

Ray Allsop and Don. B. Knock — Technical Editors

INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

FRIDAY, DECEMBER 28, 1928

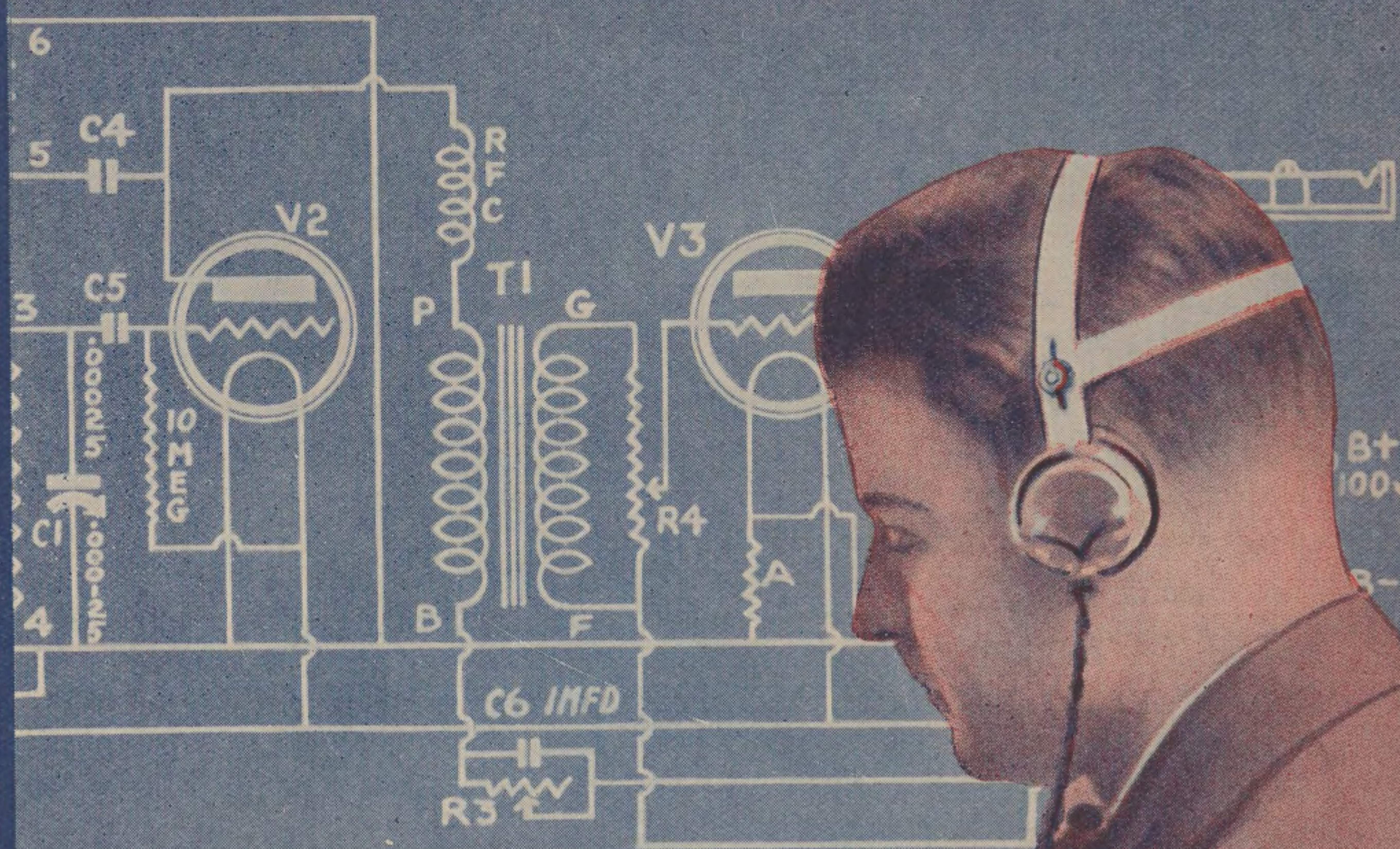
(Registered at the G.P.O., Sydney for transmission by post as a newspaper).

First Television Experiments

The Wasp

All - Wave Receiver

By Ray Allsop



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See Page
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The Uni- International

GREATEST of SHORT-WAVE RECEIVERS



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PHILIPS THAT MAKES
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SO GOOD !**

SLOPE, or as it is often called, Mutual Conductance, indicates just how good a radio valve is. The higher the slope the larger the change in plate current for a given grid voltage.

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"Isn't that dance band just wonderful! Listen to that glorious saxophone, it simply thrills me to pieces, Jimmy, let's dance!"

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Transformers are designed to-day along the same lines as were employed years ago, when amplifier voltages ran up to only 45, or perhaps 90, volts, and yet an almost imperceptible amount of moisture will cause insulation breakdowns and open circuits under the conditions of modern amplifying valves and circuits.

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Pilot engineers have changed completely from conventional methods in order that these new Transformers will do their work under all climatic conditions. Pilot transformers are guaranteed to be unaffected by immersion in water for a period of 30 days. This exposure is equivalent to use in the most humid climate for five to ten years.

