australian concerts, and unless we specially desire it, we never hear Australia now. All the same, we very much enjoy the daylight after tea, and we have Wellington when we are inside, the point which does really annoy us is your silent day, and when we change over to the old time there are heaps and heaps of cold, wet days and nights to listen in, and we, for one household, will be glad of the lovely daylight spent outside when we had the chance.

Less Candlelight (Birkenhead, Auckland): Having worked on the land here over twenty years, with three years of listening, I can assure you the present arrangement is very satisfactory, and all here hope Sidey will live for ever, even admitting our reception of distant stations is weak at the earlier stage and Sydney quite impossible during these months. The rule here is start at day-break regardless of the clock, and we are ready for bed two hours after sunset. In previous years we closed down at 9 o'clock, now we listen till 10. Another important point: we are just near enough to the city for some of the household to work there. They were not ready for bed at 10 o'clock nor breakfast at 9; now they are, and there is much more harmony. Town friends calling at 9 p.m. when the farmer and his family were returning to rest is now a thing of the past. They don't call at ten.

Not Approved.

W. A. Davison (Awatunui): "What do country listeners think of Sidey time?" The answer depends entirely upon the occupation of the listener, or what is meant by "country listener." If he is a farmer, then the answer is emphatically "No good." He not only cuts out all Aussie stations, because of the late hour imposed by Sidey time, but he also invariably misses the news, shipping, and market reports from New Zealand stations. The farmer has an inherent desire to work whilst the sun shines, and when he returns to his home on an evening and tunes-in, he always hears, "The next artist to entertain us will be a soprano solo by So-and-so"—this item well on in the programme. If every listener-in were employed but eight hours per day then it would be a bloc vote for Mr. Sidey. Sidey time has had an influence on the sales of radio plants, as several who might have purchased have said to me that the hours are late enough now, without having further inducement to keep later hours. Since the adoption of summer-time I have only once altered the dials of my five-valve set, and that was to have the pleasure of hearing once again the Cathedral chimes of Christchurch on New Year's Eve. Auckland—or its radio name should be "1YA, Organland"—is, together with 3YA, of a fading nature, and therefore very annoying; and 4YA is practically unworkable; and therefore I have contented myself with the programmes of 2YA, Wellington, and I must offer them my heartiest thanks for the very many excellent programmes put over.

Now, may I state a very remarkable coincidence. On Tuesday, January 10 (the day of the trans-Tasman flight) I was on the air during the children's session, and Uncle Sandy was saying at 6.14: "Now, children, we must hurry on with our programme, as we might have to switch over to Trentham at any moment," etc; and whilst he was saying it there came through my loudspeaker a "Tut-tut-tut-tut-tut-tut-tut-tut-tut," and it continued for nearly a minute, without any variation in tone or volume. My wife was sitting with me alongside the receiver, and when I said "What's that?" she replied, "That's strange; we have never heard that noise before." Then I said (rather jokingly), "Perhaps it is a message from the aviators which we cannot read." This incident was very real, and no mere static noises, and has never at any other time been present on my machine, and it has caused me to wonder hundreds of times since if there were any likelihood of its being such a message. If the flyers headed for Rymont, then turned south toward Wellington, they passed somewhere along this coast, and I am situated about eight miles from the coast, on the gentle rising slopes of Mount Rymont, where if their wireless messages were very weak they could have been easily received. I thank you for your very fine paper, the "Radio Record."

TRANS-TASMAN FLIGHT

RADIO TRANSMITTER INDISPENSABLE.

Experts have agreed that the trans-Tasman flight should not be attempted without a radio transmitter being carried on the aircraft. The transmitter, they say, should be able to keep in shore, and a competent operator should accompany the aircraft.

