

THE RADIO RECORD

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

Price 3d.

VOL. I, NO. 22.

WELLINGTON, N.Z., FRIDAY, DECEMBER 16, 1927.



STAND BY TO LISTEN TO FATHER CHRISTMAS

URGENT--RADIOGRAM

I want every home to have a Radio by Christmas—if not this year, then next!

There are so many homes now, I'm frightened I might miss some on my rounds, but if you all have a radio I can talk to you all at once and make sure no one is forgotten. So, little listeners, I want you to help me; speak to Dad. If we could talk together what a lot of time it would save.

This is the most wonderful time in all the world. It has taken all the bygone ages to make to-day. I've seen them all, but I like to-day best. And I know the future is going to be better still—the world is getting brighter and happier all the time—and the brightest and happiest thing is just Radio, because it spreads Joy and Happiness—and they are the only things that can travel as fast as radio!

Now, are you ready? Stand by for Christmas-time!

YOUR FRIEND,

SANTA CLAUS.

1YA TO BROADCAST MADAME AINSLEY IN CARMEN

AN outstanding event of next week's programme from 1YA, Auckland, will be the relay of Madame Ainsley's performance of Carmen, from His Majesty's Theatre on December 20. (See programme section for details.)

In this production Madame Ainsley is establishing musical history, for this will be the first time in New Zealand such a staging has been attempted in such a way. Madame Ainsley will be supported by a cast of over 60. Last year Auckland music lovers were given a series of operatic excerpts by Madame Ainsley, including scenes from "Aida," "Il Trovatore," "Rigoletto," "Faust," "Orpheus" and "Martha." This year an even wider audience will be permitted to enjoy the glorious music of "Carmen" through Madame kindly consenting to the relay for the special benefit of music lovers at a distance whose opportunities for hearing the best are so limited.

The ballets will be arranged by Miss Daphne Knight and the whole production will be such as to merit the fullest possible support. Madame Ainsley will, of course, take the title role, and the supporting company will include Misses Nancye Hanna, Letitia Gardner, Marjorie Fair, Mary Hamilton, Irene Frost, Messrs. Jean Dellore, J. de Montalk, Hugh Woods, Morton, Davies and Burr. An orchestra of picked musicians will be under the very able conductorship of Mr. W. E. Webb.

BRILLIANT OPERATIC CAREER.

Madame Ainsley's experience in the operatic world has been very extensive. Parisian papers contain notices of her girlhood appearances at Marchesi studio concerts. As Dame Melba's protegee and special friend, Miss Ainsley found every door opened; for the Marchesi studio was a veritable salon. Here the brightest, gayest and wittiest followed in the wake of Melba and her brilliant entourage, and the great diva, then at the zenith of

her glory, showered not only gifts, but personal training on the talented young New Zealander.

After her training was complete she made her debut in London at the then Bechstein Hall, in the presence of the King and Queen, then Duke and Duchess of York, and a brilliant gathering of the English aristocracy. This was followed by a Royal command performance, at which a treasured

souvenir brooch with the Royal monogram in diamonds was presented to the young singer.

Numerous engagements followed—Albert Hall and Queen's Hall concerts, provincial tours through England, Scotland and Ireland with Backhaus, Busoni, John McCormack, and with Melba herself. Also extended contracts for the Chappell Ballad concerts, where the popular publications of this great house are first presented to the public at the Queen's Hall, London.

Thus Irene Ainsley sang her way into the hearts of the public, and incidentally lost it to the brilliant baritone who was one of the principals of the Joseph O'Mara Grand Opera Company.

Her marriage in 1912, practically decided her operatic career, and for six years she held contracts with, first the O'Mara Co., and later the Carl Rosa, playing such roles as "Carmen," "Amneris" in "Aida," "Azucena" in "Trovatore." Gluck's "Orpheus" was revived for her by Mr. O'Mara and her success in the very exacting title role was instantaneous, as her numerous Press notices testify.

KNOWN AS THE "ENGLISH CARMEN."

During the war years her career went on undimmed, until her widowhood, when a chance meeting with Miss Lillian Baylis opened out a new vista. Miss Baylis runs opera all the year round in London in conjunction with Shakespearean and classical plays. Her successful management of this scheme has secured for her the much-prized doctorate conferred by the Oxford University. At the old Vic Madame Ainsley had continual success, and became the favourite English "Carmen."

Those who cannot personally attend the outstanding performances arranged for His Majesty's on December 19 and 20—and that they will be well worth seeing and hearing is certain—will be well advised to "tune in" 1YA on the evening of December 20. Many a country home on that evening will have cause to thank Madame Ainsley for her "relay."



Christmas Atmosphere in Next Week's Programmes

Special Attractions For Children

There will be many Christmas carols and sacred songs floating through the air next week, for the broadcasting stations are honouring the auspicious occasion.

A talk on "The Christmas Festival and Its Influence" is a very fitting subject for the occasion, and will be given by the Rev. Ben. Dudley on Wednesday evening.

A distinctly Christmas-time concert will be given at 3YA on Thursday. There will be Christmas songs, stories, and carols.

MADAME GOWER-BURNS QUARTET.

Handel's "Messiah" is the source from which the Madame Gower-Burns Quartet has chosen its items. Assisting the soloists will be the choir of the East Belt Wesley Church. The choir will sing the choruses to "There Were Shepherds Abiding in the Field" and "Glory to God in the Highest," which will be sung by Madame Gower-Burns. Madame will also sing as a solo "I Know That My Redeemer Liveth." Miss Jessie King (contralto) will sing "O Thou That Tellest Good Tidings," and she will be associated with Madame Gower-Burns in two duets. Mr. Harold Prescott's fine tenor voice will be heard in "Comfort Ye, My People," and Mr. Bernard Rennell will sing "Why Do the Nations So Furiously Rage?"

Christmas for English people will always be associated with Dickens, who, more than any other writer, expressed the spirit of the English Christmas. Miss Lucy Cowan, the well-known elocutionist, will describe Bob Cratchit's Christmas Dinner, as told in the "Christmas Carol." She will also recite "Christmas Bells" (Longfellow), "Ring Out, Wild Bells" (Tennyson), and "The Donkey" (Chatterton), the last-named being descriptive of Mary's ride to Jerusalem.

A pianoforte solo by Miss Warren,

2YA. There is some really good fun coming this week from interest to young and old. Uncle Sandy will keep the ball rolling in his usual able manner. Altogether, we shall spend a happy hour.

The Juvenile Choir of the Church of Christ, Rintoul Street, is preparing an excellent hour for the 23rd. Carols, choruses and other items suitable to the festivities of Yuletide. Uncle Ernest will be away for two weeks, so Uncle Sandy will take his place on the 23rd. Hurrah for Christmas time and good cheer to all!

Christmas Eve—oh, wondrous eve—such great things happen during this evening. Before you cuddle down to await the arrival of Santa Claus, the St. Peter's Chorists will sing a great variety of carols. Uncle Jasper, Aunt Gwan and Aunt Dot will be there to wish you such a Merry Merry Christmas!

GRAND DOUBLE PROGRAMME.

At 2YA on Christmas Eve the Renshaw and Orpheus Quartets will be associated in the presentation of a programme well suited to the occasion. There have been many requests for carols to be broadcast on that evening, and the old favourites have been selected, with a view to pleasing as many listeners as possible.

The Renshaw Quartet will be heard in "Sleep, Holy Babe" and "God Rest You, Merry Gentlemen." The solo numbers will be in lighter vein. Miss Nora Greene will again sing "Billy Boy," a song which proved such an outstanding success when last broadcast by this talented contralto that there have been many requests for a repetition. Mrs. Amy Dunn will de-

light again with "Ave Maria," while Mr. Thomas Wood will render "Give Thanks and Sing." Two very popular ballads have been selected by Mr. William Renshaw, "As You Pass By" and "For You Alone"—while with Miss Nora Greene he will sing that beautiful duet from "Judas Maccabeus," "O Lovely Peace."

Following on, at 10.30 p.m., the Orpheus Quartet will devote the remainder of the evening to carols. Mr. Len. Barnes has certainly made a most delightful selection.

Special contributors to this double bill will be Miss Violet Wilson, who will be heard in humorous items, and Messrs. Berthold and Bent, who will be "on the air" with their steel guitars.

Christmas Eve at 3YA.

At the Christchurch station the concluding portion of the evening's programme will be supplied by the choir of the Trinity Congregational Church, under Mr. Fred C. Penfold. The choir will sing Christmas carols and choruses.

A Dickens sketch, that of Scrooge (from "A Christmas Carol," by Charles Dickens), will be given by Miss Naare Hooper, L.F.C.L. This recitation will be illustrated with carols and chimes, and will be a specially attractive item.

For the Children's Hour, all the Aunts and Uncles at 3YA are combining in a happy gathering to send greetings, sing songs, and tell stories to their radio family.

The rest of the programme will be of a bright and cheerful nature, too. Miss Mabel Thomas and Mr. David McGill, two very popular singers, will be there. Miss Thomas is new to radio, but will be cordially welcomed. Miss Nellie Lowe, one of the most popular contral-

tos in Christchurch, will also be singing. So will the Misses Muriel Johns and Dorothy Johnson, and Mr. Lyndon Christie (saxophone) and Mr. Jack Oxley (zither banjo) will be playing.

CAROLS AND CHORUSES BY CHOIR.

At 1YA on Wednesday there will be a special programme of Christmas music by the Baptist Chorus Choir and Carol Party, and will include solos and carols typical of "Ye Olde Time Waits." The numbers to be contributed will include an organ solo, "A Dream of Christmas," by Ketelby, with vocal and carillon effects, and will be descriptive of a child falling asleep and dreaming of Christmas waifs, fairies dancing, the howl of the wolf intermingling with the carols, and concluding with the Christmas morning ringing of bells. Among the carols to be rendered will be, "I Hear Along the Street," "Away in a Manger," "Good King Wenceslas," "The First Nowell," and "We Three Kings of Orient Are."

A feature of the programme will be the well-known and popular cantata, "Bethlehem," by Maunder, the soloists including Miss Dorothy Officer, Mrs. Litherland, Miss Dorothy Blomfield, Mrs. Pearly, and Messrs. Clinton Williams and H. Reynolds. They will be assisted by the Tabernacle Chorus Choir of one hundred voices, which is the largest church choir in Auckland. Mr. Arthur E. Wilson will be musical director and organist, and the accompanist Mrs. T. Brame Clark.

4YA CHRISTMAS PROGRAMME.

Saturday night, being Christmas Eve, some appropriate music will be included in 4YA's programme, which will be rendered by a group of the leading artists, among whom is Mr. Arthur Lungley, a baritone of the front rank.

Miss Florence Sumner, L.A.B., another prominent artist, with many successes in recent competitions to her credit, is a mezzo-soprano, who never fails to please her hearers. Her splendid interpretation will be evident in the three numbers she has chosen, two of them, "The Gift" and "The Star of Bethlehem," being typical Christmas songs.

Mrs. C. O. Flanagan, the possessor of an extremely fine voice, will be heard in several songs, including "Come unto Him," from "The Messiah."

Mr. Frank Stewart, a lyric tenor of wonderful quality, will make his first appearance before the microphone, and will no doubt be a treat in store for listeners.

Mr. A. Levi (the well known flautist), Mr. George Christie (solo cornetist of the St. Kilda Band), and Mr. A. Watson (a violinist of the first rank) will be heard in numerous items.

At the conclusion of the concert session, Christmas carols will be sung by members of the choir of the St. Andrew's Street Church of Christ.

The station will close down at eleven o'clock on Christmas Eve.

SOLE CANTERBURY AGENT:

ATWATER KENT

H. C. URLWIN

200 Manchester Street :: CHRISTCHURCH.

CALL DURING CARNIVAL WEEK.

Free demonstration arranged in your own home.

'PHONE 4778.



Bremer Tully

The Outstanding 1927-1928 Broadcasting Set.

"Bremer Tully"

NEW COUNTERPHASE RECEIVER

Twenty-seven American stations, in one evening, New York and Chicago, too—that's the wonderful record of the Bremer Tully. Have you ever heard any other set equal this performance? Or consistently secure perfect daylight reception from Australia? These feats, combined with its volume, sensitivity and selectivity, have placed the Counterphase Eight in the position of leader of its class.

The Bremer Tully, whether it is the 5, 6 or 7 Valve, excels in Tone, Ease in Tuning, and ability to separate stations through the exclusive B-T Rejector Stage. Five tuned stages are controlled by a single knob. A second knob controls volume. For greater distance, auxiliary controls are provided, which overcome interference, and provide for the very maximum in results. The longer you own the Counterphase, and the more you study radio, the more you will appreciate its superiority, and the greater will be your satisfaction and pride of ownership.

PRINCIPAL BREMER TULLY DISTRIBUTORS:

G. W. Wood and Co., Winton; Barnett's Radio Supplies, Upper Octagon, Dunedin; G. T. Gillies, Thames Street, Oamaru; Brehaut Bros., Timaru; Hatton's Garage, Temuka; J. I. Smail, Colombo Street, Christchurch; and Greyhound; Hillman Bros., Blenheim; G. Page and Co., Nelson; Superadio Limited, Herald Buildings, Auckland; Giles Bros., Tauranga; Mack's Radio Limited, 76-77 Kent Terrace, Wellington; D. A. Morrison and Co., Wanganui, Hunterville, and Patea; Radio House (G. S. Anchor) Hamilton; W. J. Sinclair & Co., Gisborne; L. J. Godfrey, Taumarunui; M. Ramson, Whakatane; R. A. James, Whangarei; Wilson's Limited, Kaikohe; George Court and Sons, Karangahape Road, Auckland; Turnbull and Jones, Wellesley Street, Auckland.

Write for descriptive literature to your nearest agent, or direct to the—

RADIO LIMITED

New Zealand Master Agents:
WRIGHT'S BUILDINGS, FORT STREET AUCKLAND.

Listen to — Our T. B. H.

ENGLAND
RUSSIA
AMERICA
HOLLAND
ITALY, AND
GERMANY,

Short Wave Adapter

Suitable for all makes of Sets.

Procureable only from

Broadcast Reception Limited

CASHEL ST. (opp. Beath's), CHRISTCHURCH.

Also T. H. BLAIN, HIGH ST., RANGIORA.
R. F. JOYCE, KAIAPOI.

Buy RADIO This Xmas

MAIL THIS COUPON.

HARRINGTONS, LTD.,
40/42 Willis Street, Wellington.

Please mail me Supplementary Radio Price List of Radio Sets, Aerial Wire, Loud Speakers, Lightning Arresters, etc.

NAME

ADDRESS

The Coupon will bring you details and prices of Radio Goods unsurpassed in Quality and Manufacture.

During the Holidays

RENEW YOUR AERIAL WIRE,
IMPROVE YOUR EARTH,
ATTACH APPROVED LIGHTNING ARRESTER,
IMPROVE LOUD SPEAKER,
IMPROVE RECEPTION.

Distributors:
BROWNIE-GEOPHONE-COSMO CRYSTAL SETS.

Harringtons

40-42 WILLIS STREET, WELLINGTON.

"Goodwill Built on Public Confidence Since 1889."

Also at Auckland, and each Australian State.



HAVING dealt with the main considerations relative to the points to be observed in purchasing and getting the best out of a multi-valve receiver, and the principal accessories accompanying it, the time is opportune for a discussion of the salient factors to be observed in purchasing and running either crystal sets, crystal and valve combinations, or small valve receivers. A discussion of this class of apparatus is of particular consequence at the present time because of the approach of the Christmas season, and of the intense interest which will be centred round radio this year.

A COMMUNITY GIFT.

The many people who are realising that a radio set is a present acceptable to every member of the family, and that a present to each member may be made a community affair by such an investment, will be eagerly scanning advertisements and seeking information regarding this new benefit to humanity.

INFORMATION FOR THE PURCHASER.

Information for the convenience of, and of interest to, prospective purchasers and owners of more expensive equipment has been made available in past issues of this column. In consideration of the fact that the majority of folk are not in a position to purchase multi-valve equipments, the crystal and small valve set user will be much in evidence in the radio shops and stores in the next few weeks. Many people have already learnt that real broadcast reception is best obtained by using at most a three-valve receiver when situated within, say, 50 to 75 miles of a transmitting station, and by listening solely to that station. When closer in still a crystal and two-valve combination will be quite successful, while within the radius of the city and outer suburban boundaries of the main centres, either a two-valve receiver, crystal, and one-valve, or even a crystal itself, will give quite respectable signals in a loudspeaker. Of course, all these ranges just quoted refer to loudspeaker reception. The range of any set is very much extended when head telephones are in use, because the energy necessary to fill a loudspeaker with really satisfactory volume will drive as many as twenty or more pairs of telephones. This does not mean that the range of the crystal set is greatly extended when using headphones, because actually the strength of a transmitting station falls very rapidly in terms of distance so far as the crystal reception is concerned. Although at three miles from the transmitter a crystal set may work a loudspeaker quite satisfactorily, it may only work one pair of telephones at twenty miles.

WORKING OF THE CRYSTAL.

It should be realised that the crystal actually works on power picked up from the transmitter, and is quite dif-

Hints for Christmas Buying

Sound Advice for Prospective Purchasers

(By M.I.R.E.)

AN IMPORTANT POINT.

Now before passing to the question of design of apparatus it would be of interest to stress a point of definite importance in the operation of sets.

If a speaker is to be operated from a crystal set it should be one of a sensitive type, and the majority of sensitive types are horn types. As a rule the best cone types require a fair volume to drive them, but this does not mean that cone types will be unsuitable. When choosing the speaker do not overlook the fact that the sound reproducer is being purchased and this is equivalent to the sound box of a gramophone. Cheapness is false economy. A cheap gramophone may have quite a respectable sound box, but invariably the motor will be cheap and have a limited life. A cheap crystal set is not likely to give trouble and can be easily fixed up if it does,

that the current from the output terminals of the receiver goes successively through each reproducing unit in turn. This connection is in contradistinction to a parallel connection, where all the reproducing units are joined to the receiver terminals and the current divides between them. Very handy connecting pins or blocks may now be purchased very reasonably from dealers for the purpose of series-connecting speakers and headphones.

It is wise to have a switch to either disconnect the aerial from the set, or else put the crystal out of action, while the set is in disuse. With the "cats-whisker" type, this wire should be lifted off the crystal, and if the crystal itself is not glass enclosed, but is exposed to the air for dust, etc., to collect on it, it should be covered over.

TYPES OF CRYSTAL SETS.

Crystal sets are mainly designed under four headings.

1. Variometer type. That is the tuning of the aerial to the correct wavelength is achieved by turning a dial which rotates one coil of wire inside another. Such a design is undoubtedly very efficient, and there is little to go wrong providing the rotor has good bearings, and the electrical windings on the rotor are connected by "pig-tails," and not through the bearings themselves, where discontinuities are likely to develop through lubrication, etc.

2. Variable tuning condenser type. In this case a coil having one or two taps going to terminals is usually provided, and tuning is accomplished by a standard tuning condenser. This is an excellent arrangement, and providing the condenser is of a good make no trouble should be experienced. The coil should be wound on a "former," which is not likely to warp with heat.

3. A Multi-tapped coil and switch. There are very few sets of this design offering, and though no serious quarrel can be picked with them; it may be said that the efficiency is likely to be less than types 1 and 2. Furthermore, the cost of switches is likely to make the price excessive. Naturally, unless the switches are well made, there is always a possibility of trouble developing.

4. Slider type. This is by far the most popular type, because of its simplicity and consequent reasonableness of price. A coil of wire wound "flat" on a round former has a metallic arm traversing its length and picking up individual turns in its movement. The cheapest forms leave the coil and arm exposed, but the more prepossessing types enclose the whole in a metal or wooden container, and the movement of the arm is indicated by a dial graduated with respect to the usual pointer.

BUY RADIO for CHRISTMAS

but a cheap speaker cannot be expected to give satisfactory results, and it is practically impossible to find one which will "flake" them. Spend three-quarters of your money, or more if necessary, on a good speaker and the balance on crystal set and aerial equipment.

CHOICE OF CRYSTAL.

The crystal itself should be of carborundum if the receiver is to drive a speaker. An ordinary crystal quickly "burns out" and becomes insensitive when it is called upon to pass too much current. Galena, iron pyrites, etc., are more sensitive than carborundum, but are not as reliable or long-lasting. Of course a new crystal may be obtained for 2s. 6d. at the most, and if such a crystal burns out in a few weeks, the cost of crystals throughout the year doesn't add much to the annual amusement bill. Nevertheless, a really good carborundum crystal with attached potentiometer and battery costing up to £1 may be considered a good investment because it will be always "on the job" and will last for a year or two anyway.

When working two loudspeakers or more than one pair of telephones always connect them in series, that is to say, they should be so connected

Providing the outfit has a workman-like appearance, nothing better should be designed. The movement of the arm should be free, and not feel like a hacksaw. Reject any set which does not come up to these specifications, because it invariably means that the contact on the end of the arm is too sharp, and it is cutting into the wire forming the tuning coil, and not only will it very soon eat through the wire, but while it is doing it, it will flake off pieces of metal which will collect between the turns of wire and destroy the efficiency of the outfit.

As an introduction to wireless the crystal set is ideal, and the prospect who wants to hear what is going on and get to learn something of this new business, should unhesitatingly spend £5 at least this Christmas, and join the ranks of 30,000 other listeners, who now available.

A POWERFUL JAP

PROPOSED NEW STATION.

The latest news from the East is that Osaka, Japan, is to have a new high-powered broadcasting station, construction of which is planned to start next spring (about next March). Its power is to be 10 kilowatts, or ten times that of the single local station now operating, JOBK, and twice that of the chief Australian stations. This station, and others at Nagoya and Tokyo, are all operated by a semi-official broadcasting monopoly. The new 10-kilowatt transmitter is to be erected 18 miles north-east of Kobe. The new station should be heard with good loudspeaker volume per medium of 4 or 5-valve sets throughout New Zealand. The Japanese evening programmes commence at 10 p.m. New Zealand ordinary standard time.

TUNNEY-DEMPSEY FIGHT

SEVEN MILLION FAMILIES LISTEN.

The simultaneous broadcasting of the Tunney-Dempsey fight through a chain of scores of broadcast stations created another boom in radio throughout the United States. The night of the fight broadcast, the streets of all cities and towns were deserted. Everyone who could get near a radio set that night, did so. It is estimated fully half the population of the country stayed home and listened to what has been called the most brilliant and stirring word picture that has yet gone over the air. For sheer sustained suspense, Graham McNamee's interpretation of the fight was unequalled in the annals of the microphone. The sweeping melodrama of the entire fight and the fever pitch of that sensational seventh round were reproduced perfectly in the homes of seven million families.



JOHNS LTD. CHANCERY ST., AUCKLAND

ARE THE "OLD RELIABLE" FIRM OF RADIO.

ORDER YOUR SET NOW.—PRICES MUST RISE SOON.

HAMMARLUND III—Q 5 Valve Set.

To those who demand the very best tone, combined with great volume, rather than extreme ranges, this set should appeal strongly. Unexcelled for large rooms or halls.

Price, £30. Accessories £21.

Guarantee: Two years.

Kit set, Complete, £21.

B BATTERY ECONOMY.

Customers regularly ask about the amount of A Battery current a set takes.

Seldom do they make the same enquiry re B Battery.

Many now realise that certain sets "eat" B Batteries.

An ALTONA 5 Valve Set uses about 16 milliamperes.

No other set tested uses less than 21, and some use 32.

B Batteries are very expensive—Buy JOHNS, LTD.'S, sets and you will be surprised at the durability of your B Batteries, especially if you have already used another make of set.

No sacrifice, whatever, of tone or volume is made to secure this great saving.

HAMMARLUND ROBERTS JUNIOR

4 Valve Set.

Although called JUNIOR, this is the same size as the HAMMARLUND ROBERTS, and it is only slightly less efficient.

It is capable of unusual distance for a four valve set, and readily surpasses most five valve sets in performance. And after all, it is performance that counts.

Unsurpassed for dry cell working.

Price £10/10/0

Accessories, Dry Cell, £8.

Accumulator, £12.

GUARANTEE.

You are all acquainted with firms who come into being with much advertising and more promises. Most of them quickly become defunct.

They give guarantees—certainly.

What are these guarantees worth? Can their customers rely on adequate service, even if they pay for it?

JOHNS, LTD., commenced business seven years ago—first in the Radio field in Auckland.

JOHNS, LTD., own their own three storey ferro-concrete building in the heart of Auckland City, housing the best Radio Workshop in New Zealand. Everyone knows that JOHNS, LTD., guarantee is fully honoured.

HAMMARLUND ROBERTS

4 Valve Set.

This is undoubtedly the best four valve set on the market to-day. Not only is it extraordinarily sensitive, but it is easy to operate, and yet perfectly stable. Big claims, but true.