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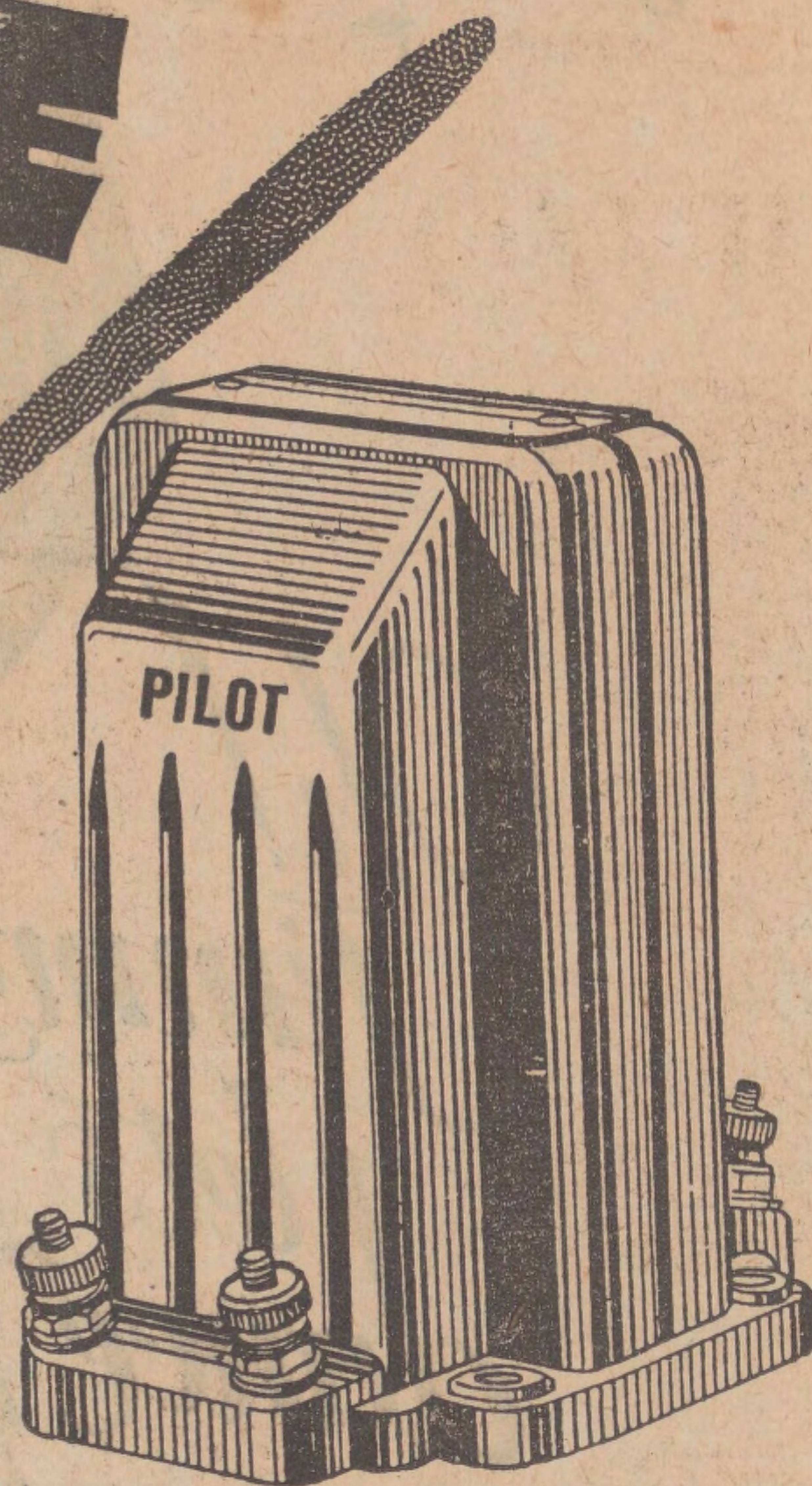
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3½ to 1 ratio

AF Transformer

22'6

The characteristics of the transformers match the response curves of good speakers, giving the best musical reproduction without emphasising the low notes. With dynamic speakers the quality is exceptionally fine.

Next Week!

Parts for the PILOT FIVE-
VALVE A.C. ELECTRIC
AIR SCOUT

Vol. 13, No. 1

Friday,
December
28,
1928.

Wireless Weekly

Incorporating "Radio in Australia & New Zealand"

Address:
51 Castlereagh St.,
Sydney.

Phones:
B7148-9.

WHO ARE THESE PEOPLE?



A



B



C



D



E



F



G



H

*In the air on Friday Night.
£5 if you can guess who they
are and what they broadcast.*

"WIRELESS WEEKLY," in conjunction with the New South Wales Broadcasting Co., presents a novel competition from 2FC Studios on Friday night next, December 28.

The programme will be an excellent one from an entertainment point of view. The most popular broadcasting artists in Sydney will contribute to a programme of favorite pieces.

But who are these "most popular artists"? That is the mystery.

If you have been a fairly regular listener in the past you should be able to guess. They will be broadcasting pieces they have broadcast before, and even if that is not sufficient, we provide above the silhouettes of those who will appear.

We offer £5 to the listener guessing correctly the names of the artists.

Each item will be announced and the identification letter of the silhouette of the artist broadcasting it will be mentioned by the announcer. All you have to do is to write down the name of the artist and the names of the items he or she rendered.

Endorse the envelope containing the entry "Silhouette Competition," and forward to "Wireless Weekly," 51 Castlereagh Street, or to the N.S.W. Broadcasting Co., Market Street, Sydney.

The winning entry will be the first completely correct entry opened, or, in the event of a completely correct entry not being received, then the first nearly completely correct list opened by the Editor.

Employees of the N.S.W. Broadcasting Co., Messrs. Howard Harris, or Wireless Newspapers, Ltd., are not eligible. The Editor's decision is final.



I

J

BETWEEN YOU AND ME AND THE MICROPHONE

Now Watch Us

MISS GWEN VARLEY, charming secretary to the 2BL Women's Sports Association, gave the sex away completely the other morning. After detailing the invigorating effects of a game called Vigoro, she made the irresistible appeal. "By the way, the girls wear nice blue costumes and bandeaux, introducing the club colors. They look very nice indeed." A strenuous game, Vigoro.



Toys for Sick Children

THE offices of 3LO resemble a huge toy shop—dolls that sleep and dolls that squeak are thrown together with motor cars that "toot" and dogs that "bark," whilst cats that "meeow" are seated upon piles of books and many other inanimate things dear to the heart of the child. They are the result of the 3LO special appeal for toys for children in hospitals and homes. The response has been a splendid example of the kindness and unselfishness of listeners. Every day during the last fortnight a motor car laden with toys of every description has left 3LO for one of the homes or hospitals, and the lives of many little ones will be brightened by a gift or two this Christmas.



Concealed!

A FRENCHMAN once said that "Speech was given to men to conceal their thoughts." But we hardly bargained for a neighbor's unfair comment that "the best thing about a radio set is at you can turn the thing off."

Chanticleer at the Races

DURING the 2FC racing transmission from Canterbury recently the sensitive microphone picked up and transmitted with startling clarity the enthusiastic crowing of an old rooster in close proximity to the Canterbury course. This novel touch greatly amused listeners, who are quick to respond to anything in the nature of "atmosphere." They, too, had cause to "crow"!



"IF"

With Apologies to Rudyard.

If you can find a melody to hearten
The devotees of Massenet, and keep
The fullest trust of those who find their art
in
"I wonder how I look when I'm asleep";
If you can teach the muscular exponents
Of Thye and Santel's gentle little game
To intersperse the chokings of opponents
With passages from Hamlet and Boheme;
If you can teach the farmer of a poor field
To double yields per acre, and, perhaps,
Refrain from hurting punters home from
Moorefield,
Repinning over one of Fortune's slaps;
If you can thrill a hundred thousand, living
From Stewart Island to the Tropic Seas,
By prophesying westerlies, and giving
The latest price of oaten chaff and cheese;
If you can keep the ether flowing freely,
And not infringe a solitary "if,"
You'll be a man, my sonny boy, and, really,
We'll find a job for you in half a jiff;
For I would make a bet, and surely win it,
At better odds than sixty-six to one,
They'd snap you up in less than half a
minute,
At 2BL or 3LO, my son!

—C.E.