As far back as three years ago in connection with the air mail service of the United States Post Office Department, there was designed an aircraft transmitter and receiver for use on the mail planes. The transmitter of this equipment put approximately 200 watts into a trailing wire aerial. The power for the operation of the set was obtained from storage by the engine of the plane. These batteries operated a high voltage dynamotor, which supplied high voltage direct current power for the operation of the transmitter.

The set consisted of three major units, the transmitter, receiver and control box, together with a number of auxiliaries. The equipment was designed so that it would be advantageously installed in the fuselage of the plane, and so that maximum accessibility was given to the operator. The planes which used the sets were built to carry the pilot only, and it was necessary to develop and design this equipment so that it could readily be operated by the pilot without interfering with the navigation of the plane.

FLYING ABOVE THE FOG

AEROPLANE PILOTED BY WIRELESS.

The degree to which the standard Marconi wireless apparatus used on Imperial Airways machines flying between Croydon and the Continent is relied upon is shown by the experience of Captain A. S. Wilcockson, an Imperial Airways pilot who, on Saturday, November 21, flew a Handley Page Rolls Royce aeroplane from Paris to Croydon above a fog bank which obscured the ground practically the whole of the way. In spite of the denseness of the fog Captain Wilcockson completed his journey in 2 hours 25 minutes, which is a good average time for the trip from Paris to London. When he started from Le Bourget at 8 a.m. visibility was about 1000 yds., and the weather report gave fog for over most of the route except for patches of clear weather near the French coast and at Biggin Hill. Five minutes after leaving Paris Captain Wilcockson found himself in dense fog and had to rise 2000 feet to get above it. At this height the aeroplane was flying in bright sunshine and continued to do so for the greater part of the journey. It was, however, necessary to fly entirely by compass bearing. The pilot asked for several bearings and positions from Croydon during the journey and these brought him in on a direct line to the Croydon Aerodrome. There was one break in the fog, about 10 miles from Croydon, which enabled the pilot to recognise the ground and corroborate the fact that he was on the right bearing. The fog then closed in again, and in his own words he "dropped right on to the aerodrome."

In an interview Captain Wilcockson said that this was one of the worst fogs he had ever experienced, but he had no doubt during the whole journey that he would get through in comfort as his past experience with his wireless apparatus had given him confidence that he could navigate on bearings through the fog however dense it might be. "I had no difficulty at all in keeping in communication with Croydon at any time whether I was in the fog, above it, or when coming down to the aerodrome, but it would have been impossible to have made the journey without wireless," Captain Wilcockson said. "The apparatus I was using was the ordinary A.D.6 apparatus, and not any new or special apparatus, as has been reported."

There were five passengers on the machine. They had a very happy and comfortable journey, and were quite thrilled with their novel experience.

A UNIFORM LICENCE

Many people have argued that the owner of a simple crystal set, which costs £2 or £3, should not be required to pay the same licence fee as the owner of an £80 or £90 super-het. A first glance there appears to be some logic in the argument, but apart altogether from the fallacy which is observed after a careful study of the matter, the fact remains that there are considerable difficulties in the way of arranging for differential licences. The question has been raised in every country where licence fees are collected, and it has been proved that the administrative difficulties of the people who sell the licences and collect the fees would be too great, and a common licence fee is essential. There would be no means of determining, unless at considerable expense, whether the correct licence was obtained, or whether a valve licence would be obtained when the crystal set owner changed his set to a valve set. Consequently the uniform licence is not likely to be changed.

A Canadian radio journal, finding that a great number of Frenchmen in Canada are wireless fiends, have printed half of their paper in English and the other half in French.

The Children's Corner

By "ARIEL"

"Jeff and Toby"



—S. P. Andrew, photo.