And if you must use dry cell valves, nothing can approach the Hammarlund Roberts. Yet it is even better with accumulator valves.

Many satisfied users bring in American stations regularly on the speaker.

Price £24

Accessories: Accumulator £16

Dry Battery £12.

Guarantee: Two years.

Kit Set £12/18/0

MENIWADE ADAPTOR.

This is practically a single valve SHORT WAVE SET, arranged for instantaneous connection to your present set.

No fuss or worry—yet you can tune in programmes right from the other side of the world.

The price is only £7/10/0 and the quality is DE LUXE.

A cheaper set can be quoted.

We immediately met the sudden large demand for these Adaptors.

It will be months yet before our competitors can import.

JOHNS, LTD., always have the latest—or will make it.

ALTONA GRAND, 5 valve Neutrodyne

This 5 Valve Neutrodyne is a very efficient set indeed, possessing the ease of operation for which Neutrodyne are famed.

The components are of the very highest quality, and so we do not hesitate to guarantee the set for two years.

Price £27. Accessories £17

Guarantee: Two years.

MENIWADE COILS.

Some little time ago, when experiments were first made with short wave sets, our Engineers devised a very ingenious space wound coil, on a thin celluloid material.

Great efficiency was thus secured, yet the coils are very robust indeed.

So far, these have been used in our MENIWADE SHORT WAVE SETS and ADAPTORS, and already they are well known throughout New Zealand.

They can be supplied in lengths for any type of set, and those who build their own sets should ask for quotations.

Meniwave Primary, on base.....15/-

Meniwave Sec. and Ticker.....10/-

Full Set, Primary and four other coils, 20-500 metres.....45/-

MENIWADE 3 VALVE SET

This set is designed mainly for the long distance short wave transmission, though it will also bring in local broadcasting.

Similar in tuning to the MENIWADE ADAPTOR, it is supplied with broadcasting coils as well as the short wave coils.

Absolutely highest grade.

Price, less Cabinet, £12/15/0

Kit Set.....£11/7/6

SERVICE.

JOHNS, LTD., build their own sets in the most up-to-date Radio factory in New Zealand.

Every single component is chosen only after thorough test.

That is why we do not hesitate to give full guarantees—which in rare cases of necessity, are promptly and fully honoured without quibbling.

Almost every day we are asked to repair sets—some of them very costly—which only our factory could do. The agents have absolutely no facilities. Sometimes a repair can be made at a price, but at others the cost would be too high to make it worth while.

Run a train over our set—we can repair it.

ALTONA 5 Valve Neutrodyne.

This set is similar to the ALTONA GRAND. It is our most popular set, and is undoubtedly the best set on the market at anything like the price.

Price £16/10/0 Accessories £17

Guarantee: One year.

INQUIRY COUPON

We are RADIO EXPERTS, and have facilities for giving advice well worth having, in the choice of a set. Different sets suit different conditions, yet many salesmen offer only one type.

Fill in this coupon, and return to us.

1. Do you want long range—if so, how far?

2. Is loudness desired for an average house?

3. Is your house lighted by electricity?

4. Can accumulators be charged conveniently and cheaply?

5. What price do you contemplate paying?

Name

Address

20,000

This is the number of 72-page fully illustrated

RADIO CATALOGUES

which have been

DISTRIBUTED

POST FREE throughout New Zealand.

ALREADY

an order has been placed for a much larger number for next season, and these will also be distributed

POST FREE.

If you wish to secure one, send your

NAME AND ADDRESS—NOW!

In the meantime, the last issue is exhausted, but all orders will be filled, as always, at

LOWEST RULING

PRICES.

If you have suggestions to make that will enhance the value of our catalogue, send them along to us immediately.

JOHNS LIMITED, CHANCERY STREET, AUCKLAND

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.
WELLINGTON.

WELLINGTON, DECEMBER 16, 1927.

THE SPIRIT OF RADIO.

At this season it is timely to review, however briefly, the spirit of radio and the remarkable progress made in the past year in the popularisation of this modern utility or service. By some it may be regarded merely as an entertainment. Even on that plane it is still a service, and one of no mean moment either. But it cannot seriously be questioned that radio is to be regarded as infinitely more valuable than entertainment. It has its place as a distributor of news, and although regarded jealously in that field by some Press interests who think only of self, and therefore seek to be specially critical of the new force, will unquestionably prove not to be a competitor, but a supplement to a wisely directed Press publicity. In the educational field, represented by school instruction, and the wider field of popular lectures by definite authorities on world topics, a beginning only has been made. The capacity that has been developed in the United States through the linking of chains of broadcast stations, of one thinker addressing simultaneously an audience of millions, creates a staggering conception of the rapidly expanding power of radio. The area and size of that audience is likely to be immediately expanded by the development of the short wave field, by which, as was recently demonstrated in an experimental, but quite successful fashion, a British service and British speakers were heard on short wave and relayed through 3YA Christchurch to a large New Zealand audience.

The spirit that is carrying this marvellous power forward for the benefit of the race is mainly the desire to know, to be "in things," and as such is an expression of man's gregarious instinct. Gratification of that instinct widens knowledge, breaks down the barriers of ignorance, and in itself is, we take it, the best guarantee of the growth of a wide spirit of tolerance, sympathy, and understanding.

What a world is opening to the youth of to-day! Science in every field is throwing fresh knowledge on to the lap of humanity. As a hand-maiden in the distribution of that knowledge, radio takes the highest rank. By her charm she is captivating daily fresh thousands and, in this Christmas season, unique opportunity offers for spreading further afield by appropriate gifts that will endure the magic mystery of radio.

To our readers, themselves enthusiasts in broadcasting, we offer the heartiest seasonal greetings, and invite their individual co-operation, in the coming year, in widening more and more the circle of listeners. We have in execution a programme of supplying all farmers in the Dominion, over a period, with sample copies of our journal, to introduce them to radio and its possibility of service to them. As response develops to that programme, we shall feel that we have been of service to our readers and listeners, individually and collectively.

RALEIGH RADIO

A FEW FACTS CONCERNING RALEIGH RADIO

RALEIGH Radio are the largest Radio manufacturers in the British Empire. RALEIGH Radio has its own expert research and engineering departments. RALEIGH Radio is one of the six companies who have exclusive access to the largest pooled patent resources in the whole of Canada. RALEIGH Radio plant has a production capacity of 1200 Radios a day. RALEIGH Radio Receivers are designed and built to excel in tone quality, simplicity of operation, selectivity and beauty. RALEIGH Radio is now available to those discriminating New Zealand listeners who demand the highest standard of British workmanship in Radio. A range of attractive models is now on view at—

BRITISH IMPERIAL RADIO CO.,

236 Lambton Quay, WELLINGTON. 'Phone 42-412

PUBLIC OPINION

BROADCASTERS, LISTENERS
AND PRESS

LIGHT BEHIND THE SCENES.

(By D.M.E.)

Let us be fair. That the opinions and desires of the broadcast listeners of New Zealand are worthy of consideration by the Radio Broadcasting Company of New Zealand is indisputable. The Broadcasting Company cannot fail to realise that its own prosperity and the general success of broadcasting in the Dominion is inseparable from the desires of the people it serves. But to gauge the opinions and wishes of its patrons is no easy matter for the company. The position is calculated to become more complex and baffling when the opinions and desires of a few obtain wide publicity per medium of the Press Association and daily Press.

As a concrete example let us instance the case of a recent meeting of the Amateur Radio Society of Wellington. At the outset we cannot but commend the enthusiasm and good intentions of the nucleus of its members, who have kept that body alive despite the inexplicable apathy of the general body of listeners during the four or five years of its existence. Attractive and instructive lectures and demonstrations have been given from time to time at the meetings of the society, but despite this, out of a population of some 8000 broadcast listeners in and around Wellington the membership of the society is less than 100. In cold figures this means that at a 100 per cent. attendance of members they represent only one listener out of every eighty resident in and around Wellington. Nobody could reasonably claim that such a meeting was duly representative of the Wellington listeners. But the worst has yet to be told. The recent meeting of the society, the resolutions from which gained Dominion-wide publicity, was attended by only 24 members, or about one-quarter of the full membership, and, in comparative terms, represented one out of every 320 local listeners without any mandate or expression of opinion from the 7976 listeners who were not present.

To stress the matter further, at the said meeting exactly six members took any active part in the discussions or ventured to voice any opinions or wishes. The remainder of those present displayed a docile apathy in the transactions of the meeting; indeed, a proportion never troubled to raise their hands for or against the resolutions which were "carried unanimously."

Again, I must emphasise my sympathy for the live spirits who are fighting year in and year out to awaken the interest of listeners. They merit more generous support, for it is only through combined effort and interest upon the part of listeners generally that the popularity of the broadcast service can be stimulated.

Indeed, the Broadcasting Company has plainly stated that it welcomes and desires to forward the formation of listeners' leagues and societies.

The executive of the Wellington Society is blameless in the matter; the blame actually attaches to the vast body of unattached listeners themselves.

It is a matter for regret, also, that the New Zealand daily Press generally appears to regard broadcasting with more or less antagonism, frequently stressing every complaint whether supported by fact or not.

Possibly the management of some papers faintly consider broadcasting as a menace to the Press, but if they were to investigate the relations between the Press and broadcasting in countries abroad they would find that there is a hearty co-operation between these two great servants of the public, with undoubted and frankly admitted mutual advantage. Nearer home we find in all the Australian cities a liberal news service broadcast through the co-operation of one of the daily papers in each centre. It has been definitely established that rather than reduce the circulations of the papers concerned broadcasting has increased their sales.

The time is over-ripe for the Broadcasting Company to devise some method of getting into closer touch with listeners, so that a greater measure of satisfaction to the general body of its patrons can be attained. It is up to the company to move now.

In the meantime listeners must not be misled by the cultivated Press dissemination of so-called "unanimous" resolutions, which frequently express nothing but the view of one man and the apathy of a few associates.

Xmas Gifts

LAMBTON QUAY RADIO CO.

'Phone 40-553.

ON THE AIR "Polar" Twin—£9/18/6.
"LOEWB"—Set (3 valves) £29/15/6
ON THE EARTH "REGENT" Receiving Set £10 0 0
CRYSTAL SETS, 5/-
HEAD PHONES 10/-
ON THE WIRE One dozen double-sided Graphone Records, as sold at 4/- each, given to every purchaser of a valve set.

Consult us when buying
HOUSES SECTIONS, Etc.
Licensed Radio and Estate Agents,
1st Floor,
360 LAMBTON QUAY.

Save High Shop Rents.
Call (next Stewart Dawson's)
TAYLOR & HARRISON.

CHURCHES APPROVE OF BROADCASTING

CONFERENCE ACCEPTS SERVICE OFFERED

A conference of representatives of six of the principal denominations met on Tuesday afternoon in the studio at 3YA. The policy of broadcasting church services was approved and a local committee of control was set up.

The Church of England was represented by Ven. Archdeacon Taylor and Rev. C. Fraer; the Methodist Church by the Revs. W. Greenslade, A. Liver-sedge, and W. H. Speer; the Presbyterians, the Revs. W. Maclean (Oamaru), H. L. D. Webster, T. W. Armour and T. Paterson; the Congregationalists, Rev. D. Gardner Miller; Church of Christ, Rev. Howard Earl; and the Baptists, the Revs. J. Robertson and J. K. Archer (in the chair).

Mr. A. R. Harris, general manager of the Broadcasting Company, was also present.

A motion that the meeting approve of the broadcasting of church services was moved by the Rev. D. Gardner Miller, seconded by the Rev. W. Greenslade, and carried unanimously.

It was reported that the Roman Catholic Church and the Salvation Army had replied that they could not at present take advantage of the offer of facilities to broadcast their services.

The following proposals in respect to the broadcasting of religious services at its four stations at Auckland, Wellington, Christchurch and Dunedin were placed before the conference by the company:—

1. Every Sunday regular evening church services or special studio services occupying about 1½ hours.
2. Every Sunday special children's services from the company's studios for from 30 to 45 minutes prior to the commencement of the church service.
3. By arrangement, regular Sunday morning church services or special studio services.
4. By arrangement special Sunday afternoon sessions of approved character.
5. From time to time approved organ and choral music from churches or from the company's studios at the conclusion of the Sunday evening services.

6. From time to time week-day church services, organ recitals and choral festivals of acceptable character. This was seconded by the Rev. W. Greenslade and carried unanimously.

A long discussion ensued on the question of the time and place of a service which is being broadcast—whether in the studio or the church—and whether, if in the studio, it should be during the hours of the ordinary church services or afterwards. This discussion centred round the first proposal of the Broadcasting Co.: "Every Sunday regular evening church services or special studio services occupying about 1½ hours."

The following motion by the Rev. J. Robertson, seconded by the Rev. W. H. Speer, was carried, the Presbyterian representatives dissenting:— "Every Sunday regular evening services or special studio services be broadcast, the studio service to be at the regular church hour." The Presbyterians disagreed with the time of the studio service, contending that it should be after the regular service.

The remaining proposals of the company were referred to the committee.

A hearty vote of thanks to the general manager of the Broadcasting Co., Mr. A. R. Harris, for convening the conference, and for his courtesy, and a vote of thanks to the Mayor for presiding, closed the meeting.

In arranging to broadcast Sunday religious services the company has decided to give preference to the more prominent denominations that may be broadcast at regular intervals, and for the purpose of this arrangement the more prominent denominations are deemed to be: 1. Church of England; 2. Presbyterian; 3. Roman Catholic; 4. Methodist; 5. Baptist; 6. Salvation Army; 7. Church of Christ; 8. Congregational.

The broadcasting of the services of these denominations will be restricted to the first four Sundays of every month, the fifth Sunday being reserved for special services of other religious bodies or for special services rendered from the company's studios.

The Rev. W. Maclean moved: That a provisional committee be set up to co-operate with the Broadcasting Co., each church to be invited to appoint one representative.

The CAMERA Coy.

OCTAGON, DUNEDIN.

The House For Satisfaction.

Have You Heard PAGE RADIO?

This powerful Six-Valve Receiver is the machine you are looking for. For distance, selectivity and tone, it is unexcelled.

Prices from £16

BREMER-TULLY

Six and Eight-Valve Receivers.

The Best and Most Sensitive Set Money can Buy.

GILFILLAN FIVES AND SIXES.

A reasonably priced set of good quality.

The largest and best assortment of Radio requirements in Otago.

From the Otago Agents:

Barnett's Radio Supplies
OCTAGON :: DUNEDIN.

If you want SHORT WAVE OUTFITS, COILS, CONDENSERS, or CHOKES,

—you want BREMER TULLY PRODUCTS.

If you want FINE RESISTANCES, RHEOSTATS, JACKS, PLUGS, CONVENIENCE OUTLETS, for SPEAKER, BATTERY, AERIAL AND GROUND CONNECTIONS, in any ROOM, or AUTOMATIC CONTROL,

—you want YAXLEY PRODUCTS.

If you want PRECISION CONDENSERS for WAVE TRAPS, T.C. SPECIAL RECEIVERS, DOUBLE ROTOR COILS, R.F. CHOKES, 6-1 TRANSFORMERS, NEUTRALISING CONDENSERS, IMPEDANCE COUPLING UNITS, OUTPUT DEVICES.

—you want SAMSON PRODUCTS.

If you want A GOOD SPEAKER TO WORK OFF YOUR OWN CRYSTAL SET,

—you want A CLARITONE JUNIOR (Ashley Wireless Co.).

If you want THE BEST SETS OR PARTS that money can buy, ASSISTANCE, ADVICE or REPAIRS,

—you want

Mack's RADIO CO. LTD.
76-77 KENT TERRACE.
WELLINGTON.

(The House of Service), where the HIGHEST QUALITY GOODS are sold.

The Wonderful P.M. Filament

That's the Secret of the Mullard Valve!

—the secret of the Mullard's magnificent volume—its majestic power—its pure undistorted reproduction—its extraordinary economy and its all round efficiency. For the P.M. Filament is the greatest improvement in Radio since the valve superseded the crystal.

So tough that it can be tied in knots—even after 1000 hours' use. Result—safety against accidents.

It has up to three times greater length and up to five and a half times greater emission surface than an ordinary filament.

And requires only one-tenth ampere to operate efficiently—a dying match generates more heat than a P.M. Filament—result, low current consumption.

Truly the Mullard is "The Key to perfect and economical radio reception."

There's a Mullard P.M. Valve for every holder in your set.

OBTAINABLE FROM ALL GOOD RADIO DEALERS.

Mullard

THE MASTER VALVE

If unable to obtain—write N.Z. Selling Agents:

SPEEDING LTD.

Christchurch, Box 922; Dunedin, Box 576;
Wellington, Box 1581; Auckland, Box 462.

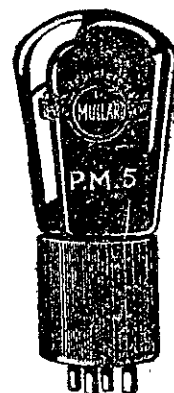


P.M. 1 (H.F.),
0.1 amp. For two-volt accumulator or dry cells.
Price 13/6.

P.M. 1 (L.F.),
0.1 amp. For two-volt accumulator or dry cells.
Price 13/6.



P.M. 3, 0.1 amp.
(General Purpose)
For 4-volt accumulator or dry cells.
Price 13/6.



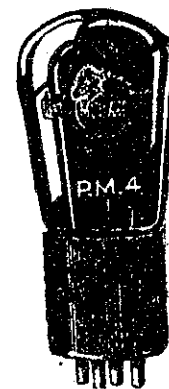
P.M. 5 (General Purpose), 0.1 amp.
For 6-volt accumulator or dry cells.
Price 13/6.



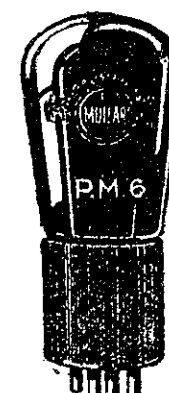
P.M. 254 (4 volts, 0.25 amps.). Super-power valves for last L.F. stage.
Price 15/-



P.M. 2 (Power).
For 2-volt accumulators, 0.15 amps.
Price 13/6.



P.M. 4 (Power).
For 4-volt accumulators or 3 dry cells, 0.1 amp.
Price 13/6.



P.M. 6 (Power).
For 6-volt accumulators or 4 dry cells, 0.1 amp.
Price 13/6.



P.M. 256 (6 volts, 0.25 amps.) Super-power valves for last L.F. stage.
Price 15/-

NEW TYPES

PM 1A; PM 3A; PM 5B.

These special valves have been produced to meet the demand for Resistance Capacity Coupling, as it has long been realised that such gives the purest reproduction of broadcast speech and music, owing to its distortionless amplification.

PM 1A is a two volt valve.

PM 3A is a four volt valve.

PM 5B is a six volt valve.

and all may be used either with dry cells or accumulator.
Prices 13/6 each

DU/2 and DU/10.

Specially designed for rectifying purposes in Battery Charges or HT Supply Units.

DU/10 is a half-wave rectifying valve requiring 4 volts across the filament and consuming 1.1 amps.

DU/2 is a full wave rectifying valve requiring 4 volts across the filament and consuming 1.1 amps.

Prices: DU/10, 17/6 each.

DU/2, 25/- each.

From the Woman's Point of View.

By VERITY.

SANDHILLS

The sand hills stretch for mile on mile
Between the sea and land,
A mass of gorse and bramble bush,
And glistening powdery sand;
The grasses bend in silken waves
As far as eye can reach,
There's a long view of the flat fields,
And a long view of the beach.

And all day long the cuckoo calls
Amid the hawthorn white,
The skylark sings and sings and sings,
And when the creeping night
Begins to claim the sand hills,
The thrush and blackbird cry,
And a lone thing in the dim fields
Sends forth a harsh reply.

And sunset from the sand hills
Is a grand breath-taking scene,
With a low tide in the far east,
And the wet brown sands between;
And the great wonderful orange west,
With the grey land lying still,
And black in the orange the distant trees
And the motionless silent mill.
—Doris Canham.

The Wearin' o' the Green!

Feminine eyes flamed, feminine hearts fluttered, as the daring, dashing wearer of that bottle-green suit lately strode along our conservative Quay. Immaculately tailored, with nice dark stripes to relieve the monotony, the change from the greys and browns beloved of the male was quite intriguing. Perhaps we shall live to see the scarlet man—so far that being woman's prerogative!

Child Welfare.

It is a sad thing if children must be deprived of the experience of growing up in their own homes. Modern child welfare aims to prevent the tragedy, if it is at all possible, though this may involve financial assistance to the family over a period of time. If the child must be separated from his family the aim is to provide him with something as near like his own home as possible—namely, a carefully chosen and carefully supervised foster home. If an institution is used at all it should seek through small cottage units and understanding staff to duplicate as far as possible the home atmosphere. Always there is the definite planning for the time when the child will again be a part of a real family circle in the community. Improvements of child welfare methods are brought about by people "who care"—who care enough to work hard and continuously for the less fortunate children of the land.—Margaret Steel Moss, Assistant-Director Pennsylvania Bureau of Children, U.S.A. From 4YA.

The Letters of Annabel Lee

My Dear Elisabeth,

The rustle of spring at last, in fact to-day there is an unmistakable scent of summer. And no time at all to bask, for the end-of-the-year turmoil is upon us. Holiday arrangements must be made, entertainment extended to unexpected trippers, a choice made of gifts not too blatantly unsuitable for Aunt Julie, Cousin George and the rest, and the burning question decided as to whom to tip and whom not to tip amid the multitudinous odd-jobbers who burden the financial landscape at this season.

Among the welter of beautiful vanities on view in the shops, and articles of quite meritorious usefulness, there is no excuse whatever for choosing other than wisely and well. If one but had the vulgar and desirable treasure chests of Fortunatus—or was it Ali Baba?—what a glad time we could have—and give. For 'tis not the gay and prosperous, but the lost and unhappy, for whom Wellington's brisk and breezy dwellers keep their softest spot and most elastic purse strings, as witnessed their ready response last Friday to the cry of the children, the kindly and efficient cadgers raking in many shekels for St. Mary's Home, Karori, the Boys' Home at the Hutt, and Fielden Taylor's Babies.

For the right gift for your man, or anyone else's, choose one of the delightful collar-boxes of British Xylonite, that is made to resemble so closely the rare and expensive tortoise-shell. Also is it to be had in manicule-sets, hand-glasses, and other oddments for the dressing-table, procurable for a quite modest sum, and almost as attractive to the eye as the real thing, and so to be treasured, for are not most things judged by their appearance, the outside of the platter? Aren't we all, in fact? Particularly "us girls"!

If Gerald, or Geoffrey, or Jonathan is a "literary gent" (like Silas Wegg)

why not try the effect on him of the narrative of turbulent seas and a far country, written by that poor old man and great traveller, Aloysius Horn. These strange episodes of adventure and daring, fished up by kind and clever Mrs. Ethelreda Lewis from the mazes and memories of the mind of a dilapidated vendor of tin-ware, make singularly absorbing reading, although perhaps not the taste of the devotees of the "pash-pash" school of fiction. Among our merchants and magnates, lawyers and litterateurs, butchers and bakers and candlestick-makers, there are those who resent the rut, in whose blood runs a persistent strain of the Viking, calling to adventure and the high seas, and to them I commend these marvellous tales of the Ivory Coast.

Dunedin has lately welcomed back to its heart several once-upon-a-time boys and girls who lived in the same parish, almost in the same street, and now are citizens of that wider world towards which some of us turn wistful eyes. Among them is Mr. C. R. Allen, novelist and playwright, to the quality of whose literary achievement our lethargic Dominion is just beginning to wake up; Mrs. Elmore, whose pastel pictures remain in the memory for fidelity of portraiture, flawless technique and poetic colour; and Captain J. Ritchie (late in command of the "Dunedin"), back on furlough at his old home, before leaving for England, and eventually Washington where he has been appointed naval attache to the British Embassy.

Several new "masks and faces" are to appear at the imminent performance at Wellington of the National Repertory Society. Which is all to the good, as some slight feeling of resentment exists because certain members of the Society so far have had none of the limelight, no opportunity of making their mark, toeing the line, and (in the vernacular) paddling away with the peanut

—or perchance the reverse! The Milne playlet, "The Boy Comes Home" will be diverting; extremely interesting also the tragic, most poignant "Riders to the Sea," by J. M. Synge; while Mr. Charles Allen's "Posterity" is looked forward to with keen interest by those who have in mind the wit and glamour of his work.

This is the Glass Age, and lately I beheld roses and lillies, quite large ones, fashioned of this perishable substance, with waving petals, long, long stems, stamens and pistil and all complete, shining and shimmering like running water, and of a cleverness and beauty quite miraculous. These I left for the lucky possessor of a mahogany table like yours; and instead purchased needlework posies and peacocks and other feather fowl of brilliant colour and weird origin, these being quite new and extremely up-to-date, the parrots in particular.