Mike Autographed

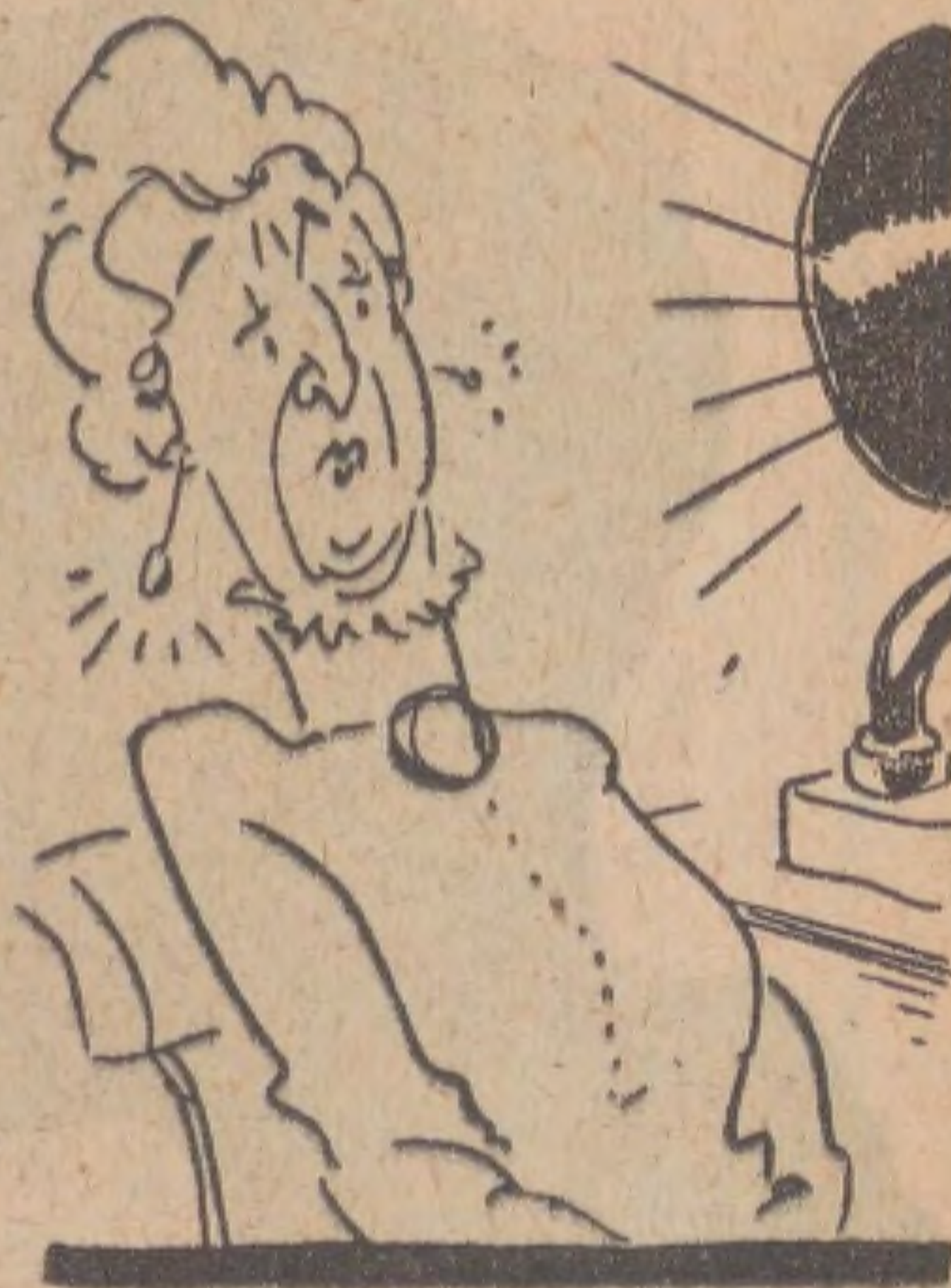
THE 2FC engineer displayed a characteristically enterprising spirit on a recent Saturday afternoon when he "seized opportunity by the fetlock" and got Hobbs and Noble to autograph the microphone. The pencil signatures were "chiselled in" with meticulous care and the control room at 2FC now proudly displays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

A Link With the Past

THERE was once a man who afterwards attained a high place in diplomatic circles, who invited a domestic debacle by asking his wife in all seriousness if she had ever done anything which she was ashamed of. After the indignant storm of protest had died away, a very necessary explanation was forthcoming. "You see, my dear," he said, "I'm going to stand for Parliament!" The "searching" qualities of electors is nothing compared to radio, which, in a flash, can uncover the memories of years long past. Cliff Arnold, the popular novelty pianist, so well known to 2FC listeners, was playing at the studio one afternoon last week, and the next morning his wife handed him a letter. "A woman's handwriting," she said guilelessly. "It was from —yes, I had to confess it," said Mr. Arnold bravely, "an old sweetheart of mine. Hearing you play," she said, "I wondered if you could be the 'Cliff Arnold' I knew so long ago" ("twenty years," he added in parentheses). "Frankly, I was very much impressed, through this little instance, with the marvellously far-reaching effect of wireless. Just a few pianoforte solos, idly played to the little white marble square which takes in so much, and says nothing, but they spanned twenty long and eventful years, all in a moment."

The Idea!

AN old lady, who had never seen a radio set, was taken, on her ninety-seventh birthday, to the house of some friends, who had previously arranged that Uncle Bass should give her a birthday call. The call duly came. "Goodness gracious!" exclaimed the old lady. "Is he calling me?" She was assured that this was so. "The impertinence of the man!" she said. "I've never even met him!"



Waiting for Rain

THERE are some people whose sub-conscious mind is played on to remarkable degree by outside—and sometimes entirely extraneous—influences. Far away in a drought-stricken area near Gilgandra, a listener waits anxiously every day for the weather report from 2BL. "Always we are waiting waiting—waiting—for the rain that never comes. But your announcer's cheery voice does me good, and fits me for the day's toil." The fact that, alas, only too often, the "cheery voice" carries disappointing news regarding the weather, is forgotten, and the "daily round" is brightened through its influence.



The Student

MR. BRYCE CARTER, the 'cellist, was rehearsing a Brahms Sonata in 2FC's number 2 studio. The sonata is not a particularly bright composition. We mean, it hasn't the same effect on the lay ear as "My Blue Heaven." However, Mr. Carter was down to play it in the evening, and he was going over it to make quite sure. Now, they are installing large fans in number 2 studio walls, and while Mr. Bryce Carter rehearsed a mechanic was hammering away at his work near the roof. The sweet notes of the 'cello and the ringing strokes of the hammer proceeded together until Mr. Carter could stand it no longer. He ceased playing, and waved his bow at the hammerer. "I hope I'm not disturbing you," he said sardonically. The hammerer stopped work, and looked down from his perch. "Oh, not at all, Mister," he said; "I know you've got to crawl before you can walk."



"Looking"—in to 2BL



Mr. W. G. Nichols, with the apparatus. He is holding the scanning disc in his hand.

AN infinite variety of designs changing with the rapidity of musical notation, rewards the observer who "looks" in to 2BL. It is the chief and most interesting result obtained in an exhaustive series of experiments with television.

We were at first handicapped by the lack of apparatus, but on receiving a neon lamp from America and a photo electric cell, we set to work on a television receiver. The receiver is now complete but, unfortunately, there is no television transmitting station within range to tune in, and our own transmitter built adjacent to the receiver is necessarily at this stage incomplete and elemental, and, therefore, hardly suitable for the transmission of light and shadow just yet.