Yes, boys and girls, here are the two newest radio entertainers, "Jeff and Toby." They are linking up with the 2YA family circle. We are pleased to introduce them to you, and you, we feel sure, will be glad to meet them. Funny looking chaps, aren't they? But wait till you hear them! "Jolly" isn't the word for them: they are just bubbling over with fun—and they simply love all the kiddies of New Zealand. Uncle Jeff is a musician to his finger tips. He's a very busy man, but for many years he has been giving his spare time—and often time he couldn't spare—to doing all in his power to make boys and girls happier. Now,

thanks to the wonder of wireless, he is seizing the larger opportunity afforded by radio to help brighten the lives of the thousands of young people who listen-in to 2YA. His chum, Uncle Toby, is just as keen as Uncle Jeff. You may depend on it, he'll do his best to send you to bed in the best of good humour, for he is himself what is called a born humorist, and really believes that there's nothing so good as a jolly good laugh. You'll find him funny, and delightfully entertaining. Uncles Jeff and Toby are out to do their very best for you, and we feel sure you will all appreciate their efforts.

A GOOD GAME

This is a splendid game to play at a party. Boys and girls having long noses will score every time! Take sides, as for any other game, and arrange two rows seated on chairs opposite one another. Place on the floor standing upright, the outside covers of two safety match boxes. The boy or girl at the end of each row has to kneel down and, without touching the match-box, fix it on his nose. He, or she, then tries to fix it on the end of his next-door neighbour's nose. He, or on all down the row, without touching it with the hands, of course. If the match-box falls to the ground, the child who drops it must go down on his knee and get it fixed on his nose again at the beginning. The side who manages to get the match-box to the end of their row first wins the prize.

CHILDREN AT 2YA

Toby and Jeff, comedy entertainers, will again appear on Monday. They will have a fund of amusement for the children. Birthday greetings will be sent—there will be songs, sketches and dialogue.

Tuesday again brings Uncle Jasper's hour. During this hour, Mr. Frederic Bentley, of the "Rose Marie" Company, will delight the little ones. Great things in store for all!

On Thursday, Uncle Sandy will be with us for one joyous hour. Birthday rhymes—stories—jokes and songs.

On Friday? Why, Uncle Ernest's night! You are assured of an excellent hour. Yes, he has a merry troupe of followers to assist him. They will serenade you all.

The hour of amusement on Saturday is left in the hands of Aunts Gwen and Dot. At 6 p.m. they will lift the curtain and allow you to peep behind.

ANSWERS TO HIDDEN PROVERB.

1. A
2. Rolling
3. Stone
4. Gathers
5. No
6. Moss.

A TRICK TO TRY

Place your hands together and hold a penny between the tips of your two third fingers—those next your little fingers. Now bend your two middle fingers so that the two knuckles touch, while the other fingers and your thumbs are touching tip to tip. The trick is to part the two fingers holding the penny, so that it drops, without parting the knuckles of the two bent fingers the least little bit. This is not nearly so easy as it sounds.

What is the difference between King George and the North Star? Nineteen shillings and eleven pence three-farthings, because one is a sovereign and the other a far thing.

A certain little girl called her mother into the garden to watch her turn somersaults. "Sometimes I do somersaults, and sometimes wintersaults," she said.

"What is a wintersault?" asked her mother. "A somersault backwards," was the reply.

UNCLE JASPER, OF 2YA.

—S. P. Andrew, photo.

CHILDREN'S SESSIONS AT 1YA

Monday.—Cinderella and the boys of St. Joseph's Orphanage, in choir items and solos.

Wednesday.—Uncle Tom will have a party at the studio. All the guests will give an item as well as Uncle Tom.

Thursday.—Camp fire stories from Peter Pan. The Boy Scouts' orchestra will be present and will give items.

Friday.—Nod to-night. Songs and recitations from cousins. A sketch by Cinderella and Cousin Anita, a Luna Park episode.

Saturday.—Cinderella in charge. Dialogues, songs, and recitations from cousins; answers to competition; a talk on the life of Charles Dickens by Mr. D. Faigan, M.A.

Sunday.—Children's song service conducted by Uncle Leo, assisted by scholars of the Beresford Sunday School choir.