For a short vacation, smart black, shiny, flat hat-bags are to be had for 25/-, and easily manipulated in that last-minute rush up the gangway. The little journey of to-day is so much simpler than of yore, when unattached women viewed with trepidation the prospect of luggage and locomotion. Now clothes, seen and unseen, are silken and scanty, hats small and easily housed, taxis within the reach of all, and the age of chivalry no more dead than ever it was. Particularly do I commend the daylight trip to Lyttelton organised by the much maligned and indispensable Union Company. More exhilarating and interesting than the dark and dismal all-night passage, and enjoyable even to one who prefers to remain in city pent rather than venture forth in any boat whatever on the waters of Babylon, or Cook Strait, or even the Styx! Except, perhaps, round and about that solitary, lovely island yclept Stewart, where little trips in a cutter remain long in remembrance, when the boat rushed along in the tumbling water almost turning over on its side, salt wind and spray in our faces, while above and around circled the graceful gulls in a crystalline light that flooded the sea and the shore of the world. Of some such hour must Robert Louis Stevenson have been thinking when he wrote—

Give me again all that was there,
Give me the sun that shone!
Give me the eyes, give me the soul,
Give me the lad that's gone.

Your

ANNABEL LEE.

HIS GARDEN

My lover lights the world for me,
His eyes are dawn upon the sea,
His smile the sun;
The sun that maketh all things grow,
Sweet seeds that time has helped grief
sow,
One after one,
Within my heart, that garden space
Lit by his face.

Grow, seeds, and come to fruit and
flower!
O haste the hour
When he shall pluck from each small
seed
Flowers for his joy, fruit for his need.
—Mary Carolyn Davies.

From a Cynic's Cyclopaedia.

Athlete: A fellow who is not strong enough to work.
Baronet: A man who has ceased to be a gentleman, but has fallen short of becoming a nobleman.
Cannibal: A person who is honest in his love for his fellow men.
Evidence: The same facts detailed differently to suit the different detailers.

Mincement.

1½lb. chopped apples, 1½lb. beef suet, 1½lb. stoned raisins, ½ nutmeg (grated), 1½lb. currants, 1½lb. sugar, 1½lb. stoned dates, 1½lb. sultanas, rind and juice of 1 lemon, ½lb. mixed candied peel, rind and juice of 1 orange, 4oz. sweet almonds, ½ to ¾ pint brandy.
Method.—Put the chopped or shredded suet, apples and sugar into a bowl, add the stoned and chopped raisins, minced dates, cleaned currants, sultanas, chopped peel, blanched and chopped almonds, grated nutmeg, lemon and orange rind, strain in lemon and orange juice, and add brandy. Place in jars and keep air-tight.—Miss M. Christian. 2YA.

Strawberry Short Cake.

1½lb. flour, ½lb. butter, 2oz. caster sugar, strawberries, cream.
Rub butter into flour, mix in the sugar, beat eggs and stir into the other ingredients. Mix all together into a paste, turn it out on to a floured board and knead until it no longer clings to the hand. Roll it into a rather thick round, and bake in a moderate oven a light brown. Take the stalks off some strawberries, mash them with a fork, sweeten to taste. When the pastry is done, let it cool, then split it in half, cover the lower half thickly with the strawberries, put the upper half of the pastry upon them, cover the top with more of the strawberries, whip some cream, and cover over with it.—Miss M. Christian. 2YA.

Mr. America.

An American dry goods store proprietor (retired) was doing England. He was with a party visiting a house in which Milton once lived. The guide was enthusiastic: "This house was occupied by Milton. On this seat Milton sat." The American went over and kissed the seat reverently. The guide went on: "Here Milton wrote 'Paradise Lost.'" Then the American interrupted: "Say, who d'you say lived here?" "Milton." "Oh!" was the rather disgusted reply, "I thought you said Lipton!"

BROWNING-DRAKE

Get DISTANCE

WITH THE NEW

Official BROWNING-DRAKE KIT SET

More than twice as many Browning-Drake parts are sold as any other. Alone among radio kit developments, it has steadily grown for three years and now is recognised as by far the most popular assembly among radio fans.

This new Official assembly has wonderful distance-getting ability. It is extremely selective, even for congested locations.

THE FOLLOWING LIST OF APPARATUS IS USED:

- 1 Browning-Drake Kit, instructions contained (Browning-Drake Corp.)
- 1 Foundation unit consisting of Westinghouse Micarta panels drilled and engraved with sockets, resistor clips, soldering lugs, machine screws, nuts, bolts and wire (Browning-Drake Corp.).
- 1 National Impedaformer (1st stage).
- 1 National Impedaformer (3rd stage only).
- 1 Tobe Condenser, special Browning-Drake type.
- 8 .001 Tinytobe fixed condensers.
- 1 .00007 Tinytobe fixed condenser.
- 1 Yaxley Filament Switch No. 10 BD.
- 1 Yaxley 30 ohm rheostat No. 130K-BD (gold filled arrow).
- 8 Eby binding posts (Ant., Gnd., A., (A—B—), B., Det., B Amp., C., C—).
- 1 Precise Midget .0001 variable condenser.
- 1 Browning-Drake 33 ohm resistance cartridge.
- 3 Resistances (one .1 meg., one 2 meg., one 8. meg.), Electrad.
- 1 Browning-Drake balancing or neutralising device.
- 1 Amperite, type 2a.
- 2 Yaxley pup jacks (if tone filter is not used).
- 1 National tone filter (optional).

Your Local Dealer can procure for you from:—

THE NEW ZEALAND MASTER AGENTS:

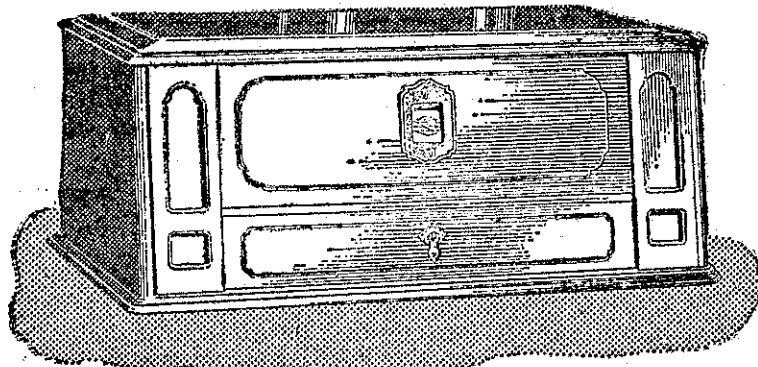
RADIO LIMITED

WRIGHT'S BUILDINGS

FORT STREET

AUCKLAND

Premier Tully



COUNTERPHASE 6 AND 8 RECEIVER

Admitted the BEST

Installed recently for Commercial use by the leading N.Z. Newspaper Offices, including:—

CHRISTCHURCH "STAR" OFFICE
CHRISTCHURCH "SUN" OFFICE
AUCKLAND "STAR" OFFICE
AUCKLAND "SUN" OFFICE

The BEST WAS REQUIRED—
BREMER TULLY WAS INSTALLED!
"THE WORLD'S BEST"

Sole Canterbury Agents:

J. I. SMAIL

The Pioneer Radio
Firm
CAREY'S BUILDINGS.

COLOMBO STREET, CHRISTCHURCH.

Some Features of Next Week's Programmes

4YA AT ITS BEST

PROGRAMME ORGANISATION

DUNEDIN'S BEST TALENT ENGAGED.

An important departure has just been made in regard to the programme organisation at 4YA. This station has now been brought into line with the other three, and engagements have been entered into with many of the leading artists in the southern city to appear regularly before the microphone. Dunedin can boast of many fine singers, and listeners will in future be able to rely on hearing the best that can be secured for radio. The concerts will be of a high standard of merit, and Dunedin will be able to demonstrate to the rest of New Zealand what a wealth of brilliant artists it possesses.

In future Tuesday night will be the band night in Dunedin. The two leading brass bands, the St. Kilda and the Kaikorai, both well-known throughout the Dominion, will be heard each week alternately, with fine popular programmes interspersed with vocal and elocutionary items.

4YA broadcasts on five evenings and two afternoons each week, and all the more important sporting fixtures are relayed.

On Sunday, at 5.45 p.m., "Big Brother Bill," who is the darling of thousands of kiddies, will conduct the children's song service, when he will be assisted by little folks of the Anglican Sunday Schools. They will sing well-known hymns.

Following the relay of the service from the Methodist Central Mission, the St. Kilda Band will, if the weather is fair, give another Sunday concert performance at its seaside rotunda. This will also be broadcast. A fine performance may be expected, for the band is in excellent form for the forthcoming contest.

On Tuesday evening the Kaikorai Band, under Bandmaster E. Franklin, has arranged a most interesting programme of popular items. Five of Dunedin's foremost artists will assist—Miss Anita Winkel (the well-known elocutionist), Mr. R. Wilson Brown (a versatile comedian), Mr. J. B. McConnell (humorous monologues and a recitation), Mr. Alfred Walmsley (one of New Zealand's finest tenors), and Mr. Reg. Richards (a leading young baritone in Dunedin).

Thursday's programme at 4YA will be of high order. For that evening's entertainment more of Dunedin's leading talent has been engaged. Miss Rita Holmes (the favourite soprano), Miss Winnie McPeak (a contralto of outstanding ability, and a possessor of a beautiful broadcasting voice), Mr. Fred M. Tuohy (a fine operatic baritone), Mr. E. G. Bond (well-known to listeners for his magnificent bass rendering), will be singing.

At Thursday's concert music will be played by Miss Alice Wilson, pianiste, one of the few young ladies who have attained F.T.C.L. letters. Miss Wilson's choice for this programme comprises works by Liszt, John Ireland, and Palmgren. Mr. Malcolm Robillard, Dunedin's leading cellist, will play, in his usual artistic style, Saint Saens's beautiful solo from "Samson and Delilah," "Softly Awakes My Heart," and other numbers.

To lend a lighter touch to the programme, on Tuesday Pastor W. D. More will deliver a humorous address at 8.45 p.m.

Big Brother Bill will be on the air on Tuesday and on Friday at 6 o'clock. There will be plenty of joy for the little folks. Big Brother wants all little listeners to learn and join in the "Happy Ditty" entitled "Let's All Sing," which goes to the tune of "Three Blind Mice":—

Let's all sing; let's all sing.
Make the rafters ring; make the rafters ring.
We don't care whether it rains or snows, or whether the old clock stops or goes.
There's nothing in worrying, goodness knows;
So let's all sing.

Mr. Les. Dalley, the people's favourite tenor, and the most successful competitor in the recent competitions, will be singing on Friday evening. Mr. Dalley has chosen three of the older numbers, including the charming old "Mary of Argyle."

Miss Roma Buss (soprano) and Miss Mollie Andrews (mezzo-soprano), two of the best-known and most pleasing young artists, will also be on the programme on Friday.

Mr. J. B. Macpherson, possessor of a most delightful bass voice, is another acquisition to Friday's programme. His numbers will be three of A. A. Milne's charming verses, set to music by Fraser Simson.

Miss Sheila Neilson, one of Dunedin's foremost elocutionists, will entertain with monologues and recitations, both serious and humorous, on Friday night.

NOTES FROM 1YA

The programme for Tuesday evening at 1YA will take the form of a drawing-room entertainment, performed by the Orpheus Quartet, assisted by Mr. Eustace Tregilgas (cornetist) and Mr. V. Bedford (bassist). This programme, which was unfortunately postponed some weeks ago, owing to unforeseen circumstances, should prove of an entertaining and novel character, including as it does several orchestral relays by the Majestic New Orchestra, under the direction of Mr. J. Whiteford-Wangui.

Miss Ina Thompson (contralto), Mrs. B. Jellard (mezzo soprano), Mr. Morris Schroeder, Mr. Will. Harris (tenor), and Mr. Reg. Thompson (light baritone) will be contributing to 1YA's programme on Thursday evening. In addition to these fine singers, Master David Campbell, the popular boy soprano, will be heard, and Mr. Norman Watson, violinist, will play.

Miss Gladys Gamman, the well-known elocutionist, will recite several humorous numbers at 1YA on Thursday.



MISS MARY TAYLOR.
A singer from the English Midlands. Her fine contralto voice is frequently heard at 3YA.

On Friday night at 1YA a number of the items—songs, instrumental, and elocutionary—will be appropriate to the Christmas season. Miss Edna Peace, a very popular contralto, Mr. James de Moutalk (bass baritone), Mr. Laurie Stuart (baritone), and Mr. Peter Dawson (elocutionist), Miss Phyllis Best (violinist), and Mr. Reg. Davies (cornetist) are the artists who will provide the programme, along with Ingall's Hawaiian instrumentalists.

Saturday evening's concert will be supplied by the Municipal Band; under Mr. Christopher Smith, after which there will be a relay of dance music from the Click Clack Cabaret.

Following the relay of the church service from St. Andrew's Church, where the preacher will be the Rev. Lamb Harvey, the municipal organ recital by Mr. Maughan Barnett will be broadcast.

JOTTINGS FROM 2YA

SYMONS-ELLWOOD-SHORT TRIO.

A trio by Reissiger, played recently, evoked considerable appreciative notice by reason of its simple rhythm and pure melodiousness. The one in D minor will prove a rival in the affections of listeners-in to the effective one in G played recently. Lovers of tune should listen particularly for the haunting second and third movements.

The happy Schubert never fails to bring musical sunshine into the concert hall. The delightful third movement of the second trio in B flat, and the light-hearted last movement, suggestive of a hunting song, will win many hearts.

It is always refreshing to a lover of music to return to the simple melodic thought and clearness of ideas of

Miss Nora Greene,
Contralto—Open for Engagements.
(Winner of the Ada Lewis Scholarship, R. A. M. London.)
TEACHER OF SINGING AND VOICE PRODUCTION.
Special terms for Dictation and Rendition.
Tel. 23-415 No. 5 Elizabeth St., Wellington.

CANCER ON THE LIP AND TONGUE IS ON THE INCREASE.

So says Wm. J. Mayne, Surgeon, Rochester, who attributes the cause to the habit of smoking.

Smokers be warned before it is too late. It is so easy to stop smoking. ANTI-BACO is a thoroughly effective remedy, absolutely harmless. ANTI-BACO takes away the craving and rebuilds the system already damaged by Nicotine Poison.

Write to-day for descriptive booklet and wonderful testimonials.

Home Welfare Proprietary
4J WILLIS ST., WELLINGTON.

Haydn. To listen to the pure melody of his trios is like drinking a glass of clearest spring water. A number of these works will be played during the coming months.

The slow movement and the gay, bustling scherzo of the second trio by Mendelssohn will also be performed. Like Schubert, Mendelssohn makes an immediate appeal through the absence of any complexity in his musical ideas.

OTHER FEATURES.

Mrs. J. W. Bailey, who will be "on the air" at 2YA on December 23, is the possessor of a sweet, clear, lyric soprano voice. Having made a special study of the idiosyncrasies and mannerisms of children, it is but natural that as a child impersonator she should have established herself as a great favourite with both the public.

Mrs. Bailey specialises in character work. He has an exceptional speaking voice, covering a range of two octaves, described in London as being one of the finest voices heard on the stage. Together, Mr. and Mrs. Bailey have given recitals in many parts of the world. Five years ago Mr. and Mrs. Bailey opened a school of dramatic art in Wanganui, and since that time their students have gained twenty championships, seven scholarships, and hundreds of prizes in competitions in and beyond Wanganui.

The Melodie Four Male Quartet, which has already been heard from the studio of 2YA, will again be broadcast from December 19. The items for Monday evening have been selected with a view to providing variety. The approach of Christmas is the reason for the inclusion of a traditional Christmas carol, "Good King Wenceslas," which will be sung by the Melodie Four with the assistance of Master Brown, who is the possessor of a pleasing soprano voice. In lighter vein, the quartet will be heard in "Old Man Moses," a story of a street flower seller, whose nose "was as red as the roses," which he sold.

Supplementing the Melodie Four and the Symons-Ellwood-Short Trio, Mr. Temple White, at the organ, will give listeners twenty minutes with Handel. His recital will commence with the "Cuckoo and Nightingale" concerto, and conclude with the immortal "Hallelujah Chorus."

The programme to be presented at 2YA on Thursday, December 22, by the popular harmonisers, the Lyric Quartet, will be another of the type that has made these four such great favourites with all listeners.

The solo items have been chosen to fit in with the festive season, and several of them will remind us that Christmas is near. Harry Phipps will be heard to advantage in that beloved song of Stephen Adams's "Star of Bethlehem," while the bass voice of Mr. W. Binet Brown is eminently suited to the singing of Gounod's great song "Nazareth." As this is the season when most families gather together, the singing of "Coming Home," by Mr. Will Goudie should strike a sympathetic chord.

On the evening of Tuesday, December 20, the popular combination will lead off with "All in a Garden Fair," a melodious quartet, the words of which are 17th century, the music from an old English song of 1665, harmonised and arranged, with a refrain composed by G. T. Francis.

Another quartet, appropriate to the season, will be "The Three Ships," a Christmas song which was composed by Colin Taylor for the Eton College Musical Society, Christmas, 1909. The poem is based on the old legend of the three ships conveying gold, frankincense, and myrrh.

A pleasing touch of variety will be afforded by the Canadian river folk song, "The Canadian Boat," in which the four voices blend delightfully.

2YA LECTURETTES.

"Politics—the Humour of It," will be Mr. Chas. E. Wheeler's theme on Thursday evening. It would be difficult to find in the Dominion anyone more competent to deal with this subject than is this bright and entertaining speaker, whose previous efforts from 2YA have been so widely appreciated.

On Monday evening, Captain Hugo inspector of New Zealand Fire Brigades, will deliver another of his instructive lecturettes on fire peril and prevention.

On Tuesday Mr. A. J. Dry will commence a series of talks on "The Whaling Stations of New Zealand, Past and Present"—a topic with a dual flavouring, historical and adventurous.

3YA NOTES

The Beckenham Male Quartet (Messrs. W. H. Odell, K. G. Archer, R. R. Pitman, and F. Jackson) will be singing on Monday. This combination has been in existence for some time, and all members sing extremely well together, so that their appearance at 3YA on Monday will be looked forward to as the band engaged for that evening is that of the 1st Canterbury Regiment, under Lieut. Hoskin, the whole evening's programme should be of a most entertaining nature.

Wednesday marks the first appearance of the quartet consisting of Misses Lilian Hanham and Alice Vinsen, and Messrs. F. C. Penfold and D. Suckling, who will sing solos as well as concerted items. A veritable feast of music is in store for all who listen in. Delightful quartets will be "Kathleen Mavourneen" and "O Peaceful Night." Duets will be sung by the lady members of the party, and by the gentlemen. These will be a sheer delight to all, as also will the solos, for each member of the party is a vocal artist.

Fine instrumental items are on Wednesday's programme for 3YA. These include selections by an orchestra under Mr. Harold Beck, and clarinet solos by Mr. Munday.

"The Real Me" is the title of an interesting talk which will be given on Friday by Mr. James Stout, president of the Christchurch Practical Psychology Club.

(Continued on Page 14.)

FACTS?

The Sterling Mfg. Coy. have been making high grade electrical apparatus for close on a quarter of a century and more than 10,000,000 Sterling Radio and Auto Instruments are in use.

We are positive that the STERLING "B" ELIMINATOR is the finest in this country.

L. B. SCOTT LTD.

Corner Manchester & Worcester

Streets, Christchurch.

Send for Lists.

Types to suit all sets.

Prices:

£9, £13/10/-, £15/15/-.



It's Amazing!
Full powered and inexpensive

That's ATWATER KENT efficiency, the delight of more than One Million Homes! Volume and tonal quality unexcelled! We will gladly demonstrate or send you particulars.

ATWATER KENT RADIO

WISEMAN'S

170-172 QUEEN STREET, AUCKLAND AGENTS.

Write for particulars of the New Patent COURIER, High and Low Wave 3-Valve Set.

NO PLUG IN COILS—JUST TURN A SWITCH.
EUROPE ON LOUD-SPEAKER.

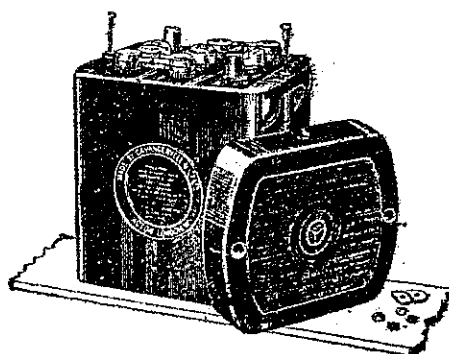
Set bare £9/9/-, complete £18/10/-.

WRITTEN GUARANTEE.



BRITISH BUILT BATTERIES

THE WORLD'S BEST



A BATTERIES.

Type TW9 Plate, 60 amp. actual, suit 3, 4, 5-valve Radio Sets. Price fully charged, £2/14/-.

Type TW13 Plate, 85 amp. actual, suit 6, 7, 8-valve Radio Sets. Price fully charged, £6.

These Batteries are enclosed in Moulded Rubber Containers, and supplied complete with carrying handles.

ALL BATTERIES ARE SENT FORWARD TO COUNTRY CLIENTS F.O.B. WELLINGTON.

Watch this advertisement for other kinds of CAV Special Radio Batteries, due to arrive before Xmas.

We have the right kind, shape and size Battery for any requirement.

A FEW TERRITORIES ARE STILL AVAILABLE FOR ENERGETIC DEALERS.

Gruars Battery House

THE BATTERY PEOPLE.

9 MAJORIBANKS STREET,

WELLINGTON.

Telephone 20-937.

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.")

A recent broadcast by 5CL, Adelaide, was carried out from the Cave Gardens in Mt. Gambier. This town is in a unique position as regards drainage. At the rear of the Town Hall is situated a large open cave into which all the streets are drained. After heavy rains thousands of gallons of water are poured into the cave and drain away immediately. Up to the present no one has been able to determine where the caves lead to.

It is a good plan to use some sort of condenser and choke unit for the loudspeaker when more than 96 volts "B" battery is used for the last audio valve. This loudspeaker unit is designed to be used as a filter to keep the high current required in the plate circuit of power tubes out of the windings of the speaker. It not only protects the speaker from excessive high current flow, but improves the quality of reproduction because the constant D.C. strain is entirely eliminated from the speaker windings.

A cable message recently reported that a two-way radio telephone service is now established between Holland and Java. It is now reported that the Java station operates on 40.1 metres. Short-wave set owners may pick up the conversation, but as it is probably in Dutch, it is not likely to prove interesting to New Zealanders generally unless an interpreter is at hand.



MR. H. E. BRUSEY

Mr. H. E. Brusey, organist and pianist, who came to Wellington from Napier, received his musical training in the Mother Country. While in Napier he conducted the Operatic Society, and was accompanist for the Choral Society, and won the championship for piano playing at the Gisborne Competitions. Mr. Brusey has for some two years been organist for The Terrace Congregational Church, and his broadcast recitals from that church have made him well known to listeners to 2YA. He will be at the organ on the evening of Saturday, 17th inst., when "The Messiah" will be broadcast from The Terrace Congregational Church.

—S. P. Andrew, photo.

In Italy no servicing is given free by the radio dealers, except for defective sets, and even so there are still a great many cheap sets sold without guarantee in the smaller communities. Reliable dealers make repairs at cost, charging for labour and materials. One interesting advertisement in a radio paper offers, to those whose sets are in trouble, advice by mail for 2s. and verbally for 1s.

Most radio novices do not understand the abbreviations "R.F." and "A.F." which are so commonly employed. R.F. is the abbreviation for radio-frequency, which is any frequency (or vibration) in the radio range, i.e., 10,000 to 80,000,000 cycles per second or 10 to 80,000 kilocycles per second. A.F. signifies audio-frequency, which is any frequency in the audible range, i.e., below 10,000 cycles per second. A.F. signals (sounds) can be heard by the unaided human ear; but R.F. signals must first be rectified, or "detected," by an audion (vacuum valve), or crystal detector, and then made audible by head phones or a loud speaker before they can be heard.

"Live-wire" methods characterise the American radio business. A Yankee dealer recently stated:—"We have a rule in operating our radio store which has been a big help to us in getting more business. This is to try to sell something to each old customer at least once each six months. We make these sales efforts by means of letters to the old customers, phone calls and personal calls."

The management of 2BL, Sydney, has just engaged Mr. Jack Cannot, the well-known comedian, as announcer and bed-time story-teller. Mr. Cannot will be widely remembered in New Zealand as pantomime "dame" and musical comedy comedian under Mr. J. C. Williamson aegis. His favourite pastime is surf-swimming, and "Switch" was in his company on frequent occasions in years gone by.

Sunday, December 18th

1YA AUCKLAND (333 METRES)—SUNDAY, DECEMBER 18.

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's song service—Uncle Leo.
6.55: Relay of church service from St. Mary's Cathedral. Preacher, Canon P. James; organist, Mr. E. Randall.
8.30: Relay of band concert from Town Hall, under the conductorship of Mr. Christopher Smith.
9.30: A thought.
9.31: God Save the King.