However, we have in the meantime experimented with the reception of the ordinary modulated signals of 2BL. The results have been most satisfactory, and we can assure the interested amateur experimenter of amazing and delightful results.

Before we proceed to detail the manner in which we went about our experiments, I think, for the benefit of the uninitiated, we should describe briefly just what is television.

Television is the science of seeing by wireless. Like radio in its infancy, television is meeting with scepticism, but at this stage one cannot expect a large picture two or three feet square, and as clear as the local motion pictures. The present television picture is one or two inches square, although pictures as large as six or nine inches square have been obtained, but the detail in these pictures is slightly lacking.

The main components of the receiving apparatus are a scanning disc, a neon valve, and an electric motor.

The scanning disc consists of a new circular piece of 16-gauge sheet brass. Around this disc is drilled a spiral of

small holes, as shown in Fig. 1, the number of holes must correspond to the thousandth of an inch with the number and position of those used in

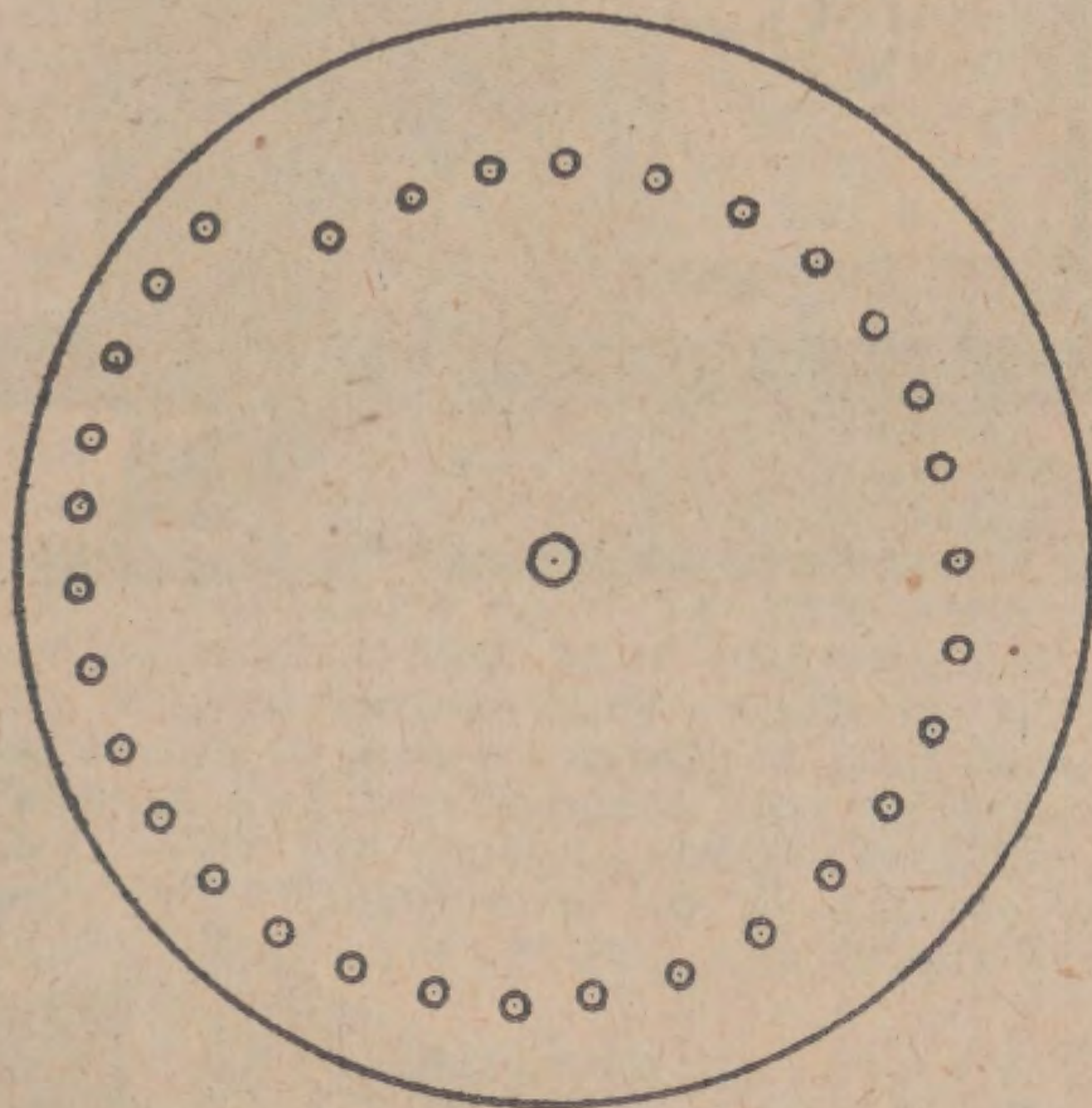


Fig. 1.—The Scanning Disc.

the disc at the transmitter. The electric motor is used to rotate the disc, which must be kept revolving at the same speed, and in step with the transmitting disc.

In the receiver the neon lamp is situated at the rear of the scanning disc. When impressed with an electric current