A BIRD'S BEST

It wins my admiration,
The structure of that little work—
A bird's nest.
Mark it well, within, without,
No tool had he that wrought,
No knife to cut, no nail to fix, no glue to joint.
His little beak was all.
And yet how neatly finished!
What skilled hand, with every implement and means of art,
And twenty years' apprenticeship to boot,
Could make me such another?

S.O.S.

TRAVEL IN COMFORT BY CAR

WELLINGTON — PALMERSTON
NEW PLYMOUTH
Use Our Booking Offices in Advance.
51 Willis Street, WELLINGTON.
Telephone 45—842.

Successful Radio Pageant from 2YA

Reception Throughout New Zealand Good and Re-Broadcasts Satisfactory

(Continued from cover).

WITH this brief introduction, Hamiora Hakopa, chief spokesman for the evening of the Maori party, extended greeting to listeners. Justly proud they were, he said, of the history of their race in its conquest of difficulties and discouragements; proud of their present day attainments; and hopefully looking forward to progress in the future. To make living to their hearers the pages of the past they would give as graphically as possible accounts of the life of their Native race as lived before and after the advent of the white race and modern developments.

THE COMING OF THE MAORI.

AFTER an effective oration by Henare Poananga, LL.B., of the prologue from "Scenes from the Past," and a very effective rendering of the "Tangi" from Hill's "B Flat Maori Quartet" by the Symons-Hillwood Quartet, "the coming of the Maori" was treated in three ways—by an oration, by a thanksgiving incantation, led by Ope Whenare, and by a thanksgiving haka illustrating the joy of the first Maoris on their safe arrival in Aotearoa. The general effectiveness of this phase was very marked, Hamiora Hakopa's address and his outline of the outstanding navigational capacity of the Polynesian forebears of the Maori race who, 900 years before Captain Cook, circumnavigated the North Island and entered Port Nicholson, building an arresting picture of daring adventure.

MAORIS AT HOME IN THE EARLY DAYS.

THE section portraying the old-time life of the Maori was particularly good. Said the orator: "Our people spent their time usefully, interestingly, and not infrequently strenuously." In evidence of this primitive life, with its ceremony and ritual on occasions of state, there was given the welcome of a travelling party to a Maori pah—the announcement by the herold, the welcome by the haka party the tangi and exchange of speeches, the feast, and the thrilling chant accompanying the distribution of the food. Most effective were the songs, haka, poi, and choruses in this section.

THE COMING OF THE MISSIONARY.

IN the third phase there was described the coming of the missionary, followed by the Symons-Hillwood Quartet's rendering of "Waiata Maori," which led on to Sir Maui Pomare's speech in relation to the Treaty of Waitangi, which followed from the missionary era.

The Hon. Sir Maui Pomare, in his address on the Treaty of Waitangi, spoke as follows:—

This week, eighty-eight years ago, was a momentous week for New Zealand. It was, in fact, the most important period in our history. This is the anniversary of Captain Hobson's proclamation at Kororareka of the assumption of the duties of the office of Lieutenant-Governor; the next step was to present to the Maori chiefs the draft of the Treaty of Waitangi for their signature.

The Treaty provided:—

Firstly, that the Native chiefs should cede their sovereignty to the Queen of England; Secondly, that the lands, forests, fisheries and food places of the natives should remain theirs inviolate, but that the right of pre-emptive purchase of their lands should vest in the Crown.

Thirdly, that in return for these concessions, Her Majesty, the Queen of England, would afford the native race her Royal protection, and impart to them all the rights and privileges of British subjects.

On February 6, 1840, forty-five chiefs of Ngapuhi signed the Treaty. Sheets of the Treaty were taken from one end of the Colony to the other, and so very nearly every chief of importance had a hand in its ratification. It was in this manner that New Zealand became a dependency of the British Empire.