2YA WELLINGTON (420 METRES)—SUNDAY, DECEMBER 18.

- 6 p.m.: Children's service, conducted by Uncle Ernest.
6.55: Relay of evening service from the Terrace Congregational Church (carol service). Preacher, Rev. Ernest Weeks. Musical director, Mr. Len. Barnes; organist, Mr. Harry Brusey.
8.30 (approx.): Studio concert.
Quartet—Philharmonic Quartet, "The First Nowell" (traditional).
Vocal solo—Mrs. Ellison Porter, "Ave Maria" (Luci).
Vocal duet—Mr. Edwin Dennis and Mr. W. W. Marshall, "Watchman, What of the Night?" (Sargeant).
Quartet—Symons-Ellwood String Quartet, "Tangi" from "Maori Quartet" (Hill).
Vocal quartet—Philharmonic Quartet, "O, Happy Eyes" (Elgar).
Vocal solo—Mr. W. W. Marshall, "The Song of the Horn" (Flegier).
Quartet—Symons-Ellwood String Quartet, "Finale" from "Maori Quartet" (Hill).
Vocal quartet—Philharmonic Quartet, "Annie Laurie" (Scott).
Vocal solo—Miss Madge Freeman, "Still as the Night" (Bohm).
Quartet—Symons-Ellwood String Quartet, "Moment Musical" (Schubert).
Vocal duet—Mrs. E. Porter and Miss M. Freeman, "Calm, Silent Night" (Geotze).
Cello solo—Mr. Geo. Ellwood, "Air With String Accompaniment" (Bach).
Vocal solos—Mr. Edwin Dennis, (a) "A Little Coon's Prayer" (Hope); (b) "Gloriana" (Mallinson).
Vocal quartet—Philharmonic Quartet, "Hail, Heavenly Song" (Wagner).

3YA CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 18.

- 5.45 p.m.: Children's song service, from 3YA Studio, by Uncle Sam, assisted by scholars from Linwood Congregational Sunday School.
7.0: Relay of evening choral service from Christchurch Anglican Cathedral. Full choral service and anthem. Preacher, the Rt. Rev. Campbell West Watson, D.D., Bishop of Christchurch. Organist and choir-master, Dr. J. C. Bradshaw, Mus.Doc.
8.30: Close down.

4YA DUNEDIN (463 METRES)—SUNDAY, DECEMBER 18.

- 5.45 p.m.: Children's song service, by Big Brother Bill and the Anglican Sunday School children. Order of service: Hymn, prayer, Lord's Prayer, hymn, Scripture, reading, hymn, Bible story by Big Brother Bill, hymn, Benediction.
6.55: Relay of service from the Methodist Central Mission. Preacher, Rev. W. Walker. Organist, Mr. Chas. A. Martin.
8.10: Relay from St. Kilda (weather permitting) of concert by the St. Kilda Band. Conductor, Mr. James Dixon.

Monday, December 19th

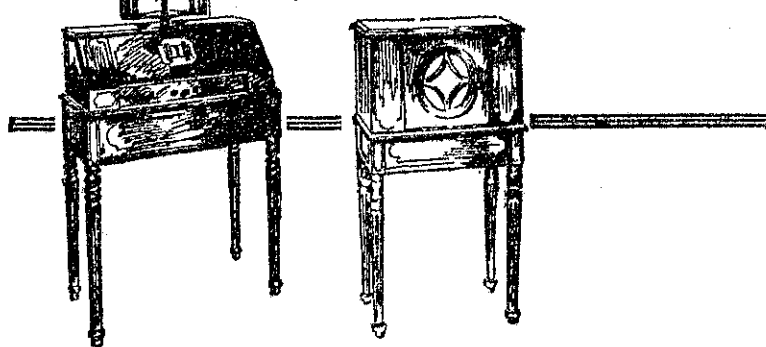
1YA AUCKLAND (333 METRES)—MONDAY, DECEMBER 19.

SILENT DAY.

2YA WELLINGTON (420 METRES)—MONDAY, DECEMBER 19.

- 3 p.m.: Afternoon session—Selected Studio items.
Chimes.
3.1: Selected gramophone items.
3.30: Lecturette—Representative of James Smith, Ltd., "Fashions."
3.45: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret. Selected gramophone items.
5.0: Close down.
6.0: Children's hour—Aunt Jo and cousins from Trinity Methodist Church. Solo and chorus, cousins, "Christmas Carol" (Sullivan). Recitation, cousin, "She Wants to Know." Chorus, cousins, "Christmas Bells" (Bailey). Aunt Jo, birthday greetings. Carol, cousin,

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 Illustrated Pamphlets and Address of Nearest Authorised Radiola Dealer.

Amalgamated Wireless
Australia Ltd.

P.O. BOX 930

WELLINGTON.

"Sweetly Sang the Angels" (Cawthorne). Recitation, cousin, "Samuel South." Chorus, cousins, "If You have a Heart That's Cheery" (Meredith). Duet and chorus, cousins, "Scatter Sweet Flowers" (Meredith). Recitations, cousin, (a) "Flo's Letter," (b) "A Christmas Dinner." Chorus, cousins, "Ring, Bells, Ring" (Coote Brown).

- 7.0: News session, market reports, and sports results.
7.40: Lecturette—Mr. G. G. Stewart, editor "Railway Magazine," "Holiday-making on the Railways."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—"March of the Mountain Gnomes" (Ellenberg).
8.5: Quartet—Melodie Four, "The Two Roses" (Werner).
8.9: Saxophone solo—Mr. Jack McEwen, "Valse Erica" (Weidoeft).
8.15: Tenor solo—Mr. Frank Bryant, "The Joy Bird" (Barnes).
8.19: Instrumental trio—Symons-Ellwood-Short Trio, "Finale" from "Trio in E Flat" (Beethoven).
8.29: Carol—Melodie Four (assisted by Master Brown), "Good King Wenceslas" (traditional).
8.33: Humour—Mr. A. Stanley Warwick, "Having It Out" (Kent).
8.39: Bass solo—Mr. W. W. Marshall, "Drake Goes West" (Sanderson).
8.44: Violin solo—Miss Ava Symons, (a) "Andantino" (Martini-Kreisler); (b) "Saltarello" (German).
8.50: Duet—Messrs. F. Bryant and R. S. Allwright, "Here's to the Maiden" (Newton).
8.55: Weather forecast.
8.56: Organ solos—Mr. H. Temple White, (a) "Cuckoo and Nightingale Concerto" (Handel); (b) "Largo in G" (Handel); (c) "Hallelujah Chorus" (Handel).
9.5: Lecturette—Captain Hugo, "Fire Peril and Prevention."
9.15: Tenor solo—Mr. C. A. Williams, "Dear Old Ilfracombe" (Berne).
9.19: Instrumental trio—Symons-Ellwood-Short Trio, "Andante, Adagio, Finale," from "Trio No. 1" (Haydn).
9.30: Sketch—Mr. A. Stanley Warwick and Miss Violet Wilson, "Stung" from "More Ever Ready Plays" (Peach).
9.42: Saxophone solo—Mr. Jack McEwen, "Souvenir" (Drdla).
9.48: Baritone solo—Mr. R. S. Allwright, "Song of the Clock" (Burchell).
9.54: Quartet—Melodie Four, "Old Man Moses" (Hume).
10.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—MONDAY, DECEMBER 19.

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Uncle Jack and Aunt Edna.
7.0: Close down.
7.15: News and reports, etc.
7.30: Talk—Mr. E. J. Bell, "Books."
8.0: Studio concert by Band of First Canterbury Regiment Infantry, under the direction of Lieut. C. H. Hoskin, assisted by 3YA artists.
Chimes. Relay of orchestral selections from Strand Picture Theatre Orchestra, under the direction of Mr. Harry Ellwood.
8.10: March—The Band, "Brigade of Guards" (Hawkins).
8.14: Vocal quartet—Beckenham Male Quartet, (a) "The Two Roses" (Werner); (b) "Old Mother Hubbard" (Wheeler).
8.21: Selection—The Band, "Boccaccio" (Suppe).
8.27: Baritone solo—Mr. K. G. Archer, "Old Barty" (Grant).
8.30: March—The Band, "Namur" (Richards).
8.34: Recital—Miss Mavis Ritchie, "Taking Willie to Lunch" (M.S.).
8.39: Selection—The Band, "Heatherland" (Douglas).
8.46: Vocal duet—Tenor and baritone, Messrs. E. R. Pitman and K. G. Archer, "The World Is Waiting for the Sunrise" (Seitz, arr. Lockhart).
8.50: Intermezzo—The Band, "Secrets" (Ancliffe).
8.55: Vocal quartet—Beckenham Male Quartet, "Topical Chorus" (own comp.).
9.0: Relay from Strand Theatre.
9.15: Vocal quartet—Beckenham Male Quartet, (a) "Piccaninny Lullaby" (Macey); (b) "When Pa Shaved Off His Whiskers" (Hall).
9.21: Valse militaire—The Band, "The Grenadiers" (Rimmer).
9.26: Baritone solo—Mr. W. H. Odell, "To a Rose" (McFadyen).
9.30: March—The Band, "Jolly Jaunts" (Curson).
9.34: Vocal quartet—Beckenham Male Quartet, "When Evening's Twilight" (Hatton).
9.38: Selection—The Band, "Echoes of Mendelssohn" (Greenwood).
9.44: Bass solo and chorus—Mr. F. Jackson and chorus, "What a Difference the Navy Made to Me" (own comp.).
9.48: Recital—Miss Mavis Ritchie, "Playmates" (Ogilvie).
9.52: March—The Band, "Steadfast and True" (Teike).
9.56: Humorous trio—Messrs. Pitman, Archer, and Jackson, "Tall Wife, Short Wife" (Hook).
9.59: Chorus—Beckenham Male Quartet, "Good Night, Ladies" (Hall).
10.0: The Band—God Save the King.

4YA DUNEDIN (463 METRES)—MONDAY, DECEMBER 19.

SILENT DAY.

Tuesday, December 20th

1YA AUCKLAND (333 METRES)—TUESDAY, DECEMBER 20.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Calford Bell.
4.30: Close down.
6 to 7: Special announcement—On this evening a relay of part of the performance of "Carmen" in His Majesty's Theatre by Madame Irene Ainsley and a cast of 60 will be given. Some variations in the following programme will, therefore, be necessary.
8.1: Relay of orchestral overture from Majestic Theatre Orchestra, under the direction of Mr. J. Whiteford-Waugh.
8.11: We will now pass over to the drawing-room of Mr. Duncan Black, who is just receiving his guests, including Miss Elsie Bentley, Miss Beryl Smith, Mrs. Bentley, and Mr. James Simpson, Mr. Eustace Tregilgas, and Mr. and Mrs. Bedford.
8.13: The guests having settled themselves comfortably in the drawing-room, Mr. Black, as host, opens the proceedings by asking the company to sing an opening chorus.
8.18: He then asks Miss Smith to sing, as a particular favour, the contralto solo, "My Ships" (Barrett).
8.23: Mr. Simpson, a pushing young tenor, then sings, "A Farewell" (Liddle).
8.27: A few jokes, cracked by mine host, who then invites Mr. Tregilgas to play "Silver Threads Among the Gold" (Rimmer) on his cornet.
8.32: Miss Bentley then favours the company with a soprano solo, "There's a Land" (Allitsen).
8.36: We now pass back to the Studio to relay a musical interlude from the Majestic Theatre.
8.46: Returning to the drawing-room, we find the company calling on the host, and Mr. Black digs into the antique music stool and produces "Dreaming of Home" (Bisley).
8.51: And then combines with Mr. Simpson in a delightful little duet.
8.56: Not to be outdone, Miss Bentley and Miss Smith get together, and sing "Island of the Purple Sea" (Gheel).
9.0: Mr. Bedford now produces his flute, and plays "Grand Fantasia" ("Il Trovatore"), (Verdi).

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 Dec. 25

—Copyright—

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

9.8: Switching back to the Studio, we broadcast our weather forecast, and then return to the drawing-room.
9.9: Just in time to hear Miss Smith singing "Three Fishers" (Hullah).
9.14: Miss Smith then tunefully combines with Miss Bentley in "I Love You Truly" (Bond).
9.18: Mr. Simpson contrives to push himself forward, and sings "I Seek for Thee in Every Flower" (Ganz).
9.23: A soprano solo by Miss Bentley, "My Hero" (Straus).
9.27: The cornet is again called upon, and Mr. Tregilgas plays "Titania" (Rimmer).
9.32: Finding the party lagging, mine host tells a tall story, and then manages to find another song "Thou'rt Passing Hence" (Sullivan).
9.36: Supper is announced, so returning to the Studio once again we pass over to the Majestic Theatre, where the orchestra is playing a musical entr'acte, and then, again switching to the drawing-room party, we hear
9.45: Miss Bentley and Mr. Black in a duet, "Funiculi Funicula" (Denza).
9.49: Mr. Bedford again favours with a flute solo, "Song Without Words" (Clinton).
9.54: Happy after their enjoyable supper, the company now sings "For You."
9.58: And then to wind up a very pleasant evening, they all join in the "Laughing Chorus."
10.1: "Good night" at the front door.
10.3: We switch back to the studio for "Our thought."
10.5: God Save the King.

2YA WELLINGTON (420 METRES)—TUESDAY, DECEMBER 20.

3 p.m.: Afternoon session—Selected Studio items.
Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
3.30: Lecturette—Mrs. Sinclair, of S. Brown, Limited, "Electric Cooking."
3.45: Selected gramophone items.
4.15: Lecturette—Dr. L. A. Line, "First Aid."
4.30: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.
5.0: Close down.
6.0: Children's hour—Uncle Jasper, Auntie Dot, and Santa Claus. Special treat. Radio Christmas trip for kiddies.
7.0: News session, market reports, and sports results.
7.40: Lecturette—Mr. E. A. Bradshaw, of Vacuum Oil Company, "The Selection of a Motor-car Oil."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—"Black Eyes" (traditional Russian air).
8.5: Quartet—Orpheus Quartet, "All in a Garden Fair" (Francis).
8.9: Flute solo—Mr. L. W. Rothwell, "Carnival de Venice" (Briccialdi).
8.15: Tenor solo—Mr. Arthur Coe, "Where'er You Walk" (Handel).
8.20: Instrumental trio—Symons-Ellwood-Short Trio, "Andante" from "Trio in E Flat" (Schubert).
8.30: Vocal duet—Mrs. Alice Harris and Mr. Len. Barnes, "Glou, Glou" (Audran).
8.34: Humour—Mr. Wm. McClellan, "Not Too Bad" (Spencer).
8.39: Contralto solo—Miss Lily Mackie, "Morning Song" (Segal).
8.43: Cello solos—Mr. Geo. Ellwood, (a) "Prelude in B Minor" (Chopin); (b) "Gavotte" (Popper).
8.50: Soprano solo—Mrs. Alice Harris, "Speak" (Tosti).
8.55: Clarinet solo—Mr. Leo. Power, "Spanish Dance, No. 1" (Moszkowski).
9.0: Weather forecast.
9.16: Quartet—Orpheus Quartet, "Boat Song" (traditional).
9.20: Instrumental trio—Symons-Ellwood-Short Trio, "Scherzo and Finale" from "Trio in E Flat" (Schubert).
9.30: Baritone solo—Mr. Len. Barnes, "Noel" (Adam).
9.36: Flute solo—Mr. L. W. Rothwell, "First Valse" (Cundy).
9.40: Vocal duet—Miss Lily Mackie and Mr. Arthur Coe, "Maying" (Nevin).
9.44: Clarinet solo—Mr. Leo. Power, (a) "Intermezzo" from "Cavalleria Rusticana" (Moszkowski); (b) "Serenade" (McBeth).
9.50: Humour—Mr. Wm. McClellan, "Having It Out" (anon.).
9.55: Quartet—Orpheus Quartet, "The Three Ships" (Taylor).
10.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—TUESDAY, DECEMBER 20. SILENT DAY.

4YA DUNEDIN (463 METRES)—TUESDAY, DECEMBER 20.

3 p.m.: Town Hall chimes.
3.1: His Master's Voice recital.
4.0: Address—"Cooking by 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. Chimes. "The Happy Ditty" as soon as the chimes finish. Family letters, the birthday basket, and the Albany Street School Boys' Brass Band. A musical treat for the family.
7.0: Close down.
7.15: News session.
7.30: Address—"Tourist Resorts in the South Island," by Mr. A. E. Wilson, Dunedin manager of the Government 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, "Call of the East" (Thomas).
8.5: Waltz—Kaikorai Band, "Senta" (Raymond).
8.12: Baritone solos—Mr. Reg. Richards, (a) "Eleanore" (Coleridge-Taylor); (b) "Drink to Me Only With Thine Eyes" (Quilter).
8.19: Humorous recital—Miss Anita Winkel, "The Serial Story."
8.24: Light vocal solos—Mr. R. Wilson Brown, (a) "Fancy You Fancying Me"; (b) "Rose of Honolulu" (Armstrong).
8.30: Selection—Kaikorai Band, selected.
8.45: Tenor solos—Mr. Alfred Walmsley, (a) "Afton Water" (Hume); (b) "Come to the Fair" (Martin).
8.51: Humorous monologue—Mr. J. B. McConnell, "The Difference" (Kelby).
8.56: Xylophone solo, with band accompaniment—Bandsman E. Andrews, "The Spooks' Parade" (Jenkol).
9.2: Weather forecast.
9.3: Recital—Miss Anita Winkel, "The Old Grey Squirrel" (Noyes).
9.9: Baritone solo—Mr. Reg. Richards, "The Ships of Yule" (Shaw).
9.13: Intermezzo scene—Kaikorai Band, "In a Persian Market" (Ketelby).
9.28: Humorous monologue—Mr. J. B. McConnell, "Arf a Cigar."
9.33: Light vocal solo—Mr. R. Wilson Brown, "When Uncle Plays a Rag" (Morse).
9.37: Selection—Kaikorai Band, "Celebrated Largo" (Handel).
9.44: Recital—Miss Anita Winkel, "The King's Breakfast" (Milne).
9.48: Tenor solo—Mr. Alfred Walmsley, "Ben Bolt" (Kneass).
9.52: Humorous recital—Mr. J. B. McConnell, "The Girl on the Stairs" (Hanray).
9.56: March—Kaikorai Band, "Boulder City" (Hume).
10.2: God Save the King.
10.4: Close down.

Wednesday, December 21st

1YA AUCKLAND (333 METRES)—WEDNESDAY, DECEMBER 21.
3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection, by Mr. Culford Bell.

LISTEN IN TO KELLOGG FLAWLESS REPRODUCTION RADIO

—Backed by 29 years Telephone experience.
It is the set that possesses ALL the qualities which you have been looking for—
Selectivity—flawless reproduction, simplicity, wide range.
Come in—hear it—and arrange for a demonstration.

ERNEST DAWSON, LTD.,

Sole Kellogg Agents.

40 MANNERS STREET

WELLINGTON.

4.30: Close down.
6.0: Children's hour—Uncle Tom.
7.0: Close down.
7.15: News and reports.
7.30: Market reports.
7.45: Talk—Mr. Norman Kerr, "Physical Culture."
8.0: Chimes.
Special programme of Christmas music by the Tabernacle Chorus Choir of 100 voices and carol party.
8 to 9 p.m. Choir and carol party in old-time Christmas melodies.
9 to 10 p.m.: The Tabernacle Chorus Choir will render the cantata, "Bethlehem" (Mauder). Conductor and organist, Mr. Arthur E. Wilson; pianist, Mrs. T. Brame-Clark.
10.0: A thought.
10.2: God Save the King.

2YA WELLINGTON (420 METRES)—WEDNESDAY, DECEMBER 21. SILENT DAY.

3YA CHRISTCHURCH (306 METRES)—WEDNESDAY, DECEMBER 21.

3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Uncle Sam and Aunt May. Bed-time stories, songs, and birthday greetings.
7.0: Close down.
7.15: Addington stock market reports.
7.30: News and reports.
7.45: Close down.
8.0: Chimes. Relay of orchestral selections from Grand Picture Theatre Orchestra, under the direction of Mrs. Black.
8.15: Baritone solo—Mr. Fred. C. Penfold, "Invictus" (Huhn).
8.18: Soprano solo—Miss Lilian Hanham, "Softly Sighs" (Weber).
8.22: Cello solo and orchestra—Miss Phyllis Porter, "Keltic Lament" for cello and orchestra (Foulds).
8.26: Contralto solo—Miss Alice Vinsen, "Ye Powers that Dwell Below" (Gluck).
8.30: Talk—Rev. B. Dudley, "The Christmas Festival and its Inference."
8.45: Orchestral suite—Orchestra, under conductorship of Mr. Harold Beck, "St. Paul's Suite," (a) "Jig"; (b) "Ostinato"; (c) "Intermezzo"; (d) "Finale" ("The Dargason"), (Holst).
9.5: Tenor solo—Mr. Douglas Suckling, "Serenade" (Schubert).
9.9: Clarinet solo—Mr. S. E. Munday, "The Last Waltz" (Weber).
9.13: Mixed vocal quartet—Misses Hanham and Vinsen, Messrs. Suckling and Penfold, "Kathleen Mavourneen" (Crouch, arr. Dicks).
9.17: Baritone recitative and aria—Mr. Fred Penfold, "She Alone Charmeth My Sadness" from "Irene" (Gounod).
9.21: Relay of orchestral selections from Grand Theatre.
9.36: Soprano solo—Miss Lilian Hanham, "Se Saran Rose" (Arditi).
9.39: Tenor and baritone duet—Messrs. Douglas Suckling and Frederick Penfold, "The Moon Hath Raised Her Lamp Above" from "Lily of Killarney" (Benedict).
9.43: Orchestral selections—Orchestra, under conductorship of Mr. Harold Beck; (a) "Andantino" (Lemare); (b) "Fiddle Dance" (Foulds).
9.50: Contralto solo—Miss Alice Vinsen, "Wind in the Trees" (Thomas).
9.53: Tenor solo—Mr. Douglas Suckling, "The Dream" (Rubenstein).
9.56: Clarinet solo—Mr. S. E. Munday, "Melodies" from "Bohemian Girl" (Balfe).
10.0: Soprano and contralto duet—Misses Lilian Hanham and Alice Vinsen, "I Heard a Voice in the Tranquil Night" (Glover).
10.4: Orchestral suite—Orchestra, under conductorship of Mr. Harold Beck, "Grossenhaus Suite" for orchestra (Woods).
10.16: Mixed vocal quartet—Misses Hanham and Vinsen and Messrs. Suckling and Penfold, "O, Peaceful Night" (German).
God Save the King.

4YA DUNEDIN (333 METRES)—THURSDAY, DECEMBER 22. SILENT DAY.



Make this a real, happy FADA Xmas

Music and Christmas are inseparable: the time-hallowed carols, the glad chimes and the merry dance music are as much a part of the festival as the Christmas Pudding.

Enquire from your nearest Fada Dealer: listen to Fada: compare it with other radio reception; then—

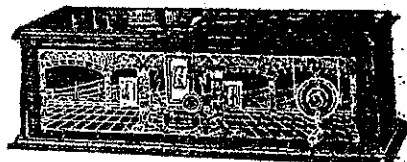
This year let Fada, the perfected Radio, bring music into your Christmas.

THE NATIONAL ELECTRICAL AND ENGINEERING COMPANY LTD.
AUCKLAND. WELLINGTON. CHRISTCHURCH. DUNEDIN.
DEALERS EVERYWHERE...

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

FADA
Radio

Metrodyne 7 Tube Set Single Dial Radio



Model 75 (as illus.) £230
Six Tube Table Set £219
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.

Mohammedan priests in Svanetia, Caucasus Mountains, look upon wireless as a "spirit speaker." A receiving set was recently publicly damned, and then thrown down the mountain side.

A cone loud-speaker of large dimensions is unnecessary provided the small cone is properly designed and assembled and it is possible to get just as much from a cone eight inches in diameter as it is from one several feet in diameter provided a good set is used and the power is applied at the correct point. In fact the smaller cones lend themselves much more readily to household use and may be operated with all musical fidelity without the least difficulty. Low tones and high tones will all be present without exaggerated overemphasis on the low tones which at one time reached the proportions of a fad in radio but has since passed on in favour of real music.

A novel place for a family receiving set is on the Union Company's coal "transport," Ilma, which is generally lying alongside the Railway wharf at Wellington. The keeper has run an aerial from the top of the huge steel tower on the vessel down to a small mast just above his family's living quarters. The Ilma is equipped with huge grabs worked by powerful winches for picking up coal from one vessel and unloading it into another. She has no propelling gear, being moved like a coal hulk from one berth to another.