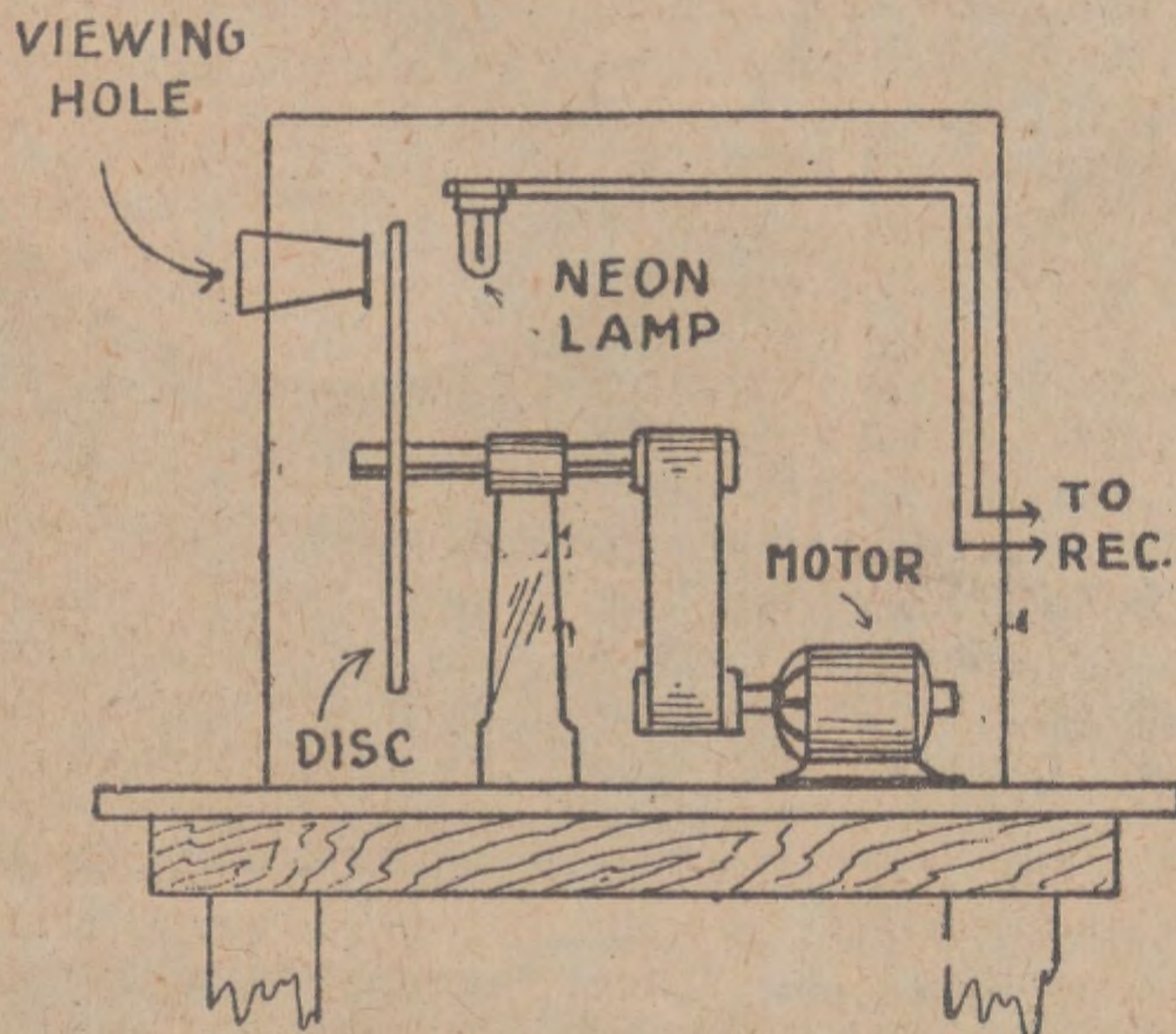


Fig. 2.—The Receiving End of the Televisor.

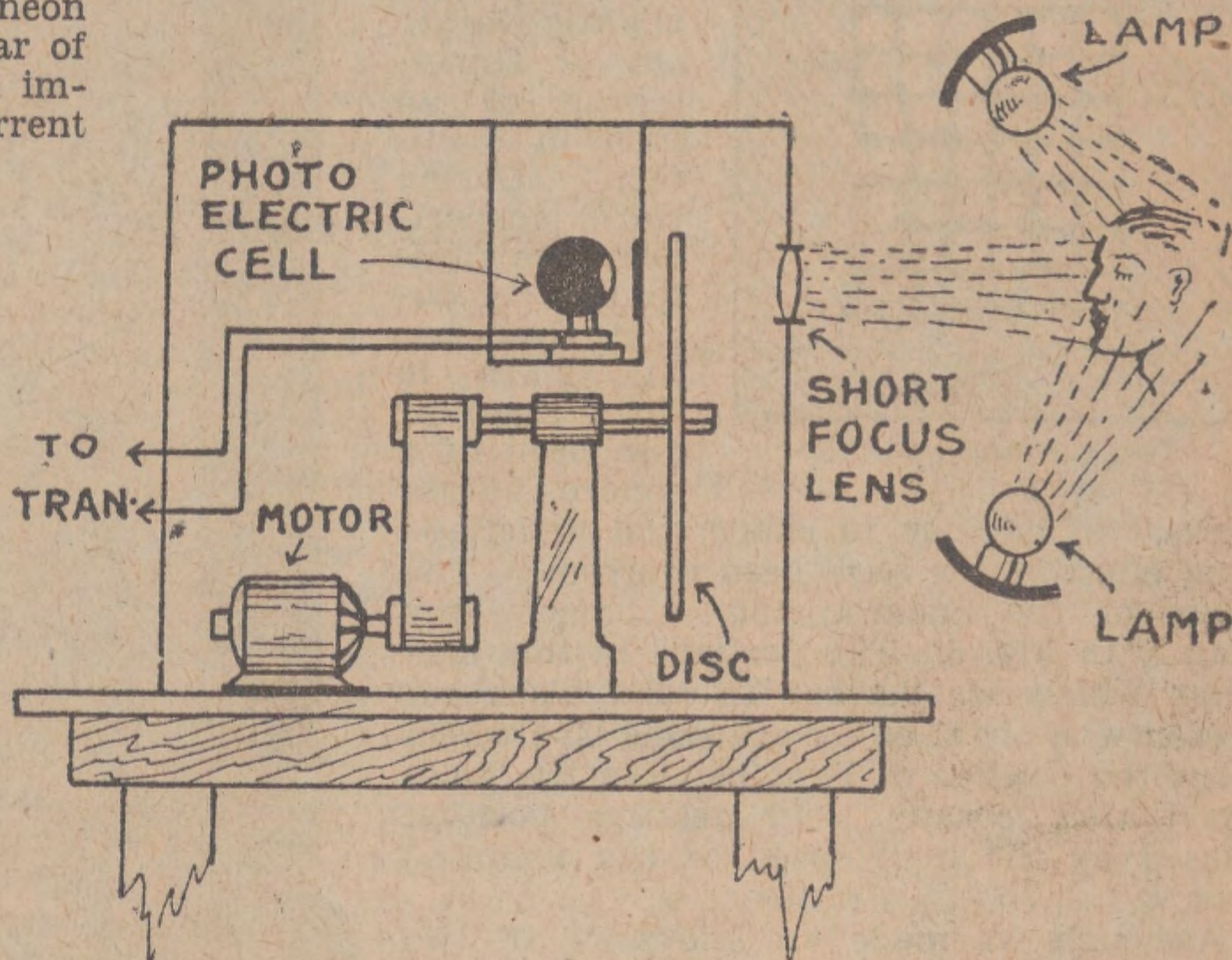


Fig. 3.—The Transmitting End of the Televisor.

The first television experiments to be made in Australia are recorded in this article. In the absence of a television transmitting station, the ordinary modulated signals of 2BL were "looked" into—with amazing results.

By W. G. NICHOLS and
J. C. DINNELL

it causes a beam of light to pass through the holes in the scanning disc. The transmitter consists of a scanning disc and an electric motor identical with that used in the receiver. In this case a photo-electric cell is placed behind the scanning disc. This cell is sensitive to light variations which it receives through the holes in the scanning disc.

If you look close at a newspaper reproduction you will see that it is composed of a number of small dots. It is this principle along which television has been developed. The light rays from the object in front of the television transmitter are broken up into dots by the scanning disc. These dots, are of varying intensity, are impressed on the photo-electric cell, which causes a corresponding increase or decrease in the current sent out by the transmitter. After passing through the ether in the form of ordinary radio waves, they are picked up by the ordinary radio receiver which has the television receiver plugged in, in place of the loud-speaker. If the receiver scanning disc is rotating in step with that of the transmitter, the picture will be seen through the viewing hole. This process should be easily followed by referring to Figs. 2 and 3.