That piece of paper—the Treaty of Waitangi—is our New Zealand Maoris' Magna Charta. But let it always be remembered that it was a purely voluntary act, this handing over of the superior Mana of New Zealand to the British Queen. The Maoris did not take that step without careful deliberation. They weighed every word; some of Ngapuhi were suspicious of the pakehas' intentions, and it was only through the efforts of two eminent men that they consented to accept the Queen's Mana.

Two Outstanding Advocates.

The names of those two men should never be forgotten. One was the Venerable Archdeacon Williams, a very gallant man who, before he became a missionary had been a British naval officer, and had served against the French and the Americans. The other champion of the Treaty was Tamati Waka Nene, the great Ngapuhi chief. Had it not been for such men, and had it not been for the benevolence and hospitality of the Maoris generally, the British flag might not be

Although at the time of our going to press there has not been time for the receipt of reports from many parts of the Dominion, advice has been received that reception in Wanganui and Christchurch from 2YA was good, and it is understood that the rebroadcasts by 1YA and 3YA were successful in every way. This marks a memorable attainment in New Zealand radio.

flying over New Zealand to-day. Remember, the pakeha was only here on sufferance. The Maori population in 1840 was probably nearly a hundred thousand, and most of the men possessed guns, and furthermore, knew how to use them. It was not possible to take this country by force, and that is why the Treaty was entered into.

So the Treaty came into being, and through thick and thin the Maoris have stuck to it. There have been wars, it is true, but the first infraction of the Treaty was not by the Maoris. It is rather extraordinary when we look back to realise that if British legislators of the past had had their way the Treaty would have been scrapped.

Early Lack of Vision.

One of the causes of the distrust among the Maoris that led up to Hone Heke's war at the Bay of Islands in 1845 was the belief that the pakehas, so soon as they became strong enough, intended to seize the Maori lands. This was the result of the attitude of British members of Parliament. In 1844 the news came from England that the House of Commons Committee on New Zealand Affairs had resolved that the Treaty of Waitangi was a part of a series of "injurious proceedings," and that "the acknowledgment by the local authorities of a right of property in all wild land in these islands, after the sovereignty had been assumed by Her Majesty, was not essential to the true construction of the Treaty, and was an error which has been productive of very serious consequences."

In other words, the committee thought the Government should seize upon all native land not actually occupied and devote it to the use of white settlers. Fortunately, such a course of action was not followed.

There was even a British Secretary of State for the Colonies who eighty years ago took the same view and thought the Maori lands should be seized by the State. That was the era of the Little Englander, the man without vision or prescience. We Maoris rejoice to know that a very different spirit prevails to-day.

The Spirit of To-day.

The Treaty is as much the charter of Maori liberty and nationalism as it was eighty years ago. I would like to refer to two or three instances of how the present Government of the Dominion interpreted the true spirit of that Treaty. One is the arrangement made with the Arawa tribe by which the Maori rights to their famous fishing waters, the Lakes of Rotorua, Rotiti and all other lakes in that district, have been acknowledged.

Similar recognition was accorded the rights of the Maoris in regard to their Taupo waters.

Another instance is the searching inquiry which was recently made by a Royal Commission in regard to the long-standing grievances concerning the confiscation of native lands. It can now be said that our troubles are at an end. The Maoris and Europeans are now as one, and we feel that the happy position the Maori occupies in this beautiful land of ours is due in a very great degree to that simple little "scrap of paper" signed by the grand old chiefs of eighty-eight years ago—the Treaty of Waitangi. Kia Ora.

THE MAORIS' PART IN THE GREAT WAR.

STIRRING and memorable was the treatment of this phase. Opening with the stirring "Ka Mate, Ka Mate" (Te Rangihikiroa) by the Symons-Hillwood Quartet, it passed to one of the outstanding items of the evening, the "Ope Tūnatahi" chorus by the massed party. The blending of voices in this item was very beautiful and effective.