RADIO LITERATURE!
TE ARO BOOK DEPOT.
Gas Co.'s Bldg., Courtenay Place, WELLINGTON.
Specialists in Radio Publications. New stocks Every Overseas Mail. Latest issue of—Radio Call Book, 3/3; Radio News, 1/11; Popular Radio, 2/1; Radio Broadcast, 2/9; Radio Encyclopedia (Gernsback) 11/2.
These Prices Include Postage.

Sold out in one week!

Our first shipment of Siemens Super Radio Batteries were cleared within one week of landing in New Zealand.
If you want the battery that ensures perfect reception, place your order NOW against the next shipment.



SIEMENS

SUPER RADIO HT DRY BATTERY
Specially designed for High Power Receiving Sets. Extra large capacity unit cells.
30 cells—50 volts (nominal).

Price 31/6

Weight, 20 lbs.

N.Z. Agents:

CORY-WRIGHT AND SALMON, Engineers, Wellington and Auckland.

Programmes Continued

— Copyright —

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

Thursday, December 22nd

1YA AUCKLAND (323 METRES)—THURSDAY, DECEMBER 22.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection, by Mr. Culford Bell.
4.30: Close down.
6.0: Children's hour—Peter Pan and Christmas carols by St. Matthew's Boys' Choir.
7.0: Close down.
7.15: News and reports and book review.
7.45: Close down.
8.0: Chimes. Relay of orchestral overture from the Rialto Theatre, under the direction of Mr. Henry C. Engel.
8.11: Light baritone solo—Mr. Reg. Thompson, "Up From Somerset" (Sanderson).
8.15: Contralto solos—Miss Ina Thomson, (a) "Now is the Time to Love" (Gounod); (b) "Home Song" (Liddle).
8.23: Elocutionary—Miss Gladys Gammon, "After the Marriage."
8.27: Violin solo—Mr. Norman Watson, "Viennese Melody" (Kreisler).
8.31: Boy soprano—Master David Campbell, (a) "Good Night, Pretty Stars" (Johnson); (b) "Cherry Ripe" (Horn).
8.39: Baritone solos—Mr. Morris Schroder, (a) "Arise, O Sun" (Day); (b) "A Perfect Day" (Jacobs-Bond).
8.47: Mezzo-soprano solo—Mrs. B. Jellard, "O, Flower of All the World" (Finden).
8.51: Relay of orchestral interlude from the Rialto Theatre.
9.0: Weather forecast.
9.2: Tenor solos—Mr. Will Harris, (a) "Doreen" (Allan); (b) "April Showers" (Silvers).
9.10: Light baritone solos—Mr. R. Thompson, (a) "Requiem of the Sea" (Steffen); (b) "Roses of Picardy" (Wood).
9.18: Monologues—Miss G. Gammon, (a) "The Last Token" (Andrews); (b) "His First Long Trousers" (Blascheck).
9.26: Contralto solo—Miss I. Thomson, "Out of the Rocks" (Dolby).
9.30: Violin solos—Mr. N. Watson, (a) "Waltz in A" (Brahms); (b) "Madrigal Simonetti."
9.37: Boy soprano—Master D. Campbell, "Love's a Merchant."
9.40: Baritone solo—Mr. M. Schroder, "Star of Eve" from "Tannhauser" (Wagner).
9.44: Relay from the Rialto Theatre.
9.50: Mezzo-soprano solos—Mrs. B. Jellard, (a) "My Dear Soul" (Sanderson); (b) "My Treasure" (Trevalsa).
9.57: Tenor solo—Mr. W. Harris, "A Little Love, a Little Kiss" (Silesa).
10.1: A thought.
10.3: God Save the King.

2YA WELLINGTON (420 METRES)—THURSDAY, DECEMBER 22.

- 3 p.m.: Afternoon session—Selected Studio items.
Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
3.30: Lecturette—Representative of James Smith, Limited, "Fashions."
3.45: Selected gramophone items.
Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.
5.0: Close down.
6.0: Children's hour—Uncle Sandy and St. Paul's Choristers. Chorus of carols, St. Paul's Choristers, (a) "Wassail Song" (traditional); (b) "See Amid the Winter Snow" (traditional). Uncle Sandy, birthday greetings. Carols, St. Paul's Choristers, (a) "Boy's Dream" (traditional); (b) "Good King Wenceslas" (traditional). Uncle Sandy, story time. Choruses, St. Paul's Choristers, (a) "God Rest You, Merry Gentlemen" (traditional); (b) "Long Ago in Bethlehem" (traditional); (c) "A Virgin Unspotted" (traditional). Recitation, cousin, (a) "The Man in Brown" (b) "Next Door." Carol, St. Paul's Choristers, "The First Nowell" (traditional). Chat by Uncle Sandy.
7.0: News session, market reports, and sports results.
7.40: Lecturette—Mr. King, D.E.B.A., "Esperanto" (Lesson 20 and final).
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—Central Mission Band, "Conqueror" (Moorehouse).
8.6: Quartet—Lyric Quartet, "Wake, Pretty Kate" (Macy).
8.10: Selection—Central Mission Band, "Saxonyhurst" (Greenwood).
8.17: Tenor solo—Mr. Harry Phipps, "Star of Bethlehem" (Adams).
8.20: Fantasia—Central Mission Band, "Gospel Trumpet" (Linter).
8.27: Soprano solo—Miss Ailsa Nichol, "Una Voce Poco Fa" (Verdi).
8.31: Quartet—Lyric Quartet, "Where My Caravan Has Rested" (Lohr).
8.34: Waltz—Central Mission Band, "Reflections" (Bordgoni).
8.43: Baritone solos—Mr. Will Goudie, (a) "Company Sergeant-Major" (Sanderson); (b) "Coming Home" (Willeby).
8.51: Selection—Central Mission Band, "Carisbrook" (Wright).
9.0: Weather forecast.
9.1: Lecturette—Mr. Chas. E. Wheeler, "Politics: The Humour of It."
9.16: March—Central Mission Band, "Port Lincoln" (Ord Hume).
9.20: Tenor solo—Mr. Geo. Howe, "Mary O'Neil" (Hardy).
9.25: Soprano solo—Miss Ailsa Nichol, "Wild Geese" (De Leath).
9.29: Fox-trot—Central Mission Band, "Alaska" (Goldman).
9.36: Quartet—Lyric Quartet, "The Rosary" (Nevin).
9.40: Fantasia—Central Mission Band, "Knight Errant" (Newton).
9.47: Bass solo—Mr. W. Binet Brown, "Nazareth" (Gounod).
9.50: Quartet—Lyric Quartet, "Obituaries" (Park).
9.54: March—Central Mission Band, "Rovers Return" (Mayne).
10.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—THURSDAY, DECEMBER 22.

- 3.0: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Chuckie and Chook, Christmas songs and stories, with carols played on the bells.
7.0: Close down.
7.15: News and reports.
7.45: Close down.
8.0: Chimes. Relay of orchestral selections from Everybody's Picture Theatre, Orchestra, under the direction of Mr. Albert Bidgood.

Mr. W. Dick, musical director of 2BL, Sydney, says that among recent callers at the studio were a middle-aged lady and her husband. The lady was from New Zealand, had sung from one of the stations there, was in Sydney for a week, and wished to broadcast in order to let New Zealand hear her. More surprises, when she learnt that our programmes are prepared a month in advance.

A radio trader in Connecticut, U.S.A. says:—"We find that the majority of radio fans in our territory like to hear band music and we 'cash in' on this situation with good results by placing signs in our show windows each week telling what stations will have band music during the week and just when such music can be heard."

The attractions both commercial and pleasant of many country towns and districts are dealt with on two evenings each week by 3AR, Melbourne, in papers brightly and pitifully written by the editor of the newspaper associated with the particular town being "broadcast." Already the numerous enquiries from metropolitan dwellers anxious to change dead-end jobs in the city for the more spacious life in the country show clearly the great influence for good to which radio news, properly handled, may exert.

The foreman carpenter on a Sydney building has brought his crystal set to work, having hung an aerial off the flagpole of the building. He has no loudspeaker, but in the lunch hour performs the function of that instrument himself for the edification of his work mates. The latter enjoy it so well that they are talking of clubbing together to buy a valve set with speaker.

New York "Radio Retailing" says:—"That the industry is groping toward perfection in engineering principles, cabinet design and in many other ways, is decidedly noticeable. Receivers and speakers, particularly, this year, are designed with a greater eye value than in the past. And the quality of reproduction has advanced by leaps and bounds. Sets have three distinct selling points this year—engineering perfection, external beauty, exquisite tone."

A New Zealander listener advises the "Radio Record" that he obtains loudspeaker reception (in Masterton) of KFKB, Milford, Kansas, U.S.A., on 241.5 metres, using 1500 watts power. Strangely enough, this is the same wave-length as that of KRON, Longbeach, California. "Switch" would like to hear from those listeners who have picked up KFKB, Milford, Kansas.

A New Zealand listener, who believed he had picked up KRC, Shanghai, China, has been advised by the Kellogg Switchboard and Supply Company, owners of the station, that it operates on a wave-length of 338 metres, and that the power input into the aerial is only 150 watts. It appears that KRC was not putting on the type of programme reported by the New Zealand listener.

An interesting romance has developed from the recent broadcasting by 3LO, Melbourne, of the Sunday school anniversary service from the Pleasant Street Methodist Church, Ballarat. During the sermon the preacher referred to the presence of one of the senior members of the church. Away in Mordialloc an old sweetheart heard the name, and entered into correspondence with the lady mentioned, with the result that they have been quietly married at Ballarat, where they have made their home.

Normally "C" batteries should read 3 and $\frac{1}{2}$, or $\frac{1}{2}$, 3, $\frac{1}{2}$, 6, and $\frac{1}{2}$ volts, depending on which type you have. Test yours with a meter toward the end of an evening's entertainment, noting the voltage you should get, from the voltage printed beside each terminal on the container. If it has fallen to $\frac{3}{4}$ volts, when it should be $\frac{1}{2}$, get a new battery.

Sometimes when a loud-speaker is placed on top of a radio receiving set the vibrations from the loudspeaker cause the internal elements of the detector valve to vibrate in sympathy, and a kind of howl or whistle will be heard. In this event the loudspeaker should be placed away from the set, some sets will howl even when the loudspeaker is pointed towards it. The obvious cure is to turn the mouth of the loudspeaker away from the set.

Radio salesmanship is an art in America. One big trader says:—"The only way in which the handling of radio can be made a success is by having salesmen who know and understand it, and a service department that can render prompt and efficient service. In our radio department we have two expert radio men who know it in and out, up and down, and one of these is always on the floor where he can be consulted by the other salesmen or the customer whenever necessary. Then we hold a 'school' for our entire staff of salesmen once each week when talks are given by one of the radio experts or perhaps a representative of some radio house who happens to be in the city. In this way every man—and woman—gets a good working knowledge of radio and can sell it whenever it becomes necessary."

- 8.15: Baritone solo—Mr. Bernard Rennell, "Sombre Woods" (Lully).
8.19: Flute solo—Mr. W. Hay, "Offertoire" (Donjon).
8.23: Recital—Miss Lucy Cowan, (a) "Christmas Bells" (Longfellow); (b) "Ring Out, Wild Bells" (Tennyson).
8.30: Instrumental trio—Christchurch Broadcasting Trio, "Second and Third Movements" from "Trio, Andante Espressivo and Scherzo" (Mendelssohn).
8.41: Contralto solo—Miss Jessie King, "Carol of Jesus Child" (Hughes).
8.45: Flute solo—Mr. W. Hay, "Serenade" (Le Thiere).
8.49: Recitals—Miss Lucy Cowan, (a) "The Donkey" (Chesteron); (b) "Bob Cratchet's Christmas Dinner" from "A Christmas Carol" (Dickens).
8.56: Instrumental trios—Christchurch Broadcasting Trio, (a) "Minuet in E Flat" (Beethoven); (b) "Cradle Song" (Schubert); (c) "Scherzo" (Gade).
9.6: Vocal quartets—Madame Gower-Burns, Miss Jessie King, and Messrs. Harold Prescott and Bernard Rennell, "Christmas Carols." Excerpts from Handel's "Messiah" will follow.
9.11: Recitative and air (tenor)—Mr. Harold Prescott, "Comfort Ye, My People" (Handel).
9.17: Recitative and air (contralto)—Miss Jessie King, "O Thou That Tellest Good Tidings to Zion" (Handel).
9.23: Recitative (soprano)—Madame Gower-Burns, "There Were Shepherds Abiding in the Field" (Handel). Chorus by the Fitzgerald Avenue Wesley Church Choir (conductor, Mr. J. Chaplin; organist, Mr. A. M. Owen), "Glory to God in the Highest" (Handel).
9.30: Recitative and duet (soprano and contralto)—Madame Gower-Burns and Miss Jessie King, "He Shall Feed His Flock," "Come Unto Him" (Handel).
9.38: Bass solo—Mr. Bernard Rennell, "Why Do the Nations So Furiously Rage Together" (Handel).
9.43: Air (soprano)—Madame Gower-Burns, "I Know That My Redeemer Liveth" (Handel).
9.51: Full final chorus—Fitzgerald Avenue Wesley Choir, "Hallelujah Chorus" (Handel).
"God Save the King."

4YA DUNEDIN (463 METRES)—THURSDAY, DECEMBER 22.

- 7 p.m.: Town Hall chimes.
7.1: Request gramophone concert.
7.30: News session.
8.0: Town Hall chimes.
8.1: Relay of orchestral selections from Octagon Theatre Orchestra.
8.11: Bass solos—Mr. E. G. Bond, "Glory of the Sea" (Sanderson); (b) "Young Tom o' Devon" (Russell).
8.18: Pianoforte solo—Miss Alice Wilson, "Waldesrauchen" (Liszt).
8.27: Soprano solos—Miss Rita Holmes, (a) "Waltz Song" from "Tom Jones" (German); (b) "Songs My Mother Taught Me" (Dvorak).
8.32: Cello solo—Mr. Malcolm Robilliard, "Humoresque" (Dvorak).
8.34: Relay of orchestral selection from Octagon Theatre.
8.45: Address—Pastor W. D. More, selected.
9.1: Baritone solos—Mr. F. M. Tuohy, (a) "For You Alone" (Geehl); (b) "Obstination" (Massenet).
9.8: Pianoforte solo—Miss Alice Wilson, "Refrain de Berceau" (Palmgren).
9.13: Contralto solo—Miss Winnie McPeak, "The Enchantress" (Hatton).
9.17: Cello solo—Mr. Malcolm Robilliard, "Umbra Ma Fu" (Handel).
9.21: Bass solo—Mr. E. G. Bond, "Rolling Down to Rio" (German).
9.25: Soprano solo—Miss Rita Holmes, "Morning" (Speaks).
9.29: Pianoforte solo—Miss Alice Wilson, "Amberley Wild Brooks" (Ireland).
9.33: Baritone solo—Mr. F. M. Tuohy, "The Blind Ploughman" (Clarke).
9.37: Relay of orchestral selections from Octagon Theatre.
9.47: Contralto solos—Miss Winnie McPeak, (a) "Four by the Clock" (Malinson); (b) "Violets" (Mallinson).
9.54: Cello solo—Mr. Malcolm Robilliard, "Softly Awakes My Heart" (Saint-Saens).
10.0: Close down.

Friday December 23rd

1YA AUCKLAND (323 METRES)—FRIDAY, DECEMBER 23.

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's hour.
7.0: Close down.
7.15: Talk on "Motoring," by Mr. Geo. Campbell.
7.30: News and reports.
7.45: Close down.
8.0: Chimes. Instrumental—Ingall's Hawaiian Instrumentalists, "Hawaiian Memories."
8.5: Light baritone solo—Mr. Laurie Stuart, "Cloze Props" (Charles).
8.9: Violin solos—Miss Phyllis Best, (a) "Valse Bluette" (Drigo); (b) "Loure" (Bach).
8.17: Contralto solo—Miss Edna Peace, "O, Thou That Tellest" (Handel).
8.22: Relay of orchestral music from Majestic Theatre Orchestra, under the direction of Mr. J. Whiteford-Waugh.
8.32: Bass-baritone solos—Mr. James de Montalk, (a) "The Lost Chord"; (b) selected.
8.40: Corner duo—Messrs. R. Davies and Salthouse, selected.
8.44: Soprano solos—Miss Hazel West, (a) "The Gift" (Bedrend); (b) "God's Garden" (Lambert).
8.52: Elocutionary—Mr. Peter Dawson, "The Awakening" from "A Christmas Carol" (Dickens).
8.57: Instrumental and vocal—Ingall's Hawaiian Instrumentalists, "Aloha Oe."
9.1: Weather forecast.
9.3: Light baritone solos—Mr. L. Stuart, (a) "Grendon Fair" (Marie); (b) "A Retreat" (Loughborough).
9.11: Violin solo—Miss P. Best, "Moments Musical" (Kreisler).
9.15: Contralto solos—Miss E. Peace, (a) "The Star of Bethlehem" (Adams); (b) "Red Roofs" (Brahe).
9.23: Instrumental and vocal—Ingall's Hawaiian Instrumentalists, "Maori Melodies."
9.28: Bass-baritone solo—Mr. J. de Montalk, "Nazareth" (Gounod).
9.33: Cornet duos—Messrs. Davies and Salthouse, selected.
9.41: Soprano solo—Miss H. West, "Alas, Those Chimes" from "Maritana" (Wallace).
9.45: Monologues—Mr. P. Dawson, (a) "The Sphinx and the Woman" (Watson); (b) "Christmas Bells" (Wayne).
9.53: Instrumental and vocal—Ingall's Hawaiian Instrumentalists, (a) "Then I'll Be Happy"; (b) "Hilo Waltz."
10.0: A thought.
10.2: God Save the King.

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

- 3 p.m.: Afternoon session—Selected Studio items.
2 p.m.: Relay from Basin Reserve of cricket match, Town v. Country.
3.1: Selected gramophone items.
3.30: Lecturette—Miss Marion Christian, of Wellington Gas Company, "Gas Cooking."
3.45: Selected gramophone items.
Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.
5.0: Close down.
6.0: Children's hour—Uncle Sandy and items from Church of Christ, Rintoul Street, Wellington. Song and chorus, cousins, "A Nocturne" (Denza). Recitation, cousin, selected. Duet, cousins, "I Don't Want to Play in Your Yard" (Petrie). Uncle Sandy, birthday greetings. Solo, cousin, "A Little Gleam of Sun" (Lesche). Recitation, cousin, selected. Part-song, cousins, "Bed in Summer" (Waddington). Chorus and carols, cousins, "Come, All Ye Faithful," and other carols. Uncle Sandy, story time.
7.0: News session, market reports, and sports results.
7.40: Lecturette—Mr. D. G. Paris, "Athletics."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—"Les Millions d'Arlequin" (Drigo).
8.5: Quartet—Celeste Quartet, "Forest Song" (Meyer-Helmund).
8.9: Italian mandolin—Mr. Lad. Haywood, "Spanish Airs."
8.16: Contralto solo—Miss Mabel Dyer, "A Summer Night" (Thomas).
8.20: Instrumental trio—Symons-Ellwood-Short Trio, "Allegro" from Trio in D Minor" (Reissiger).

YOU!

certainly have a real thrill coming to you when you listen to the remarkable broadcasting from the short wave stations in Britain, Holland, America and Russia.

Let us—without cost to you—tell you how you can easily and quickly, at surprisingly low cost, assemble your own SHORT WAVE RECEIVER (or an Adaptor for your present set) with the new SILVER-MARSHALL SHORT WAVE KIT.

BOND and BOND Ltd., Auckland

N.Z. Agents for Silver-Marshall.

Programmes Continued

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

- 8.30: Vocal and elocution—Mr. and Mrs. Will Bailey, (a) "The Answer" (Terry); (b) monologue, "The Last Bottle" (Cheyney).
8.40: Vocal duet—Miss Myra Sawyer and Mr. William Boardman, "The Gipsy Countess" (Glover).
8.44: Pianoforte solo—Mr. Gordon Short, "Polinichelle" (Rachmaninoff).
8.51: Tenor solo—Mr. Edgar Swain, "Tis the Day" (Leoncavallo).
8.57: Lecturette—Editor-Announcer, "Imperial Affairs."
9.14: Soprano solo—Miss Myra Sawyer, "Home, Sweet Home" (Bishop).
9.19: Instrumental trio—Symons-Ellwood-Short Trio, "Romance and Waltz" from "Trio in D Minor" (Reissiger).
9.29: Bass solo—Mr. W. Boardman, "A Jovial Monk Am I" (Audran).
9.34: Italian mandolin—Mr. Lad. Haywood, "A Fox-trot Medley."
9.44: Impersonation and sketch—Mr. and Mrs. Will Bailey, child impersonation, "I Want to Go With Daddy"; sketch, "Safety in Numbers."
9.51: Quartet—Celeste Quartet, "Light As Air" from "Faust" (Gounod).
10.0: God Save the King.

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

- 3 p.m.: Afternoon session—Selected Studio items.
4.30: Close down.
6.0: Children's hour—Big Brother.
7.0: Close down.
7.15: News and reports.
7.30: Talk—Mr. James Stout, president of Christchurch Practical Psychology Club, "The Real Me."
8.0: Chimes. Relay of orchestral selections from Crystal Palace Theatre Orchestra, under the direction of Mr. A. J. Bunz.
8.15: Soprano solo—Miss Frances Hamerton, "Dream o' Day Jill" (German).
8.19: Recital—Miss M. E. Juriss, A.T.C.L., "A Christmas Story" (Holmes).
8.24: Bass solo—Mr. T. D. Williams, "Captain Mac" (Sanderson).
8.28: Pianoforte solo—Studio pianist, "Shepherd's Hey" (Grainger).
8.32: Contralto solo—Miss Belle Renaut, "Jhelum Boat Song" (Finden).
8.35: Recital—Miss M. E. Juriss, A.T.C.L., "Melpomenus Jones" (Leacock).
8.40: Tenor solo—Mr. Russell Sumner, "Drink to Me Only" (Quilter).
8.43: Pianoforte solo—Studio pianist, "Mazurka" (Chaminade).
8.47: Vocal trio (contralto, tenor, and bass)—Miss Renaut, Messrs. Sumner and Williams, "Says a Well-worn Saw" (German).
8.51: Soprano solo—Miss Frances Hamerton, "The Lass With the Delicate Air" (German).
8.55: Bass solo—Mr. T. D. Williams, "Charming Chloe" (German).
9.0: Talk—Mr. Cyril Poulton, "Dancing."
9.15: Dance music—Mr. Ivan Perrin's Jazz Orchestra, (a) "Lucky Days"; (b) "O. Miss Hannah."
9.25: Contralto solos—Miss Belle Renaut, (a) "The Woman and the Horse" (Mallinson); (b) "The Nut Tree" (Schumann).
9.29: Dance music—Ivan Perrin's Orchestra, (a) "I Can't Get Over a Girl Like You"; (b) "There's Somethin' Nice About Everyone."
9.39: Tenor solo—Mr. Russell Sumner, "Off in the Silly Night" (traditional).
9.43: Dance music—Ivan Perrin's Orchestra, (a) "Crazy Words, Crazy Tune"; (b) "Ukulele Dream Girl."
9.53: Soprano and tenor duet—Miss Frances Hamerton and Mr. Russell Sumner, "Maiden of Gentle Grace" (Kerker).
9.57: Dance music—Ivan Perrin's Orchestra, (a) "Muddy Water"; (b) "Birth of the Blues."
10.7: Vocal quartet—The Melodious Four, "Swing Low, Sweet Chariot" (Burleigh).
10.11: Dance music—Ivan Perrin's Orchestra.
11.0: God Save the King.

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

- 3 p.m.: Afternoon session—Selected Studio items.
3 p.m.: Town Hall chimes.
3.1: His Master's Voice recital.
3.45: Instrumental music from the Savoy.
3.30: Talk on "Fashions," by a representative of the D.S.A.
4.0: His Master's Voice recital.
4.30: Close down.
6.0: Children's hour—Town Hall chimes, and then the "Happy Ditty," which commences the children's session by Big Brother Bill. Letters, birthday basket, and items by the Boys' Brigade, songs by the boys from the "Brigade Song Book" (a) "Anchor Song," (b) "Brigade Boy." Solo, Davy McMorland, "When the Sun Shines." Recitation, N. Anderson, "The Boy That's Wanted." Recitation, N. Armour.
7.0: Close down.
7.15: News session.
7.30: Address on the League of Nations by the Rev. E. Tuckwell, B.A., "The Humanitarian Work of the League."
8.0: Town Hall chimes.
8.1: Tenor solos—Mr. Les Dalley, (a) "Mary of Argyle" (Nelson); (b) "My Love is Like a Red, Red Rose" (Burns).
8.8: Pianoforte solo—Miss Marjorie McDowell, "Sonata, Op. 7" (Beethoven).
8.12: Soprano solos—Miss Roma Buss, (a) "Sunshine" (Cowan); (b) "Cradle Song" (Korsakov).
8.19: Recital—Miss Sheila Neilson, "A Tale of Old Japan."
8.23: Bass solo—Mr. J. B. Macpherson, "Vespers" (Simpson).
8.27: Pianoforte solo—Miss Marjorie McDowell, "On the Lake" (Moore).
8.32: Mezzo-soprano solos—Miss Mollie Andrews, (a) "Love Triumphant" (Brahms); (b) "The Wind" (Spross).
8.39: Monologue—Miss Sheila Neilson, "Annabel Lee" (Poe).
8.44: Soprano solo—Miss Roma Buss, "E'er Since the Day" from "Louise" (Thorp-Carpentier).
8.59: Pianoforte solo—Miss Marjorie McDowell, "Russian Mazurka" (Godowsky).
9.4: Bass solos—Mr. J. B. Macpherson, (a) "The Market Square" (Simson); (b) "Hoppy" (Simson).
9.11: Recital—Miss Sheila Neilson, "Public Conversations."
9.15: Relay of dance music from the Savoy.
10.0: Close down.