With a little imagination, the reader can picture the ultimate television receiver, and the far-reaching effects it will have on home life. You will tune-in your favorite station where the announcer, looking very sweet in his evening dress, will inform you that the station is switching over to the theatre, where you will hear and see the latest theatre hit.

We now propose to deal with the results obtained by us on our present television receiver.

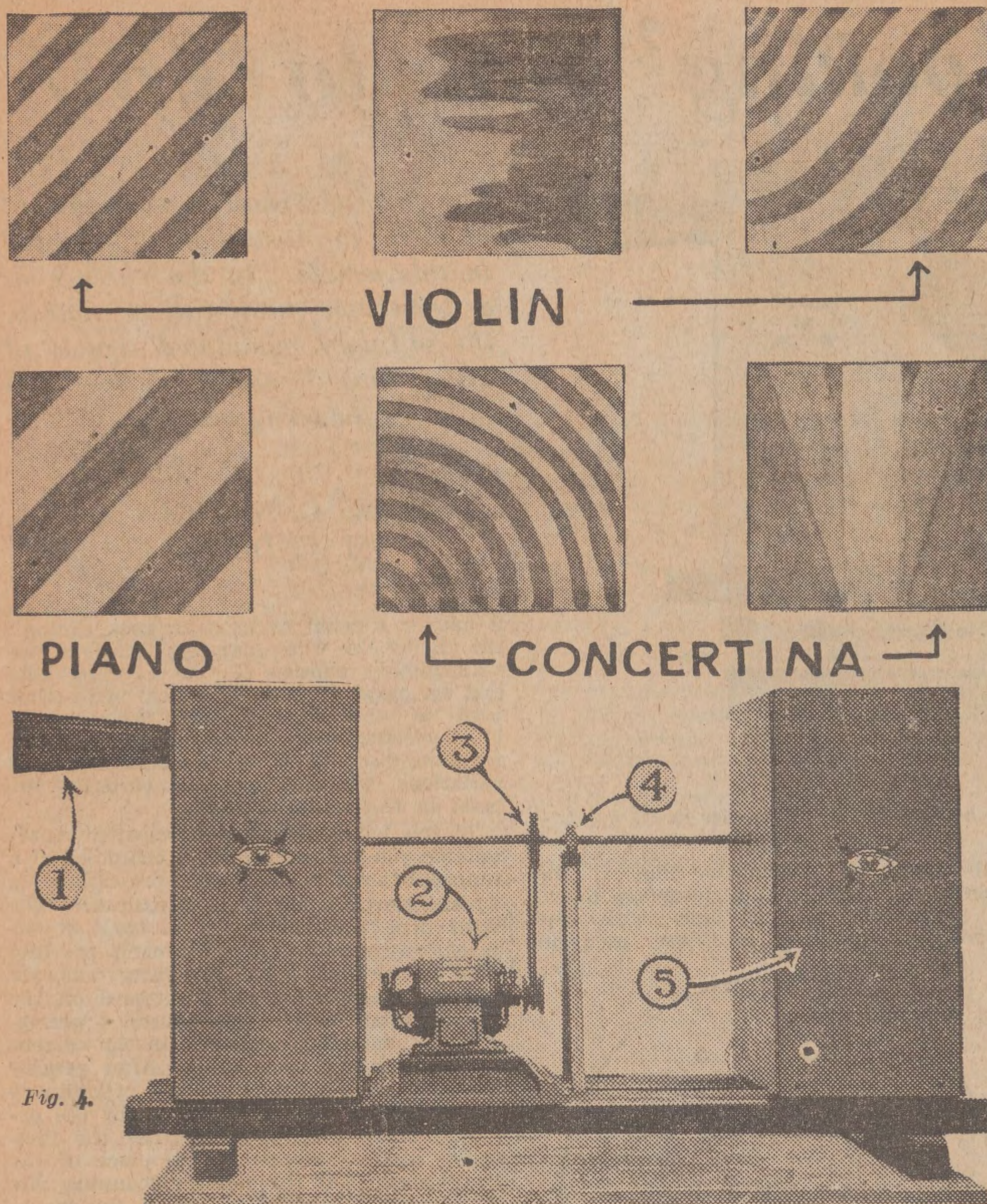


Fig. 4.

Looking at Fig. 5, No. 4 shows the inside of the television receiver case. This is built around the scanning disc and neon tube so as to exclude all exterior light, and is given a coat of paint of dull black finish, which give a finish similar to that of a small box camera.

The scanning disc used in these experiments has a diameter of twelve inches, in which are drilled thirty-two holes equidistantly spaced and converging one inch toward the centre. The holes in this disc are