THE tribute paid by the Prime Minister in his speech dealing with the fighting qualities of the Maori race, as displayed by the part they played in the Great War, was a fitting recognition of the warrior blood that is theirs. The Prime Minister said:—

To-day is the anniversary of the signing of the Treaty of Waitangi 88 years ago, by which the representative chiefs of the Maori tribes of New Zealand ceded to Her Majesty the Queen of England all the rights of sovereignty they possessed, and by which Her Majesty the Queen of England extended to the Maoris of New Zealand her royal protection, and imparted to them all the rights and privileges of British subjects. It is fitting that on this occasion some reference should be made to the effect of that Treaty. The amicable relations and complete understanding now existing between the Maori and Pakeha races resident in this Dominion have been brought about by that compact. The continued recognition by various Governments of the moral rights reserved to the Maoris under that Treaty has been

largely responsible for this fraternal union of the two peoples. Of this there can be no question. At no time has the Legislature of New Zealand been callously unmindful, or even indifferent to the true spirit of the Treaty. Never has it been careless of the great trust imposed upon it as the guardian of Native rights. This commendable endeavour to observe that "justice which is the paramount interest of all men and all Commonwealths" has finally led to the universal acceptance of the Treaty by the Native race as the basis of their civil and political privileges.

Enthusiastic Support.

When, therefore, the Great War broke out, the Maori tribes throughout New Zealand, recognising their responsibilities as British subjects by



RT. HON. J. G. COATES,
Prime Minister of New Zealand.

virtue of that Treaty and without hesitation, voluntarily offered the services of their sons to fight the common foe in defence of the Empire. This wonderful response was their generous recognition in 1914 of the protection given them by Britain in 1840.

There were those of both races who, when a Native contingent was proposed, suggested that owing to their decreasing numbers the Maoris should only be used in home defence in New Zealand, but the suggestion did not appeal to the imagination of

the Maori, for he is a born fighter. He wanted to be an active combatant. In deference to their wishes to be permitted to proceed overseas, the Government decided to detail them for garrison duty overseas.

This tame but necessary form of warfare did not fire the warrior blood of ancestral chieftains flowing in their veins. They sought permission to tread the sacred field of Tūmatuenga—the God of battle—to be given an opportunity of meeting the enemy face to face, as was the wont of their fight-loving ancestors in the days of the glorious past. The acceptance of their services on Gallipoli satisfied the intense desire of this Maori manhood to prove to his Pakeha fellow-subjects that the moral tie which held them to the British Crown under the Treaty of Waitangi was not one in name only.

Gallantry on Gallipoli.

Of their valiant deeds on the ill-fated hills of Gallipoli and the shell-scarred fields of Flanders, of the noble sacrifice by which a great number of them laid down their lives in those distant lands, the historians have fittingly written.

The Maoris themselves have embalmed that sacrifice in the following poem which was sung in the Maori villages throughout the land during those fateful war years, and will continue to be sung as the years roll on:—

1. Come ye, maidens, come to me,
With your gifts of melody,
Crying near and far to all,
"Come, where duty calls."

Chorus.

Then together we will draw
This canoe until the end,
To the goal the world desires,
Peace and joy to all.

2. Would you still the longing heart,
Ease the pain that gnaws within
For the dear ones far away,
Gone where duty calls.

3. Cleansed by war of all its dross,
Love is gleaming strong and bright;
In our hearts we vow to serve
Where our duty calls.

4. Small may be this our canoe,
Floating in a sea of tears,
Tribute to the brave who fell
Where their duty called.

By this sacrifice our Maori brethren

Signing the Treaty of Waitangi



The photograph reproduced above is from a bas relief on the Diamond Jubilee monument to Queen Victoria in Wellington, and shows a chief signing the Treaty of Waitangi. At the conclusion of the ceremony the following words were said to the natives:—"He Iwi Tahi Totu" (we are one people now).

ren have written the name of their race large on our scroll of fame, and it is fitting that we, who escaped their glorious fate in defence of King and Empire, should keep their memories green in our hearts and recollections, as their own people have done in the touching lament: "Piko nei te Matenga" (When our Heads are Bowed with Woe).