Saturday December 24th

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

- 3 p.m.: Afternoon session—Selected Studio items.
4.0: Literary selection by Mr. Culford Bell.
4.30: Close down.
6.0: Children's hour—Cinderella.
7.0: Close down.
7.15: News and reports and sports results.
8.0: Chimes.
8.1: Relay of Municipal Band concert from the Town Hall, under the conductorship of Mr. Christopher Smith.
9.30: Relay of dance music from the Click-Clack Cabaret by the Click-Clack Radio Orchestra, under the conductorship of Mr. Walter Smith.
11.0: A thought.
11.1: God Save the King.
2YA WELLINGTON (420 METRES)—SATURDAY, DECEMBER 24.
2.30 p.m. Relay of Plunket Shield cricket match, Otago v. Wellington, from Basin Reserve. Announcer, Mr. A. A. Varney.
3.0: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items, interspersed with cricket relay.
5.0: Close down.
6.0: Children's hour—Uncle Jasper, Auntie Dot, and Auntie Gwen. Carol, St. Peter's Choristers, selected. Aunt Gwen's Christmas talk. Carols, St. Peter's Choristers, selected. Uncle Jasper's Christmas talk. Carols, St. Peter's Choristers, selected. Sketch, Auntie Dot, "Fezziwig's Ball" from "Christmas Carol" (Dickens). Carols, St. Peter's Choristers, selected. Musical medley, Uncle Hargreaves and Pedler, mouth-organ and other instruments.
7.0: News session, market reports, and sports results.
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—"Boccherini Minuet" (Boccherini).
8.4: Quartet—The William Renshaw Quartet, (a) "Good Christian Men, Rejoice" (Neale); (b) "God Rest You, Merry Gentlemen" (traditional).

ROUGH ON LIGHTS

DIFFICULTY AT 40G.

Persons who have cause to visit 40G, Brisbane, notice that quite often one or more of the lights in the studios, reception hall or station are not alight. Although this might at first appear to be the result of carelessness on the part of those responsible in not replacing burnt-out lamps, the trouble is not this at all.

As a matter of fact, special care is taken in this respect, and almost every day a new light goes on somewhere. The trouble is that the dissipated energy from the 5000 watt transmitter is so great that the lamps all glow to a certain degree irrespective of whether they are switched on or not, the consequence being that when the power is supplied to them in the usual way, more energy is passing through the filament than they are designed for. The lamps do not, therefore, stand up for any length of time under the overload.

MYSTERIOUS ETHER

INVISIBLE, BUT EVERYWHERE.

Scientists postulate the theory that radio waves, like light waves, travel through a medium other than our atmosphere. They term this mysterious medium "ether." They say it is an imperceptible medium which pervades all space and matter. It is possible to liken it to a jelly in a jar, which, when shaken, vibrates the jelly in unison with the vibrating source. The above jelly analogy may be extended by placing a wire in the jelly and vibrating it, causing the jelly in its immediate vicinity, by reason of friction, to vibrate in sympathy with it. As a matter of fact, no energy in the true sense leaves the transmitter aerial, although two effects are caused in the medium surrounding it, namely, vertically and horizontally polarised "waves," otherwise called the magnetic and static fields.

LENZ'S LAW.

If Lenz's law is now used we see how these magnetic lines of force cut a conductor (the magnetic field cutting the stationary receiver aerial as it passes with the speed of light), and as a result causes current flow if it is a closed circuit, this latter is not applicable, as the aerial circuit is most usually an open oscillator, but a voltage is impressed on it, which in turn charges the grid of the valve of the receiving set either positively or negatively.

RADIO IN ITALY

METHOD OF TAXATION.

In Italy there is a Government tax of about 1s. 3d. on the sale of a crystal set, about 7s. 6d. on a valve set, 5s. on a loudspeaker and 1s. 3d. on each valve. The official subscribers to the broadcasting service number about 30,000, but the owners of sets in Italy who are listening-in to the programmes are probably more than double that number. This building of unlicensed sets has proved to be an important factor in keeping up the demand for radio parts which still form the bulk of the business—about 75 per cent. according to the estimate of one radio wholesaler. Where sets are purchased, those not requiring aerials are popular because they do not advertise their presence to the Government collector. The license fee is about 2s. per month. Broadcasting is conducted by a private company which receives a percentage of the taxes on radio collected by the Italian Government.

WORLD BROADCASTING

Comprehensive arrangements for world broadcasting on a scale hitherto unattempted have been completed by 3LO Melbourne.

A weekly programme will be broadcast by the big Australian station on a wave-length of 36 metres. The service was inaugurated on November 21, at 4.30 a.m., and will be continued every Monday morning between 4.30 and 6.30 a.m. Melbourne time (corresponding to 7 a.m. and 9 a.m., New Zealand time, and 18.30 and 20.30 Greenwich mean-time every Sunday), slight variations possibly being necessary from time to time to meet changing circumstances.

It should be practicable by continuous testing to perfect short-wave transmitting to such a degree that world broadcasting will become possible with satisfactory results.

Reports have already been received by 3LO from various parts of Great Britain, U.S.A., Alaska, Japan, China, India, Java, and the Pacific Isles commenting very favourably upon the reception of the short-wave service, and it is hoped that each weekly effort will result not only in improved transmission, but in better reception consequent upon continued short-wave experiments by listeners throughout the world.

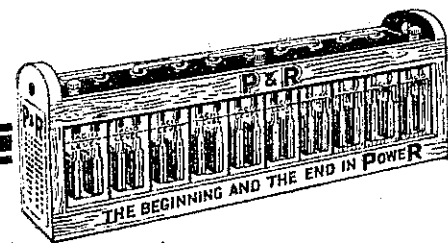
- 8.10: Steel guitar duo—Berthold and Bent, (a) "Laughing Rag" (Skinner); (b) "Adelai."
8.16: Soprano solo—Mrs. Amy Dunn, "Ave Maria" (Mascagni).
8.20: Instrumental trio—Symons-Ellwood-Short Trio, "Rondo Trio in D Minor" (Reissiger).
8.30: Tenor solos—Mr. Wm. Renshaw, (a) "As You Pass By" (Russell); (b) "For You Alone" (Gechl).
8.36: Humorous recital—Miss Violet Wilson, (a) "A Blessing" (anon.); (b) "A Census Taker's Experiences" (anon.).
8.40: Carols—The William Renshaw Quartet, (a) "Sleep, Holy Babe" (Dykes); (b) "The First Nowell" (traditional).
8.44: Piano and violin—Miss Ava Symons and Mr. Gordon Short, "First Movement, Sonata in G Minor" (Greig).
8.50: Contralto solos—Miss Nora Greene, (a) "Thanks Be to God" (Dickson); (b) "Billy Boy" (Terry).
8.55: Humorous recital—Miss Violet Wilson, "Mrs. Newly Wed."
9.0: Weather forecast.
9.1: Baritone solo—Mr. Thomas C. Wood, "Give Thanks and Sing" (Harris).
9.5: Steel guitar duo—Berthold and Bent, (a) "One, Two, Three, Four" (Phillips); (b) "You Like No Alike."
10.10: Vocal duet—Miss Nora Greene and Mr. Wm. Renshaw, "O, Lovely Peace" (Handel).
9.14: Carols—The Wm. Renshaw Quartet, (a) "I Heard the Bells on Christmas Day" (Chambers); (b) "While Shepherds Watched" (traditional); (c) "Good King Wenceslas" (Helmors).
9.25: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.
11.0: Carols—Orpheus Quartet, (a) "Hark, the Herald Angels"; (b) "Silent Night"; (c) "When Christ Was Born"; (d) "See, Amid the Winter Snow"; (e) "All this Night"; (f) "The Virgin Stills the Crying"; (g) "Carolling at Toon" (Mr. Len Barnes and quartet); (h) "Christians, Awake" (i) "First Nowell."

3YA CHRISTCHURCH (306 METRES)—SATURDAY, DECEMBER 24.

- 2 p.m.: Relay description of cricket match from Lancaster Park, Canterbury v. Otago.
6.0: Children's hour—Uncle Jack and Aunt Edna, Uncle Sam and Aunt May, Big Brother and Aunt Vi, and Chuckle and Chook. A happy gathering of the 3YA Uncles and Aunts to send Christmas greetings, songs, and stories to all their radio families.
7.0: Close down.
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, "Notturmo Tornami a Dir" from "Don Pasquale" (Donizetti).
8.18: Saxophone solo—Mr. Lyndon Christie, "Nocturne" (Chopin).
8.22: Soprano solo—Miss Mabel Thomas, "At Dawning" (Cadman).
8.25: Instrumental trios—Christchurch Broadcasting Trio, (a) "Melodie" (Geng); (b) "Third Movement" from "Trio in E Flat" (Reissiger).
8.35: Happy songs at piano—Misses Muriel Johns and Dorothy Johnson, (a) "Lucky Day" (Henderson); (b) "Christmas Chimes" (Vandersloot).
8.41: Zither banjo solo—Mr. Jack Oxley, "A Little Bit of Rough Stuff" (arr. Jack Oxley).
8.45: Contralto solo—Miss Nellie Lowe, "My Ain Folk" (Lemon).
8.49: Tenor solo—Mr. David McGill, "Sleep and the Roses" (Tate).
8.53: Recital—Miss Naare Hooper, L.T.C.L., "Scrooge" from "A Christmas Carol," illustrated with carols and chimes (Dickens).
9.0: Relay of orchestral selections from Liberty Theatre.
9.15: Soprano and tenor duet—Miss Mabel Thomas and Mr. David McGill, "But Now, Indeed, Farewell" from "Romeo and Juliet" (Gounod).
9.18: Zither banjo solos—Mr. Jack Oxley, (a) "After the Dawn" (O'Hagan); (b) "Tattoo" (Grimshaw).
9.25: Contralto solo—Miss Nellie Lowe, "Children Asleep" (Moir).
9.28: Instrumental trios—Christchurch Broadcasting Trio, (a) "Song of the Mountains" (Grieg); (b) "Boat Song" (Barcarolle, (Offenbach); (c) "Hungarian Dance" (Brahms).
9.39: Happy songs at the piano—Misses Muriel Johns and Dorothy Johnson, (a) "Go, Wash an Elephant" (Robinson); (b) "Birth of the Blues" (Henderson).
9.45: Soprano solo—Miss Mabel Thomas, "Visi d'Arte" from "Tosca" (Puccini).
9.49: Instrumental trios—Christchurch Broadcasting Trio, (a) "Souvenir de Sorrento" (Severne); (b) "Third Movement" from "Trio in F" (Godard).
9.56: Tenor solo—Mr. David McGill, "I'll Sing Thee Songs of Arah" (Clay).
10.0: Saxophone solos—Mr. Lyndon Christie, (a) "If You See Sally" (Donaldson); (b) "Elegie" (Massenet).
10.5: Choral items—Trinity Congregational Church Choir (conductor and choir-master, Mr. Fred. C. Penfold, "Christmas Carols and Choruses." God Save the King.

4YA DUNEDIN (463 METRES)—SATURDAY, DECEMBER 24.

- 7.15 p.m.: News session.
7.30: Address on "Interior Decoration," by Miss Marguerite Puechegud.
8.0: Town Hall chimes.
8.1: Orchestral music, under the direction of Mr. Chas. Parnell, relayed from Empire Theatre.
8.11: Mezzo-soprano solos—Miss Florence Sumner, (a) "The Star of Bethlehem" (Adams); (b) "Heart of Gold" (Lang).
8.18: Flute solo—Mr. A. Levi, "Allegro Maestoso" from "First Flute Concerto" (Mozart).
8.26: Violin solo—Mr. A. Watson, "Humoresque" (Dvorak).
8.30: Baritone solo—Mr. Arthur Lungley, "O Pure and Tender Star of Eve" from "Tannhauser" (Wagner).
8.35: Relay of orchestral extracts from Empire Theatre Orchestra.
8.45: Cornet solo—Mr. George Christie, "Minuet" (Beethoven).
8.48: Vocal solos—Mrs. C. O. Flanagan, (a) "Homeland" (Drummond); (b) "She Wandered Down the Mountain Side" (Clay).
(Continued on Page 13.)



Peto & Radford
(Radio Accumulators)

British & Best

"A" ACCUMULATORS		"B" ACCUMULATORS	
Unbreakable Dagenite Cases.		P. & R., 90 volt H.T. capacity 2 1/2 amps.	
Prices:		Tapped 22, 46 and 69 volts—	
3 volts from £2/18/6		Price £5/5/0 each	
6 volts, 80 amps. £4/17/6		P. & R., 20 volt H.T., capacity 2 amps.	
Obtainable at all good Radio Dealers.		Centre tapping—	
If your local Dealer cannot supply		Price £1/2/6 each	
write direct to the distributing agents for New Zealand.			

Abel Smeeton Ltd.

Customs Street, E.
AUCKLAND.

Mainly about Construction

BY "MEGOHM"

THE "R.R." POCKET CRYSTAL SET

A COMPACT AND USEFUL RECEIVER EASILY MADE AT SMALL COST

This is a handy portable crystal receiver specially designed by "Megohm" to give as much efficiency as possible in small compass, and yet be suitable for regular use in broadcast reception at home. On actual test at short range there is little to choose between this set and its brother, the "Record" crystal set.

The frame is constructed entirely of strips of rimu one inch wide and $\frac{1}{16}$ inch thick. All dimensions are shown in the diagrams. Two of the side pieces have a large hole drilled near one end. To avoid splitting, these holes should be drilled before the strips are cut to length, so that after marking out the drilling of these holes would be the first operation.

The position of the detector calls for care in fitting, but in this position it is well protected. A carborundum or semi-permanent can be fitted somewhat as shown, and is the best for the purpose, but if a cat's-whisker type is preferred the constructor will easily devise a way of adapting it.

The solenoid, of square shape, is tuned by means of a springy brass (22's) slider running along a strip at the side. To this slider is soldered a short piece of flexible wire, the other end being soldered to the 'phone connector under earth terminal. The end of detector at slider side is connected to the near end of the coil and to the aerial terminal. The other end of the detector connects to the 'phone clip by a wire running through the centre of the coil, marked A at each end.

To allow of the detector being removed, the hole in strip at end (B) next to slider must be large enough to allow the detector to pass through when the slider strip is removed.

The wire to be used is 24's enamelled, and no other size should be substituted, as this has been worked out to give the necessary wave-length in the small space available. If thicker wire is used, 24's may not tune in, and thinner wire will increase resistance. The receiver will be described and illustrated as for winding with spacing between

the wires equal to half the thickness. Such winding will occupy a length of $3\frac{1}{2}$ inches, 100 turns being necessary. This is for aerials not less than about 65 feet total length, but for short aerials 30 feet or more, close-up winding should be adopted, in which case about 170 turns can be got in.

In order to facilitate space winding, a scale with 100 spaces is provided. This scale should be cut out, split down the centre line to make two scales, and one glued along the slider track and the other on sloping top of other side piece, near outside edge. These will form a good guide in winding the wire with correct spacing. It is easier to wind in the spaces, and not on the lines. Winding must be very tight for a neat coil, and to prevent the side strips bending, a small crosspiece is inserted as shown, flat way on, and may be a tight fit and only glued at the ends. When the wire is all wound on, it is secured by liberal application of thin celluloid cement along the four narrow edges left at outside of side pieces.

To fit the crystal in the easiest way into its place, one side-strip should be screwed to one end-piece and the other side to the other end, and when the detector is suitably placed and the brass angle-piece fixed, the frame is screwed together. Aerial and earth terminals should be put into the ends before attaching to sides. The piece on which slider works is put on last, and cut to fit the full length of the frame. Before the wire is wound on, everything but the slider must be in position, including the wire from aerial terminal through side piece, to solder with beginning of coil to brass plate holding end of detector.

BRASS FITTINGS.

The angle-piece to hold the permanent detector is 22's brass $1\frac{1}{2}$ inches long and $\frac{1}{4}$ inch wide. Near one end a three-eighths inch hole is drilled, and two one-eighth inch holes at the edges as shown, for No. 4 $\frac{1}{4}$ inch brass screws.

This plate is bent at right-angles so that the centre line of the detector is not more than five-eighths from the end piece. This can now be used to find position of holes in side pieces, which may need enlarging with a sharp knife.

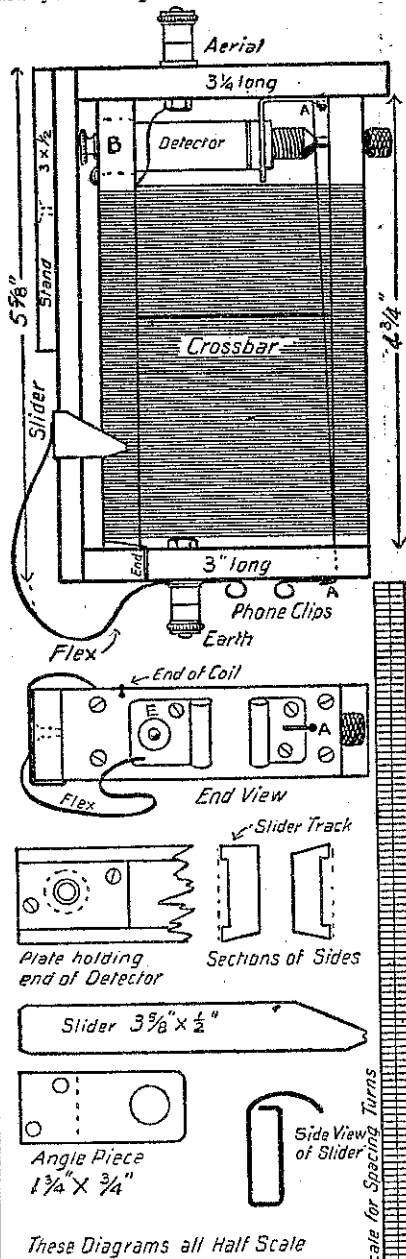
The brass plate holding small end of detector is $1\frac{1}{2}$ by width of groove, drilled to hold detector screw, and for two $\frac{1}{4}$ inch screws at ends.

WINDING THE COIL.

Begin winding the coil at B, where it passes through a hole and is soldered to the brass plate, to which the aerial terminal is also connected. The finishing end of the coil is not a connection, and is merely fastened securely through a hole in end piece near earth terminal.

The 'phone clips are made by curling a piece of thin brass round a nail as spindle $\frac{1}{4}$ inch in diameter or slightly larger.

Celluloid cement is made by dissolving chips of celluloid in sixpennyworth of liquid acetone obtained at the chemist's. The acetone and cement must always be kept well corked when not



in use. The cement sets in two or three hours. After it has been applied to the wires, any spacing that does not look correct can be put right before setting takes place.

In use the piece marked "Stand" turns on the central screw and forms a cross-piece upon which the set stands securely, with the crystal knob at the top, which is protected for carrying by the projection of end piece.

For carrying, a piece of cardboard could be made to fold round, and the whole wrapped in paper, but some constructors may prefer to make a special cardboard box for the purpose.

The approximate cost of materials will be—

	s. d.
Crystal detector, 1s. 6d. to 7s. 6d. say	3 0
1 lb. 24's enamelled wire	1 6
1 doz. $\frac{1}{4}$ inch brass screws	0 3
1 doz. No. 4 brass screws	0 6
Sheet brass	0 6
2 terminals	0 6
	6 9

The carborundum detector costs 7s. 6d., but is very suitable, as it will fix by one end only, and does not need any adjusting—is always ready. The semi-permanent type illustrated costs about 8s. 6d., and being the most difficult to fix, was used to describe. Cheaper and smaller semi-permanent can be obtained for less than the amount mentioned.

ANSWERS TO CORRESPONDENTS BY MEGOHM APPEARS ON PAGE 15.]

WRNY, New York, conducted some unusual, yet interesting, experiments recently when listeners were enabled to hear the noises made by dry ginger ale, writing a letter, goldfish swimming in an aquarium by means of a special amplifier.

MEASURING THE CAPACITY OF FIXED CONDENSERS

A SIMPLE METHOD

This is a method of obtaining a fairly accurate idea of the capacity of a fixed condenser within about five per cent. of the total. The system is best adapted to condensers larger than 0.0005 m.f.d. As standards to work by, the average amateur will find a .001 and a .0005 of good make sufficient for his purpose.

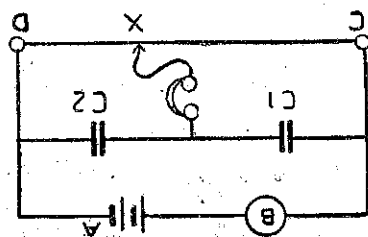
The diagram shows the hook-up, B is a buzzer of some kind, A the battery to supply current, CD is a yard or a metre of bare resistance wire stretched alongside a measure of the same length. C1 is the standard condenser and C2 the condenser to be tested. Connected

rent to pass, so a gauge from 26 to 30's s.w.g. will serve. The buzzer should be placed so that its sound does not interfere with that heard in the 'phones.

In operation, with the buzzer working, the 'phone tip is slid backwards and forwards until the point X is found where the buzzer note is faintest or practically disappears. This can generally be located within half an inch. When this has been done, measure the two distances BX and DX, then the capacity of C2 is capacity of C1 multiplied by BX and divided by DX.

This method has been tested and found useful, but naturally depends to some extent upon the way the circuit is laid out and the care with which the testing is done.

To test the accuracy of your circuit, place the .001 on one side and the .0005 on the other side, and see how near the trial calculates out. Then reverse positions and test again.



between these is one side of a pair of 'phones, the other side X being slid along the resistance wire when testing. The buzzer circuit is through the resistance wire, so the latter must be thick enough to allow a workable cur-

Intending constructors of the B eliminator need have no fear that it will happen anything as mentioned in a paragraph in "News and Notes" last week. In designing this eliminator "Megohm" aimed at efficiency and allowed very liberal margin everywhere, especially in the choke coil. The only heating the transformer gets is from the heat caused by the rectifying valve, and with P.M. 4's this is almost nil. The B. H. Raytheon tube runs hotter, but the partition keeps most of the heat from the transformer.

UPKEEP EXPENSE

Every Radio owner wants to cut it to the bone. That is why you should insist upon having the opportunity to exercise your own preference by choosing Vesta Batteries.

BATTERIES

Vesta "A" and "B" Batteries are selected to replace original equipment in very much the same way a "Cord" tyre is bought to replace a "fabric" tyre. Vesta "Costs less per month of service."

When buying a "Set" you are entitled to ask for the best equipment—Therefore, have your dealer supply both "A" and "B" Vesta Batteries.

Sole New Zealand Distributors:

E. SIME & CO. LTD.

148 WAKEFIELD STREET, WELLINGTON.

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

165 MANCHESTER STREET, CHRISTCHURCH.
SILVERTOWN CO.,

SPECIAL ITEMS

of interest and sporting results will be broadcasted during the Christmas and New Year period.

Eventually you will install a Radio Set, so why now NOW, and enjoy—wet or fine—a Merry Christmas and a Happy New Year with a BRITISH

BROWNIE CRYSTAL SET,

MARCONI 2-VALVE SET,

EMPIRE 5-VALVE SET,

—From—

Thos. Ballinger & Co. Ltd.

Showroom: 58-62 Victoria Street, WELLINGTON.

"WHERE THE QUALITY GOODS ARE SOLD."

RADIO CONSTRUCTORS.

You will find our Catalogue of Radio Parts, Electric Novelties and Tools of great interest. Mention the Radio Record and a copy will be posted free of charge.

A. & W. MCCARTHY,

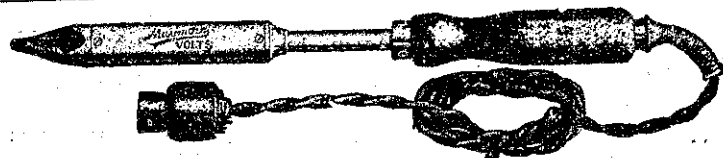
Radio Dealers, Box 382, Dunedin.