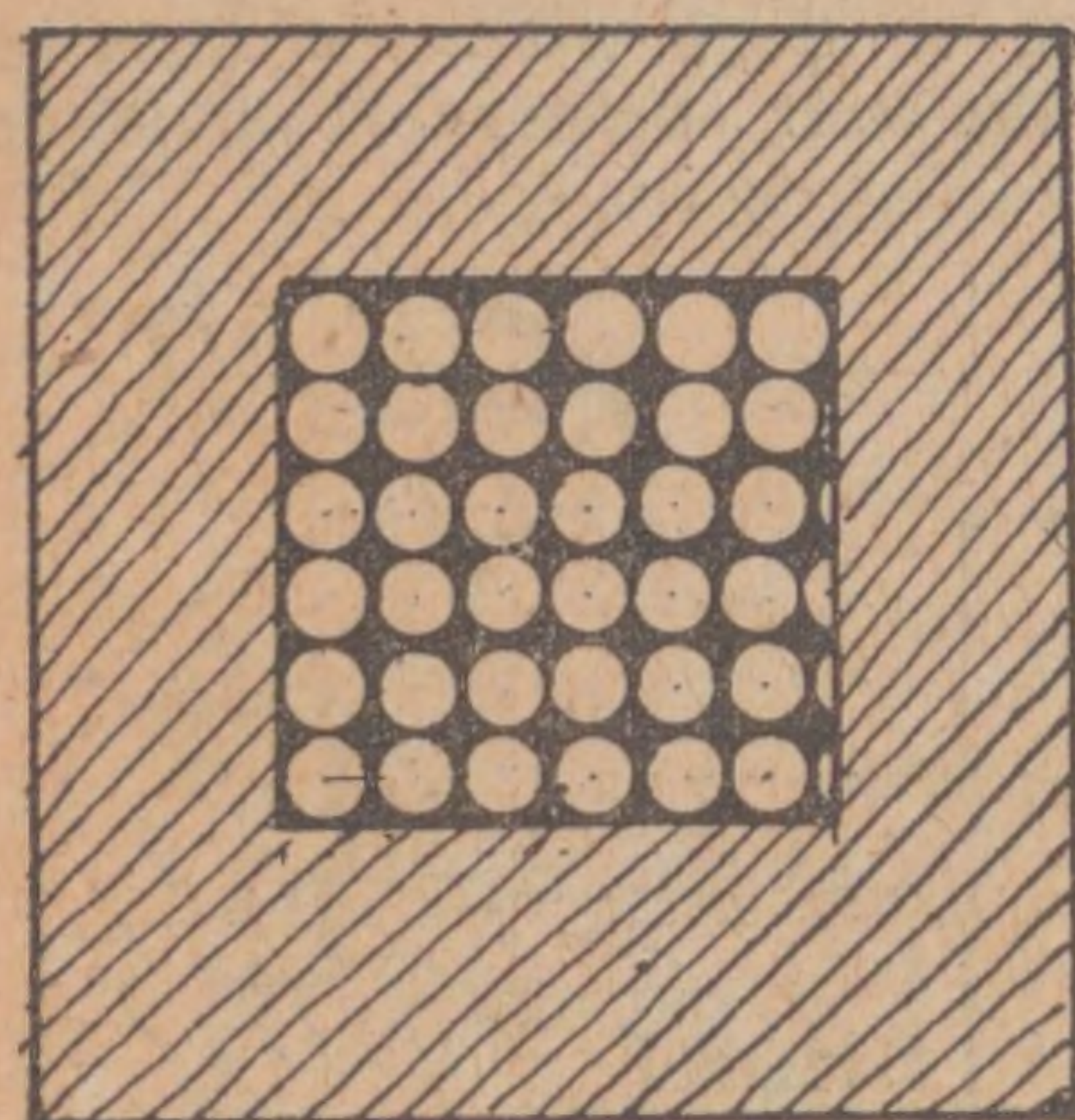


Fig. 6.

which are drilled thirty-two holes in this disc are slightly larger one - thirty-second of an inch in diameter. During the experiment we came to the conclusion that had the holes in the scanning disc been of a square nature instead of circular in shape, the underlapping effect would have been overcome. The cause of the underlapping is shown very plainly in Fig. 6. The portions in this diagram which are marked in solid black represent the metal of the scanning disc which stops the passage of light between the holes when they occupy their relative position caused by the high speed of the scanning disc.

Although we made an allowance of two thousandths of an inch when drilling the holes this was not sufficient to do away

with the underlapping effect.

The neon tube which we are using in these experiments not being constructed for television purposes, has a wire element wound in a conical shape. A neon tube specially constructed for television work has a metal plate of sufficient size to cover the entire area of the picture with an even glow. When our receiver was set in operation the conical shape of the wire element could be seen through the received impulses, thus destroying to certain extent their shape. After several unsuccessful experiments to eliminate this difficulty we found that with the help of a ground celluloid screen correctly placed this effect was eliminated. This celluloid screen was first placed about half-way along the viewing tube shown as No. 1, Fig. 4. However, this was found to be too far away from the neon tube, and gave out only a diffused light which, for television purposes, was absolutely useless. Even when placed close to the scanning disc on the viewing side detail was not sharp enough to give good results, but when placed about half an inch farther back, bringing it between the other side of the disc and the neon tube, it was found to give all the sharpness required and to completely overcome the element difficulty.

It was found necessary to experiment with the leads to the neon tube, as the tube gives off a larger and more even glow when the B battery potential from the amplifier is applied to one particular lead.

In the case of a very weak signal being supplied to the input of the amplifier it was found necessary to have a fairly large number of stages of amplification. In the reception of ordinary broadcasting signals a set using one stage of radio frequency amplification and a regenerative detector, two stages of audio frequency amplification, was found to produce currents of sufficient strength to throw a signal of good strength on the viewing screen of the televisior. Whilst experimenting with exceedingly weak signals four stages of transformer coupled amplification was tried, but owing to interaction between the stages of amplification an audio frequency howl was set up. This resulted in a modulated signal which could be seen on the viewing screen spoiling, of course, the continuity and sharpness of the weak signal being amplified.

On the amplifier used the high tension cur-
(Continued on Page 48.)

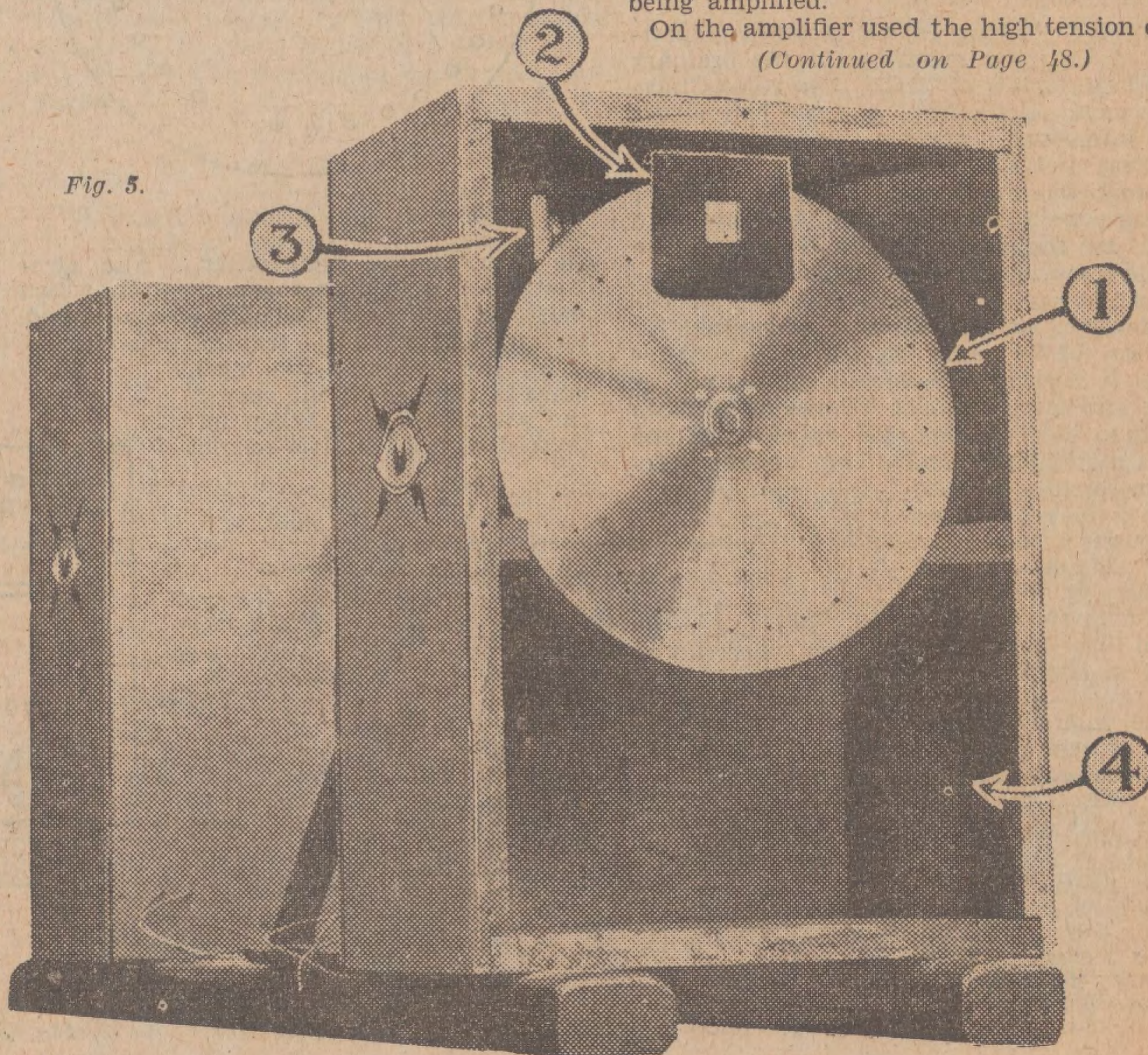


Fig. 5.