The Prime Minister's quotation of the famous Maori Lament ("When our Heads are Bowed with Woe") was followed by a very feeling rendering of that memorial hymn, with string accompaniment, the solo part being taken by Mangu Tahana, with accompanying choruses.

THE MAORI IN SONG AND PLAY.

FROM the sadness inevitably left by this heroic phase of Maori history, relief was given by the next section—"The Maori in Song and Play." This was the outstanding section of the evening for unadorned melody and harmony. From the initial solo and chorus, "Hoki Hoki Tonu Mai," through a succession of songs, choruses, and poi items the audience moved in spirit with the inimitable rhythm of the performers. Perhaps the most effective numbers were those in relation to the chorus and rhythmic dance, "Ta Hine Taru Kino." This dance is a short double poi, the body being swung in rhythm with the music, the dancer at the same time whirling in each hand a ball of raupo (about as large as a tennis ball and attached to a string about 3 inches long. The whirling balls are struck at short intervals against the different parts of the body, the fore arm, the knee, the shoulders, and the direction of spin is thus reversed. The regular tapping of the poi as they struck came clearly over the air, and enabled listeners to visualise the poetic rhythm of this dance item. A little later the long poi enabled listeners to appreciate again the unique rhythm attained in this concerted work. In this instance the dancers use a single ball about the size of a cricket ball, on a string about 12 to 18 inches long, the ball being struck with a free hand.

A male voice concerted number, "Karoo, Karoo," was splendidly performed, the solo being taken by Tona Potae.

The solo work by Ka Winiata in "Hine e Hine," and, again, with the backing of the full Maori party, in the succeeding number, "Te Taniwha," was very delightful.

IN REMINISCENT VEIN.

THE evening's programme was rounded out by a sixth phase which picturesquely represented a garden party as being in progress in the beautiful grounds of a chief. Over the glowing scene the chief proudly casts his glance till it settles upon the guest of honour, an old-time Maori warrior in striking garb. Stirred by old familiar tunes, the warrior in impassioned tones speaks of the glories of the past. Through the mist of distance he sees a canoe with a freight of human cargo crossing the seas towards these shores. They land, and lift their tongues in a paean of praise for safe arrival. "These are ancestors of ours; they come seeking a new home far from distant Haikiki." A few more impassioned sentences, and the gathering swings into a full-blooded haka "Ka Mate Ka Mate."

THIS is the dramatic climax to the evening's programme. By speech and song there has been given to definitely the largest individual audience ever addressed in New Zealand a comprehensive mental view of Maori life, song and story. The production has been unique, balanced, entertaining and attractive. There has been no hitch. The audience has maintained its individual comfort. This dramatic entertainment has been taken into every home. Radio has, in truth, played out a pageant of unexampled scope and magnitude. Radio history has been established of a standard that augurs well for the future.

There is, of course, the formal ending, but even this is made distinctive by the Maori party most effectively singing "Home, Sweet Home," accompanied by the String Quartet, and concluding with the National Anthem.

A SPECIAL TRIBUTE.

SPECIAL recognition should be extended to the Symons-Hillwood String Quartet for the artistic and musicianly manner in which they contributed to the success of the evening. Their own individual programme numbers were in every case a sheer delight and merited the keenest enthusiasm of listeners. Apart from those items, however, their sympathetic accompaniments of the Maori voices lent charm to those numbers. Never did they obtrude beyond effectiveness or mar the melody of the voice; always was there the restraint of artistry and sympathy.

Printed and published for the New Zealand Radio Publishing Company, at the registered office, Dominion Avenue, Wellington, of the Wellington Publishing Company, by Archibald Sando, of 47 Freyberg Street, Lyall Bay, FRIDAY, FEBRUARY 10, 1928.