TO BUILDERS OF RADIO SETS

When you have built your own set, call upon us and we will make you a cabinet at a reasonable cost.

FLANN AND COPP,

5 STURDEE ST., Off Dixon St. WELLINGTON.



ELECTRIC SOLDERING IRONS.

	(Post Free)	14/6	15/2
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/-

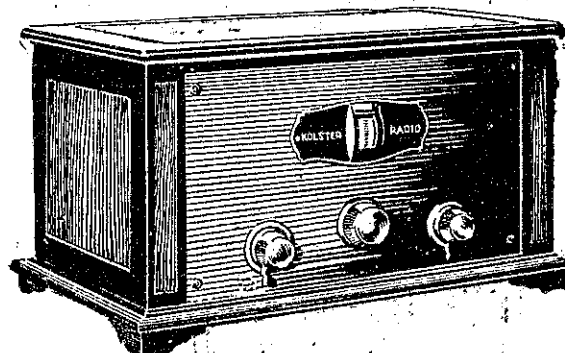
Obtainable all stores, or write:

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-Brandes.

PRICE (Set only): £30

INTERNATIONAL RADIO CO. LTD.

FORD BUILDINGS AUSTRALASIAN AGENTS. WELLINGTON.

Programmes Continued

(From page 11.)

- 8.52: Flute solo—Mr. A. Levi, "Souvenir" (German).
 8.56: Violin solo—Mr. A. Watson, "Canzone Amorosa" (Nevin).
 9.0: Weather forecast.
 9.1: Tenor solos—Mr. Frank Stewart, (a) "I Love the Moon" (Rubens); (b) "They Say" (Warwick-Evans).
 9.7: Cornet solo—Mr. George Christie, "Abide With Me" (Liddle).
 9.12: Mezzo-soprano solo—Miss Florence Sumner, "The Gift" (Behrend).
 9.16: Violin solo—Mr. A. Watson, "Coronach" (Barratt).
 9.20: Relay of orchestral music from the Empire Theatre.
 9.28: Baritone solos—Mr. Arthur Lungley, (a) "The Fortune Hunter" (Wilby); (b) "Don Juan's Serenade" (Tschalkowsky).
 9.35: Flute solo—Mr. A. Levi, "Variations on the Carnival of Venice" (Briccialdi).
 9.42: Vocal solo—Mrs. C. O. Flamanck, "Come Unto Him" from "The Messiah" (Handel).
 9.49: Cornet solo—Mr. George Christie, "Lizzie Polka" (Hartmann).
 9.56: Tenor solo—Mr. Frank Stewart, "For You Alone" (Geehl).
 10.0: Town Hall chimes.
 10.1: Christmas carols by members of the St. Andrew's Street Church of Christ Choir.
 11.0: Close down.

Sunday, December 25th

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

- 3 p.m.—Afternoon session—Selected Studio items.
 4.30: Close down.
 6.0: Children's song service—Uncle Leo.
 6.55: Relay of church service from St. Andrew's Church. Preacher, Rev. Lamb-Harvey; organist, Dr. Neil McDougall.
 8.30: Relay of organ recital from Town Hall. Organist, Mr. Maughan Barnett.
 9.30: A thought.
 9.31: Close down.

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

- 12.1 a.m.: Relay of Christmas Mass from St. Gerard's Redemptorist Church, Hawker Street, Wellington. Gounod Messe Solenne, St. Cecilia. Opening Motet, "Adeste Fideles." Offertoire, "Noel" (Adams). After the Mass, "Worthy is the Lamb" from "Messiah" (Handel). Choral Director, Mr. Frank J. Oakes; organist, Mr. H. Mount.
 1.30 a.m. (approx.): Close down.
 6.55 p.m.: Relay of evening service from St. Thomas's Anglican Church, Wellington South. Vicar, Rev. C. V. Rooke, M.A., T.C.D. Preacher, Rev. Percy Houghton, M.A., Vicar of Brooklyn. Organist and choir-master, Mr. W. H. Collie, L.L.C.M.

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

- 5.45 p.m.: Children's song service by Uncle Sam, assisted by scholars from Durham Street Methodist Sunday School, from 3YA Studio.
 7.0: Relay of evening service from Christchurch Anglican Cathedral. Full choral evensong and anthem. Christmas carols will be sung near the close of the service. Pipe organ voluntaries after the Benediction by the Cathedral organist. Preacher, the Very Rev. Awdry Julius, Dean of Christchurch. Organist and choir-master, Dr. J. C. Bradshaw, Mus.Doc.
 After the conclusion of the Cathedral service, the following programme will be given from 3YA Studio:—
 'Cello solo—Mr. Hamilton Dickson, "Slavonic Fantasia" (Dvorak-Kreisler).
 Tenor solo—Mr. Russell Sumner, "The Legend" (Tschalkowsky).
 Violin solo—Miss Thelma Cusack, "Valse Triste" from Arvid Jarnfeldt's drama, "Kuolema," Op. 44 (Sibelius).
 Soprano solo—Miss Frances Hamerton, "O, Holy Night," with violin obbligato by Miss Thelma Cusack (Busch).
 'Cello solos—Mr. Hamilton Dickson, (a) "Harlequin" (Popper); (b) "Serenade Espagnole" (Glazounov).
 Tenor solo—Mr. Russell Sumner, "An Evening Song" (Blumenthal).
 Violin solo—Miss Thelma Cusack, "Siciliano and Rigaudon" (Kreisler).
 Soprano solo—Miss Frances Hamerton, "Rejoice Greatly" from "Messiah" (Handel).
 God Save the King.

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

- 5.45 p.m.: Children's Christmas song service, by Big Brother Bill and a choir of children's voices.
 7.0: Town Hall chimes.
 Relay of service from Hanover Street Baptist Church. Preacher, Rev. E. S. Tuckwell, B.A.
 8.15: Gramophone recital of Christmas music.
 Close down.

CHESS BY RADIO

A NOVELTY AT 1YA

During the entertainment sessions beginning December 20 and ending December 24, a novelty "stunt" in the form of a chess game will be played between station 1YA and listeners.

The procedure will be as follows:—
 At 8 p.m. on Tuesday, December 20, 1YA will broadcast the first move of the game. The first opposing move then received per telephone from listener will be accepted, and at the first opportunity or break in the entertainment programme the listener's move and the station's counter-move will be broadcast.
 Thereafter the game will be continued throughout the evening sessions during the week until the game is concluded.

For the benefit of those listeners who have not followed the game with certainty, or who have not correctly received the moves, the positions on the board will be described at intervals.

It is believed that this is the first occasion on which a chess game has been played "on the air," and as there are a great number of chess enthusiasts among listeners, it is expected that the innovation will appeal, not only as a game, but as a distinct novelty.

Radio Buyers' Guide

Clip out and paste above your set the following alphabetical list of Radio lines. You'll find it helpful when buying, for it contains

The World's Best Radio Products

ACCUMULATORS—Three Star.

BATTERIES "B"—Burgess, Dry; Columbia, Dry; Three Star, Wet; Tab, Rechargeable Dry.

CONDENSERS, Fixed—Igrad, Sangamo.

CONDENSERS, Variable—Gilfillan, Bremer Tully, Ormond, National, Wavemaster.

DIALS—Gilfillan, Kurz Kasch.

ELIMINATORS—Majestic, National, Philips, Mullard.

FILTERS—Tone, National, Amplion.

GRAMOPHONE UNITS—Nora, Browns.

MASTS AND FITTINGS—Laker.

NAME PLATES—Yaxley.

PLUGS (Telephone and Speaker)—Yaxley, Jee, Weston.

RADIO RECEIVING SETS—Bremer Tully, Gilfillan, Browning Drake, Travler Portable.

RHEOSTATS—Yaxley, Kellog, Parker, Asolus.

SOCKETS—Bremer Tully, Gilfillan, Kellog, Silver Marshall.

SWITCHES (Battery)—Yaxley, Kellog, W.R.C.

SHORTWAVE OUTFITS—Bremer Tully, Airzone.

HYDROMETERS—Bilrite, Haffner.

INSULATING MATERIAL—Celoran.

JACKS—Yaxley.

LOUD-SPEAKERS—Claritone, Octocone, Amplion, Rola.

TRANSFORMERS—Telsen, Bremer Tully, Samson, National, Silver Marshall.

UNITS (Tuning)—National.

VALVES—Cosser, Supertron, Radiotron, Mullard.

WAVEMETERS—R.E.L.

Any information required pertaining to the above lines may be procured from:

Master Agents and Distributors:

RADIO LIMITED

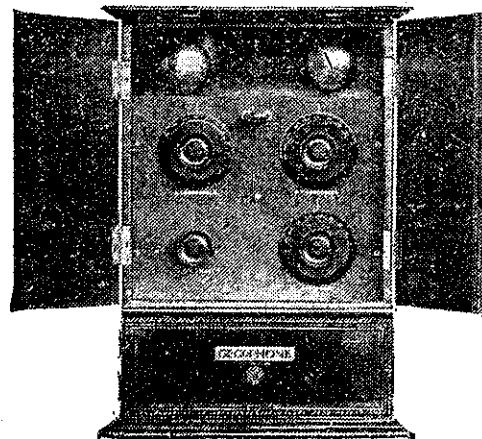
WRIGHT'S BUILDING, FORT STREET, AUCKLAND.

SPECIAL OFFER For Month of December only

GECOPHONE

2-VALVE SET
IN MAHOGANY
CABINET

£4:19:6



DRY CELL EQUIPMENT:

OSRAM VALVES (2x) 26/-
 B. BATTERIES (2x) 20/-
 A. BATTERIES (2x) 8/-

LOUDSPEAKERS 25/- and up
 HEADPHONES 23/- pair

WET CELL EQUIPMENT:

OSRAM VALVES .. 24/-
 B. BATTERIES (2x) 20/-
 A. BATTERIES (2x) 60/-

LOUDSPEAKER RECEPTION UP TO 50 MILES.

BRITISH GENERAL ELECTRIC CO. L^{td}.

Empire Buildings,
 Wilton Street,
 WELLINGTON.

Magnet House,
 14 Dowling Street,
 DUNEDIN.

Brunswick Buildings,
 High Street,
 AUCKLAND.

Hannaford Chambers,
 145 Worcester Street,
 CHRISTCHURCH.



Mr. and Mrs. Bailey, of Wanganui, clever elocutionists and entertainers, who will broadcast from 2YA on December 23.

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.

Programme Features Continued

(Continued from Page 7.)

Interspersed between vocal items on Friday night, dance music will be played from the studio.

Miss Belle Renant, contralto, and Miss Frances Hamerton, soprano, of the Melodious Four, will be singing some popular songs on Friday evening. The bass soloist of the quartet, Mr. T. D. Williams, has chosen two fine songs for that evening. They are "Captain Mac" and "Charming Chloe." Mr. Williams will also be singing in a trio and in a quartet. His confrere, Mr. Russell Sumner, will also be heard in solos, duet, trio, and quartet.

NEXT WEEK'S PROGRAMME.

Featured in this week's programme will be the bright C Minor Trio of Mendelssohn, movements of which will be played each evening. Mendelssohn wrote two trios, and this is the companion to the one in D Minor, which was so well received when played by the trio recently.

The whole trio is typical of Mendelssohn's mastery of form and beauty of melodic thought. The Scherzo becomes a favourite at first hearing, on account of its captivating gracefulness.

The Hungarian Dances of Brahms have found such favour with numbers of listeners that another one is to be performed. In these dances the composer has penetrated deeply into the Hungarian spirit, and has caught the colour, swing, perfume, melancholy, and reckless joy of these traditional melodies.

On Saturday, the third movement from Reissiger's E Flat Trio, which is noteworthy for its brightness, will be performed. Also on the same evening another movement from the Trio in F of Godard will be rendered, besides lighter numbers, such as the beautiful "Song of the Mountains," by the Norwegian composer Greig; Offenbach's "Boat Song," and the popular "Souvenir de Sorrento," by Severini.

On Thursday Schubert's much-loved "Cradle Song" will be played. Mr. Harold Beck will be heard in his own arrangement of Rubinstein's famous "Melody," and a sparkling dance by Rossini.

ORCHESTRAL ATTRACTION AT 3YA.

UNDER THE CONDUCTORSHIP OF MR. HAROLD BECK.

A special feature on Wednesday evening, December 21, will be the work of the string orchestra conducted by Mr. Harold Beck. The orchestra possesses a fine record of artistic achievement on the concert platform. Not only are the players in number a considerable body, but a body quite competent for their exacting task. The leader of the orchestra is Miss Irene Morris, who is acknowledged as one of the foremost orchestral leaders in the Dominion, having held positions with many musical organisations.

The orchestra is unique in that its members are all players of string instruments—violins, violas, cellos, and double-basses. It does not, however, confine itself to this combination, for when occasion demands, wood-wind,

brass, harp, and drums are added when musical compositions requiring these instruments are performed. The inherent beauty of the string orchestra is that it is not a diminutive, but perfect in itself and owing to no outside influence.

Among the competitions to be played on Wednesday will be the "St. Paul's Suite for String Orchestra," also the ever popular "Andantino," by Lemare. An exceedingly vivacious and exhilarating number will be found in Fould's "A Fiddler's Fancy," taken from a suite entitled "Music Pictures." It also has the sub-title of "After Morland," and those who have seen the paintings or engravings of the famous Morland, with its rural scenes of barns, cattle, domestic pets, will appreciate the idea conveyed. It is written in the form of a country dance, and one can imagine the real old country fiddler "hard at it."

Another attractive suite is called "The Gressenhall," by Cunningham Woods. The four movements are named respectively: "Preamble," "Norfolk Folk Tune," "Slow Air," and "Jig."

BROADCASTING RACES

THE TOTALISATOR FACTS.

The suggestion has been made that the refusal of one or two clubs to allow their races to be broadcast was actuated by the fear that the totalisator receipts would thereby be adversely affected.

Examination of the actual figures over the period June to December show there is no warrant for such a belief. The facts are that the totalisator figures of thirteen race meetings that were broadcast increased over the previous year's figures by a total of £32,532 on a turnover of £1,412,058,

SHORT-WAVE RECEPTION

HOLLAND INCREASING TRANSMISSIONS.

MR. SELLENS' REPORT.

Since my last report, I received a letter from Philips Radio, Holland. They state that they are removing their short-wave transmitter from Bindhoven to Hilversum; when this is completed they hope to increase the number of their transmissions. The hours and wave-lengths, they say, will be stated before the microphone. Their address for reports remains: The short-wave transmitter of Philips Radio Laboratory, Eindhoven, Holland.

This station has been off the air for about five weeks, so, if the installation is completed in estimated time they should be heard again in about one week's time.

On Saturday afternoon KDKA was heard, but very weak. 2XG, Rocky Point, New York, was testing. The only times I have heard this station they have been testing. PCLL, Dutch Telegraph Co. Station, The Hague, Holland, were heard from 10.50 p.m. till 11.45 p.m., when their transmission

while the returns of fifteen clubs that were not broadcast showed a decrease of £50,393 on a turnover of £540,488. On the face of things, therefore, it would seem that the broadcasting of a meeting acts as so effective an advertiser as to attract bigger attendances and more liberal patronage of the machine. Meetings not broadcast declined 10 per cent. in turnover, while those that were broadcast saved that drop, and actually increased 2½ per cent. on the previous season.

concluded with the Dutch National Anthem. This was sung by a man and woman with organ accompaniment.

Their frequency was given as 10,000 kilocycles (18.72 metres I make this to be). I understood the announcer to say that they are on the air each Wednesday from 14 to 16 G.M.T.; this equals 2.30 till 4.30 a.m. Thursday morning New Zealand summer time—not a convenient time for New Zealand listeners. KDKA and 2XAF were both weak on Sunday afternoon. A voice was heard on about 33 metres at the time Mr. Marcuse is testing. This was too weak to hear a word that was said. 2AT was heard at good strength in the evening, but modulation could be better. RFN started at 9.30 instead of 10.30 p.m. as usual. This was the only station heard on Monday evening, static being too bad to do any listening.

As an indication of the strength of RFN, it was clearly audible on the speaker using a 7/20 wire about 18ft. long across the room as an aerial (this I use as a counterpoise for short-wave reception). The station could be heard quite well on the phones with neither earth or aerial.

On Wednesday from 6.15 a.m. till 7.15 a.m. ANE Java was heard at wonderful volume—almost as loud as 2YA with a crystal and one of audio. Modulation could be improved, but speech was clear enough to understand every word when English was spoken. Holland was called at one time. Later India, Europe, and America were called and he announced that this is the short-wave transmitter of the Radio Laboratory Service, Bandoeng, Java, Dutch East Indies, on 31.86 metres, asking for reports to be sent to this address. During the evening 4AB, Gore, 2HH Strathfield, N.S.W., and 6AG, Perth, were heard.

Eliminate Your "B" Battery Troubles with the DEMAND EXCEEDS SUPPLY

CONSTANT "B" BATTERY ELIMINATORS have proved easily the best power units yet brought into this country, and the demand has always exceeded the supply.

Their remarkable feature is that comparative tests prove that the "CONSTANT 'B'" causes any receiver to deliver GREATLY-INCREASED POWER; in fact, it is safe to say that, compared with any other well-known eliminators or ordinary "B" Batteries the CONSTANT "B" is EQUAL TO AN ADDITIONAL STAGE OF AMPLIFICATION.

A well-known radio technician reports that this is as true on short-waves as on broadcast-wave receivers. The wide range of available voltages on the taps provided, together with the Hi-lo switch, adapts this Eliminator to almost any make of receiving set from 1 to 10 valves. On the low side of switch it will satisfactorily supply current for sets requiring up to 25 135 volts, of 35 mils at 180 volts. There is nomils.at. 180 up to 60 mils at 135 volts, or 35 mils at 180 volts. There is no hum, ripple or other extraneous noise with a "CONSTANT 'B'."

Let your local Dealer demonstrate.

Wholesale Distributors:

Abel, Smeeton Ltd. Customs Street E., AUCKLAND.

ALL-AMERICAN Constant-B Battery Eliminator

Ocean Deep Tone!

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

RADIO **Sonora** RADIO
F. J. Pinny Ltd. 58 Willis Street WELLINGTON.

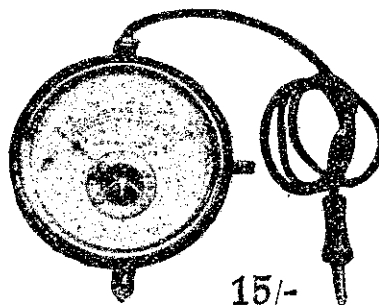
Buy BRITISH Goods!

Agent for:

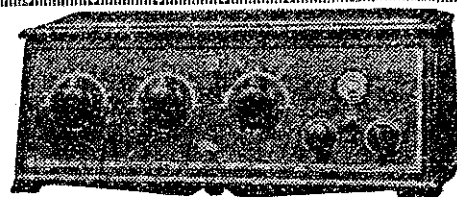
FERRANTI TRANSFORMERS
FORMO COMPONENTS.
DUBILIER GOODS.
T.C.C. CONDENSERS.

A. E. STRANGE

401 Worcester Street,
CHRISTCHURCH.
Telephone 3767.



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

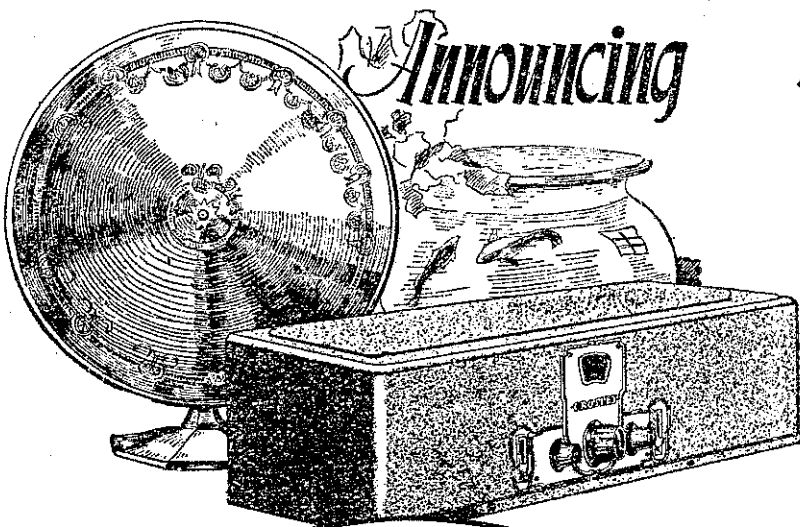


King in Radio

Browning Drake Sets,
made up to order.
From £8/5/-.

NEW ZEALAND CIRCUIT SETS From £5
KING 5-VALVE NEUTRODYNE £36/10/-
Nothing Else to Buy.
CRYSTAL SETS, 10/6 One-valve Amplifier, including Batteries, Loud
Speaker and Crystal Set £4/10/6
RADIO HOUSE. 'PHONE 41-446.

F. J. W. Fear & Co. 63 Willis Street, Wellington



The BANDBOX

Value unmatched—mellow clarity of tone—beauty of appearance—this new 6-tube Radio Receiver, the latest and greatest Crosley production, is eminently suitable in price, performance and appearance for the average New Zealand home.

Many features of the Bandbox have been found formerly only in the most expensive Radio. Uncanny selectivity! resulting from its copper shields around each coil and proper shielding for condensers, and even wiring.

Bandbox
£40

Other Models from
£34/10/-

Complete with highest-grade accessories.

Exquisite volume! because of the Bandbox volume control which makes perfectly clear even the infinitesimal

But you must see it, operate it, hear it, to appreciate fully its unique qualities.

whisper—and also the heavy volume of the brass band.

Simple to operate, free from interference of unwanted stations, amazing in range—truly, the "Bandbox" is a supreme achievement in radio efficiency—and unprecedented value.

Abel, Smeeton, Ltd.

AUCKLAND
North Island Distributors
Crosley Radio.

Please send me a selection of
Crosley Radio Illustrated Literature.

Name
Address

CROSLEY RADIO

"You're there with a Crosley"

BRITISH

A few comments—extracted from the letters of satisfied clients: "We have now installed loud-speakers in all the wards; Doctors' Matrons', and Nurses' residence (in all eight loud-speakers) and we have to decrease the volume on Australian stations."

"I can tune in Farmer's free of Wellington, and I live within one and a quarter miles of 2YA."

"There are nine different makes of American sets here, and whilst some can equal my set as to getting various stations, none can equal mine when it is a question of wonderful reproduction."

These comments refer to the famous "ELSTREE SIX." When you are told "British sets are not suitable for New Zealand conditions" let us tell you a few more facts about British parts.

HARTLE and GRAY

QUEEN and CUSTOMS STREETS AUCKLAND.
For British parts and British Sets.

Important 1YA Engagements

OUTSTANDING QUARTETTES AND TRIOS.

Important engagements of outstanding professional talent have been concluded for 1YA, Auckland, by Mr. W. J. Bellingham, musical director.

The engagements include two distinguished quartettes, an instrumental trio, and a station pianist, all of leading talent.

The personnel engaged are:

In addition to those named, Miss Chrissie Ormiston and Mr.

(1) Mina Caldwell-Barry Coney Quartette, including, in addition to those named, Miss Chrissie Ormiston and Mr. O'Malley.

(2) The Towsey-Sutherland Quartette, comprising Mrs. C. Towsey, Miss Lola Solomon, Mr. Simpson and Mr. Frank Sutherland.

(3) Instrumental Trio—Miss Ina Bosworth, Miss Lalla Hemus, and Mr. Cyril Towsey.

(4) Station pianist—Mr. Cyril Towsey.

In addition, Mr. J. F. Montague, well-known elocutionist and judge, has been engaged for regular performances.

Details of the careers of these artists will appear next week.

Through pressure on space our Mailbag and other matter has unavoidably been held over.—Ed.

A 1YA COMPLAINT

"THE MESSIAH" RELAY

The Radio Broadcasting Company of New Zealand has been unjustly taken to task in a section of the Auckland Press for not undertaking to relay the second night's "Messiah" concert by the Auckland Choral Society on December 17.

The company, however, was faced with a difficulty which, through the terms laid down by the Choral Society, rendered it impossible to undertake, without the risk of disappointing the listeners. The Choral Society offered to permit the Broadcasting Company to relay the second night's performance, providing that the takings on the first night of the oratorio reached £250. The Broadcasting Company's programmes must be compiled four weeks ahead for Press publicity purposes,

but, in accordance with the Choral Society's conditions, it would not be possible to know, until the night before the proposed relay, whether it would take place.

If the company had gambled on the prospects, and had announced that the relay would take place, widespread complaint and criticism would have resulted had it been found impossible to put on the relay. Individual concert performers, to fill the gap, could not be found at such brief notice, and artists will not accept engagements contingent upon a relay not being available.

ANSWERS TO CORRESPONDENTS

(By "Megohm.")

BROWNING-DRAKE.

R.T. (Hawke's Bay) has an American factory-built B.D., 5 valves, resistance-coupled audio. Reception is very weak and lacks quality. Replace the P.M. 6 with a P.M. 256. One or more of the resistances may be faulty, so procure a new one of the same kind and try it in place of each one in turn. If still unsatisfactory, write again.

G.H.B. (Christchurch): If your factory-made B.D. blasts on heavy volume, it could be improved by placing a valve of lower impedance than the present 6000 ohms in the last audio. As you contemplate adding a Ferranti transformer, you will only require one, an A.F. 3, and this must be put in place of the second one. The output filter can be procured as a complete unit for connection outside the set, and will reduce overloading of the speaker and thus allow of more volume. Your aerial is quite suitable, but your set is

rather unselective, even though only three miles from 3YA. Advice given through this column is free, but limited to a reasonable amount.

J.N. (N. Wairoa): The pyrex insulators alone should be quite efficient, and would not cause the rushing sound which you experience every evening from 7.45. The trouble is probably caused by general radiation from neighbouring receivers.

CRYSTAL QUERIES.

Polar (Manawatu) is 90 miles from 2YA, gets good results on two-valve set, but fails to get 2YA on "Record" crystal set with carborundum. Look the set over carefully—see that all joints are good—it is easy to leave a fine streak of enamel on the end of wire

that when clamped under a nut will give complete insulation.

W.R. (Eastbourne): A two-valve amplifier for crystal appears in this page in "Record" for December 2, and a one-valve amplifier appears on August 26.

C.M. (Clevedon): I do not know that the new crystal is yet stocked in New Zealand. If the galena crystal is played out, scrape the top surface away liberally, and you will probably get better results. Some of that type of crystal are not as good as they should be. From your description it is difficult to tell what is wrong with your phones. Perhaps the diaphragms are too close to the magnets, which would necessitate either turning the diaphragms or adding a ring of thin paper to increase the distance.

WHEN SANTA LEAVES A

RADIO GIFT

THE PLEASURE LASTS ALL THE YEAR ROUND.

LET IT BE THE NEW

Crosley Band Box

Crosley's Latest Achievement—A Triumph of Radio Engineering

Arrange for a demonstration free from the Wellington Distributors:

G. G. MACQUARRIE LTD.

93 WILLIS STREET CROSLEY SALES AND SERVICE, WELLINGTON Phone 45-365.

All Wave Receivers for Short-Wave and Broadcast Built to Order.

Mr Crystal Set Owner:

MAKE THIS A—

RADIO CHRISTMAS

Let all enjoy the fun by adding an Amplifier to your Crystal Receiver, and banish headphones.

ALL QUALITY ACCESSORIES.

MICROPHONE BAR AMPLIFIER—£3 Less Loud-speaker,

SINGLE VALVE AMPLIFIER—£4, 16/-

TWO-VALVE AMPLIFIER—£7, 4/-

LOUD SPEAKERS—From 25/- to £11, 10/-.

SELECT YOURS NOW AT

L. M. SILVER & CO. LTD.

ELECTRICAL ENGINEERS AND RADIO SPECIALISTS,
30-32 TORY STREET, WELLINGTON.

ENJOY IT AT HOME

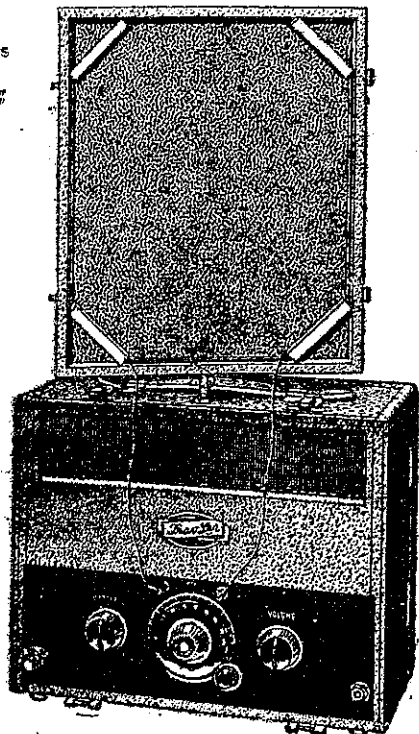
Speaks
for
itself.



Weights
only
24 lbs.

Completely
Self
Contained

No wires
to string
about.



Single
dial
control.

The



5-VALVE PORTABLE Means Added Enjoyment on Your Summer Outings

The TRAV-LER is the answer to the question of "Portability" in Radio Receiving Sets. Weighs only 24 lbs.—completely equipped and has the volume and quality of reproduction which puts it far in the lead in this type of receiver.

The TRAV-LER portable is the result of exhaustive tests and experimenting, and no expense has been spared to reproduce a high class set of real quality as well as portability. The very best of materials and workmanship, which we guarantee, insures you real satisfaction.

Simply place the loop aerial, which is contained in the cover, on top of the set, turn on the switch, and the receiver is ready to operate.

Ideal for Launch and Motor Car owners or for use on Beach during the Summer months.

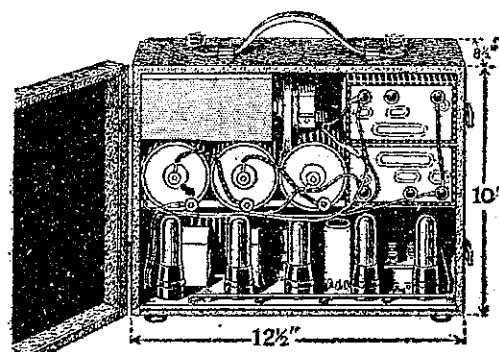
For further information, and illustrated literature of the "TRAV-LER", write to the—

MASTER NEW ZEALAND AGENTS:

RADIO Ltd.,

Wright's Buildings Fort Street,
AUCKLAND.

Take It With You Anywhere



SPECIFICATIONS:

Single Dial Control, Spring Base Sockets, Built-in Loud-speaker, 2 Stages of Radio Frequency, 1 Detector, 2 Stages of Audio Amplification, Phone Jack, Loop Aerial, Accessories, 5 199 Valves, Standard Type Batteries and DX Coupler.



The "Record" Short-Wave Receiver Set

Full Shielding Recommended and Described

(By "Megohm.")

Below is given the second instalment of "Megohm's" comprehensive article upon the manufacture of a compact and efficient, fully-shielded, three-valve short wave receiving set. This set was on exhibition in a Willis Street shop for several days last week and was closely examined by a number of radio enthusiasts, who expressed admiration for the lay-out and workmanship of the set. For the benefit of distant enthusiasts we give below in addition to further diagrams photographs of the interior and panel of the set.

THIS is the second instalment of the short-wave receiver description. The full shielding of the set with copper sheet is described, so that those who wish to make the outfit complete may do so, and it is left to constructors to determine whether they will discard any or all of the shielding. But we recommend those who construct the full set to shield the receiver itself fully, as a considerable amount of static and interference, including A.C. hum, is thereby cut out. The shielding also makes oscillation easier, and smooths out or reduces the tendency to blind spots at certain positions. Where there is liability to special kinds of interference, it will certainly pay to shield the batteries and leads as well. In the case of the converter only, the front panel should be of metal to cut out any chance of hand-capacity, and full shielding of the detector unit would in this case also be an advantage, carried out

denser, or even a slightly larger one, but a substitute can be made by removing all but three moving plates of a .00025 as a last resort.

The reaction condenser is a .00025 of low-loss, centre-line type, with not less than 10-1 vernier.

Both tuning condensers are set back from the panel to keep clear of shield capacity, and in order to allow of this, the spindles have to be lengthened by means of a brass collar, or connector, with set-screws, which hold a short piece of brass rod extension. This also necessitates a separate support for the condensers, so each is provided with a small upright panel of ebonite 4 inches high, and two inches or more in width, to suit the holding screws of condenser. This ebonite is screwed to a small piece of wood, which is in turn screwed to the baseboard as shown in a diagram. The position for these is found after the extension spindle and vernier dial are in place.

coils. If a larger capacity secondary condenser is used, each coil will cover a wider range. By providing coils with a suitable number of turns, ordinary broadcast wave-lengths can be efficiently received.

The secondary coils are made from 18's tinned copper wire held together by celluloid strips both inside and outside in three places. One of these celluloid supports is long enough to run back and fix under the first pin of the group of three in the mount. The method of making low-loss coils has several times been described, but for the benefit of new readers a brief description will be given.

A collapsible former 3in. in diameter and about 8in long must be provided. This may be of cardboard, cut along its full length, with some provision for supporting from inside whilst winding. Six strips of motor hood-light celluloid are cut 3in. wide and the length of the former. Three strips are spaced out and tied to the former at each end with twine. The end of the tinned wire is then passed through a hole in end of former, three turns wound over celluloid, with space between each turn equal to thickness of wire, then the next turn runs diagonally to leave a space of fully 2 inches, and the six-turn coil is then wound. Then leave a space of about 2 inches and wind eleven turns. Then celluloid cement is liberally applied to the wires where they cross the celluloid strips, and for a distance each side. Another strip of celluloid is pressed on top of each, and put aside for at least two hours to set, after which the former may be carefully taken out and the celluloid strips cut to the desired lengths, leaving one long end on each coil for bolting down. The 20-turn coil is subsequently wound in the same way.

Tickler coils are made of 24's (not 22's) enamelled wire wound close together and secured with celluloid. The former should be of 2 1/2in. diameter. These coils are secured by sticking two of their celluloid supports inside the two upper supports of the secondary, with the coil rather less than 1in. from the first turn of secondary. Allow three inches of wire on each end of ticklers for connecting to soldering tags on pins of mount.

THE R. F. CHOKE COIL.

Many forms of radio choke have been tried, and the one found to be best is a properly-constructed low-loss coil of 100 turns made on the same principle as the Brownie-Drake tuning coils. The choke is only 3in. diameter, and the 100 turns of 30's enamelled wire occupy about 3 1/2in. in length, which means about 26 turns to the inch. The former is made from a six-inch length of round stick about 3/4in. diameter, sawn down the centre lengthways, the thickness of saw-cut being made up with one or two narrow strips of cardboard longer than the stick, so that they can be pulled out to loosen the former. A single layer of thin paper is to be put round the former before winding, sticking as little as possible anywhere. Celluloid strips 3-16in. wide are applied at opposite sides both inside and outside the wires. The strips are left an inch long at the lower end of the coil, and these ends may be glued to a cork which is in turn glued to the board. Any constructor who wishes to make a choke more easily may wind it on a 1in. test-tube, but of course the presence of the glass dielectric detracts from its efficiency.

WOODWORK.

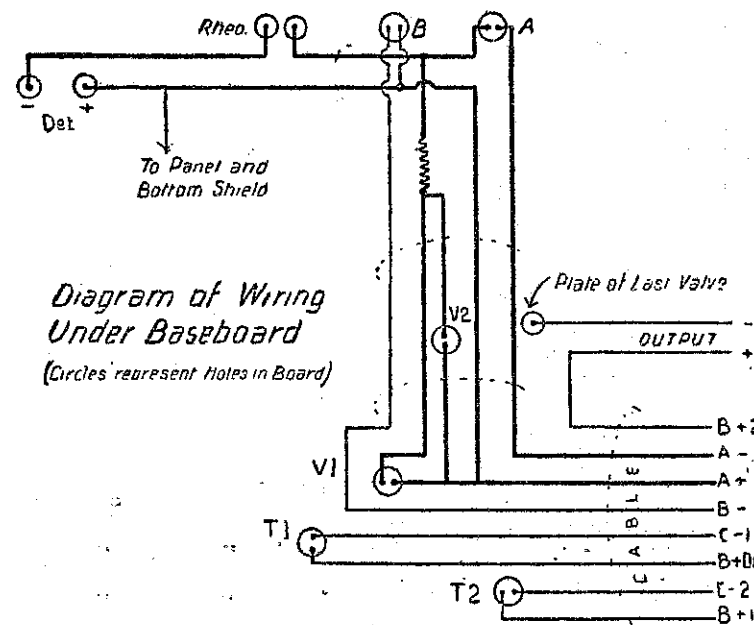
The baseboard is 3/4in. rimu, 20 by 11 1/2 inches, battened underneath in three places with inch strips of the same thickness. The frame to hold the panel is also constructed of one-inch

strips 3/4in. thick, with a short diagonal brace at each end. Attached to the underside of the bottom shield by screws, are two strips 20in. long, one at the back, the other at the front; raising the set to allow the battery cable and 'phone leads to come away to the right through holes in the bottom shield.

The exact method of attaching 'phones or speaker is left to the individual to suit requirements. Some may prefer to fit a jack, others to lead the 'phone cords in and attach inside, or to attach to the output wires outside.

Every piece is clearly shown in the diagram, but the bottom piece needs a little explanation. In order to get this out, pieces 4 and 5 will be found to nearly fill the missing corner. Part of piece 6 is then soldered over the remaining gaps, and other narrow strips remaining are used to cover any remaining join. Of course, if the copper is bought in a different size of sheet, this joining may not be necessary.

Strips 1 and 2 of the cover are turned in to add stiffness, but must not be allowed to add much thickness, as these edges have to go inside the turned-back sides of the front panel. The top



Shellac varnish makes a suitable finish for the woodwork.

GENERAL DETAILS.

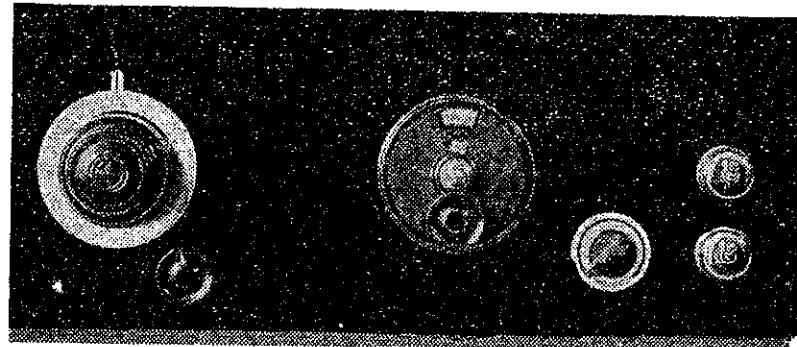
The brake for the aerial coil is made from two strips of 18's hard brass, 2 1/2 by 3-8 inches, bent as shown, drilled one end to screw to baseboard, and drilled near grip to take tightening bolt. A small piece of felt is placed between grip and spindle, and, with proper adjustment, very smooth action is obtained.

The aerial coil spindle is kept from having end-play by a metal pin put through it on each side of the back bearing, but as the scraping of metal

front edge of cover is turned back inside, but the edge of this should form a one-eighth inch tube in order to add stiffness. A thick wire can be put in the fold.

The front panel is turned up one inch all round. This should be done after the woodwork, with the 3-ply panel in place. The copper panel then fits over this close at top, and under battens at bottom. At the sides the inch turned back stands one-eighth inch away from the upright to allow the sides of cover to drop inside.

The turned-up back edge of bottom slopes back at 45 degrees to allow the cover to tilt back for coil-changing.



Panel of Short-wave Set.

against metal must be avoided in a short-wave set, a thin celluloid washer must be slipped over the spindle on each side of the bearing, and against these the pins will work.

All connections on the R.F. side are carried out with 14's bare copper wire, and in sight on the audio side, with bare 18's tinned, whilst all under-base wiring is done with 20's bell wire of good quality.

WIRING-UP DIAGRAM.

All wiring above the board is easily seen from the plan, but for the underneath wiring a special diagram is given. A full set of varying B and C voltages is provided for, and any not required may be cut out. It should be noted that all under-base wires are to be run parallel as much as possible, and, where convenient, may be bound together with thin twine. Dotted lines indicate how the wires are to be bundled together. All wires that run from any point in the set to a battery are to be of 20's bell wire, and must be cut a suitable length to run without join from the point to the battery. The circles on this diagram represent a hole in the board, through most of which two wires pass to the upper side. The panel and bottom shield are to be connected to each other, and at a convenient point to A positive.

A fixed resistance is shown, instead of a rheostat, to regulate amplifier filament voltage.

THE SHIELDING CABINET.

The copper shielding really forms an easy method of making a neat cabinet for the set, as it is easier to make a metal case of smart appearance than one of wood. With the black cycle enamel finish on panel and shield the appearance leaves little to be desired. The copper sheet used is in pieces four feet by two feet, tinned on one side, in which case the tinning is used as the inside, on which no enamel is placed. The cutting out of the various parts from the one sheet must be done exactly as shown in the diagram, which leaves about sufficient copper left over to mint a farthing.

The bend of the three turned-up edges of the bottom must be one-eighth inch away from the edge of the baseboard in order to allow room for edges of cover to drop inside. The front edge of bottom flanges goes outside the side flange of panel.

The top and sides of the cover are in one piece. The back has a half inch turned at right-angles on three sides, and these are soldered in to form the back of cover. The bottom edge of the back is turned in flat to add stiffness.

All flanges and turned edges are half inch except on panel (1 inch), and the two sides of bottom, which are five-eighths inch.

The hole in bottom for cable must be clear of the inch strip of wood screwed underneath at back edge.

Next week the question of valves will be dealt with, and the wiring diagram and instructions for the converter will be given.

On receipt of stamped addressed envelope with query, "Megohm" will supply the address of a firm making the condenser connectors.

Constructors are reminded that B eliminators cannot be used for short-wave, and that a B battery must be provided.

"HEAR HERE!"

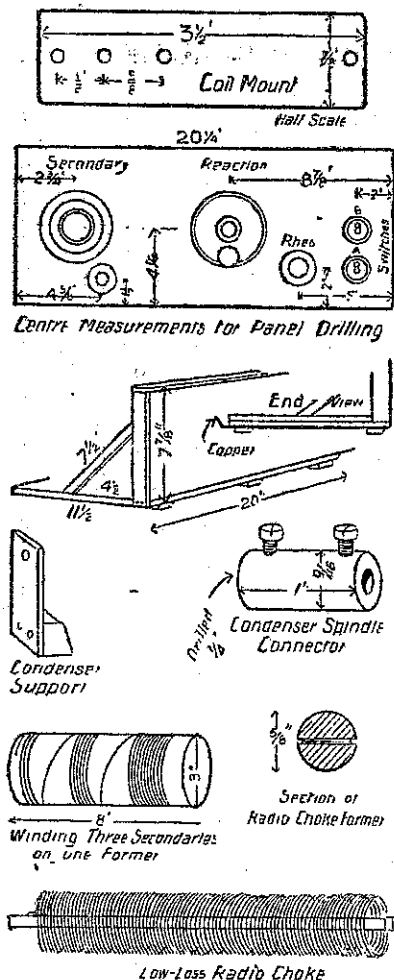
STIRTON'S

Music and Radio Store.

PETONE.

HUTT VALLEY AGENTS FOR:
CROSLY AND C. AND B.
BROWNING DRAKE SETS.
SERVICE AND SATISFACTION
GUARANTEED.

Printed and published for the New Zealand Radio Publishing Company, at the registered office, Dominion Avenue, Wellington, by the Wellington Publishing Company, by Archibald Sando, of 47, Freyberg Street, Lyall Bay, FRIDAY, DECEMBER 16, 1927.



exactly as for the full set, with the reduced width.

VARIABLE CONDENSER.

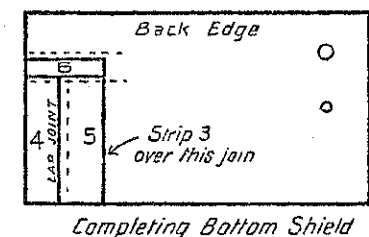
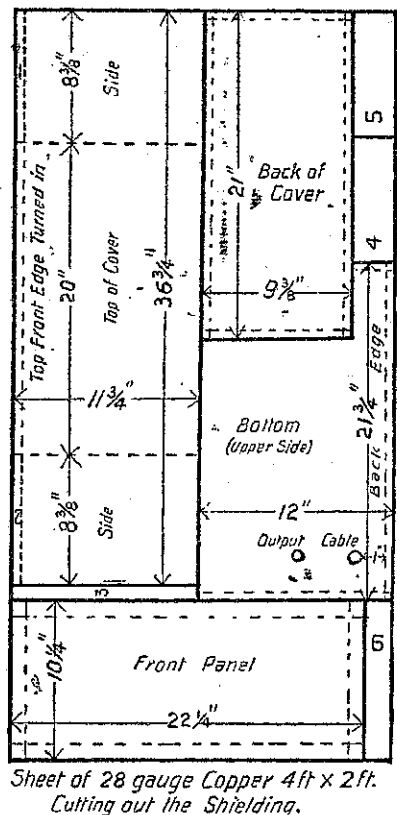
The Hammarlund condenser specified for tuning the secondary coil is of .0001 capacity, the plates being double-spaced specially for use in short-wave reception. The object of using a condenser of such small capacity is to provide easy tuning, and to those especially who are new to short-wave work this is a great advantage. This small capacity makes the use of interchangeable coils necessary, but as two of these cover the wave-lengths most used, and there is only one piece to be plugged in, the operation of changing is very easy, especially as the shield is designed to tilt up conveniently for coil-changing. Some constructors will perhaps be unable to obtain the .0001 con-

THE TUNING COILS.

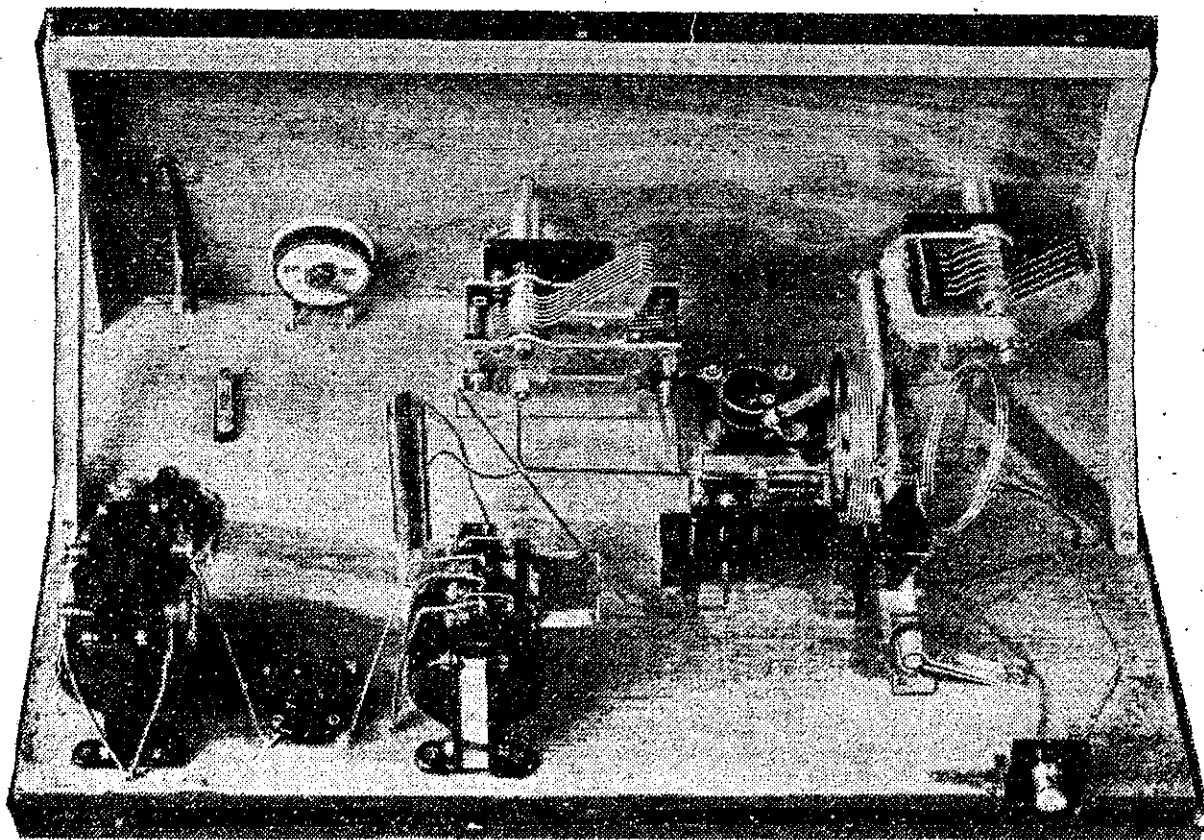
There are four secondary coils, each accompanied by its own suitable tickler permanently attached. The set or coils covers a wave-length range from 15 to 110 metres, with a reasonable amount of overlap between each, as follows:—

Secondary turns.	Tickler turns.	Range in metres.
20	7	65-110
11	5	45-65
6	5	30-45
3	4	15-30

These figures must be taken as approximate, because differences in receivers or tuning arrangements will affect the exact wave-length covered by



Completing Bottom Shield



Interior of Megohm's Short-Wave Set. (See article.)