Introducing Mr. Robert Bluegum

ON this page the reader will observe the diagram of a very handsome and efficient loud-speaker recently installed in 3LO's studio—No, don't blame the printer for getting his illustrations mixed. We're just trying to follow the Editor's advice about remembering the tone of his publication by introducing to you in this radiotic fashion a new and melodious voice in the radio world.

The bright young man forming the nucleus of a collection of Australian fauna (fauna being a scientific name for livestock) and miscellaneous impedimenta is—unless the printer has managed to mix the illustrations—Mr. Frank Hatherley, whose real name is Bobby Bluegum, of 3LO. Not that he really resembles a combination sports depot and bird roost; you see, this is one of those symbolistic portraits which represent ever so much more than mere material facts—and provide such a good alibi for the portrait painter.

The thing that looks like a cricket bat represents a cricket bat and Frank—or Bobby's—playing-field prowess (he once followed the jeopardous calling of a League football umpire), the thing like a boat represents a boat, and Bobby—or Frank's—aquatic abilities (he is not one of those who think St. Kilda consists only of the Esplanade and ice-cream palaces); the thing like a tambourine represents a microphone, and Hatherley—or Bluegum's—connection with 3LO, while the Australian fauna represents his typical breezy Australianism.

Seated on a blue-gum stump—those leaves at the back represent that it is a blue-gum—he surveys the world with an amiable and imperturbable smile. He does not tear his hair when the xylophonist finds that someone has been using his hammer for driving tacks and refuses to perform; he can sit unmoved through a professorial lecture on "Blarks, Guppets, Unticles, and Moops"; and even female lecturers who pause on their way up the studio stairs to exchange a few minutes' fashion gossip with the previous performers on their way down can raise no more from him than a reproachful lift of the eyebrow. And the fact that he was one of Williamson's centurions for years and has stage-managed for such stars as Emelie Polini and Muriel Starr, has left him with nerves of steel, so that the smaller asteroids of the studio fail to terrorise him and their pyrotechnic displays fall quite flat as far as he is concerned.

Born at Adelaide in the precise year that the Bunyip was seen on the outskirts of Bung Bong, he inherited his full share of Australian audacity. As soon as he arrived at years of indiscretion he joined three other adventurous souls in a concert party travelling, and breaking down, in all sorts of con-

THESE CHARMING PEOPLE

By
*Marguerite
Mahood*

veyances through the heart of Central Northern Queensland.

Frank Hatherley's acquaintance with the wild animals of Central Australia has rendered him quite efficient in dealing with temperamental performers at 3LO; but, after all, lecturers and prima donnas are small game compared with a form of fauna at sight of which many a strong man has quailed, and many a dominant personality been reduced to quivering jelly—namely a herd, mob, flock, or drove of children.

Under the calm scorn and critical query of a childish gaze even Roman grandeur may tremble. But not Frank.

Children eat out of his hand. He has a gift with children; possibly because he doesn't patronise them. They see he is enjoying himself in their company, and, as every nice child is ready to do a good turn for a hapless grown-up, they throw themselves wholeheartedly into the business of helping him enjoy himself. It's real enjoyment, too. Though an accomplished actor on the stage (his roles ranging from the sublime in the Great Lover of "Tiger Rose," to the ridiculous in "Bert," of "The Better 'Ole") he is not, like some of his colleagues, even more an actor "off." Of course, it is a horrible disappointment to admiring flappers who arrive with autograph books (and if the pile of autograph books we have seen on Bobby Bluegum's desk were laid end to end along Collins Street, they would be a terrible nuisance to pick up again) to find he doesn't behave like the flapper's idea of an actor at all—but the children would rather have their Bobby Bluegum as he is—a sane, natural, and unaffected young Australian.

Be She Never Contrary

OF course elves and things are all very well in their way, but when it comes to making a nuisance of themselves—I think you'll agree we can have too much of a good thing. Fairies are all right; they know how to behave themselves. But elves never know when to stop.

"I try to keep them in order," sighed Mary, of 3LO, whose picture appears on this page, "but the wretched little things get out of hand when I'm giving the birthday messages, and I can't keep an eye on them." And Mr. Lamb, in 3LO's control-room, has decided opinions on the subject of elves, since they were responsible for starting runs in his lovely new silk socks; while 3LO's cornet player started on the warpath after them when he found a half-lemon jammed in his cornet. Nobody but elves could have been responsible for that. Even Mr. Dudley has been heard to utter uncomplimentary remarks about them when he found his desk all littered with cockleshells; he would not have objected, however, to silver bells or pretty maids. And even while the photograph on this page was being taken, the elves forced themselves into the picture and started mischief.

But it may be asked how it is that other stations don't have trouble like this with their storytellers' elves and fairies. The reason is that Miss Jocelyn M'Callum's (who is Mary Mary in disguise) elves and fairies are real ones—and if you don't believe me, ask the children who listen to her. Under Mary Mary's sympathetic handling the protagonists of the old legends come to life,



when the silver bells of her voice have charmed them out of the multi-colored past. The place is just swarming with them in her story hour, and visitors to the studio have to tread carefully among the gnomes and leprechauns.

Jocelyn M'Callum does not deal with Australian stories and legends, but with the dearly-loved tales that have been handed down to her from the hands of the children of all the ages. She has every single tale at her finger-tips, for she has for some time been in charge of the Children's Library at Prahran—in fact, her connection with the library led her to the microphone at 3LO. In those dim days just before 3LO burst upon the ether she was selecting books for her Children's Library at a big bookshop in Elizabeth Street, Melbourne, when Major Conder, who was there with Captain Peters, 3LO's popular Book Man, asked the gentle, serious-eyed young librarian to try her prowess in the Children's Hour at the new broadcasting station which was to open next week.

Terrified at the idea she said "No," but, persuaded at last against her own diffidence, she agreed. Then for a week she lived in mortal agony, not daring to tell her family of her reckless decision. On the fatal night, however, her brother happened to be listening-in at a friend's house. The friends recognised that mellow voice, but Brother, with true brotherly disparagement, was sure that anything so audacious as broadcast story-telling was well beyond his sister's capabilities. But when Mary Mary arrived home to be greeted with the famous family query, "Where have YOU been?" and suspicious references to wireless sets, the secret was out. Except for an interval while on a trip to England, she has been broadcasting from 3LO ever since.

Mary, as far as I can hear, has never lived up to her reputation for being "contrary." At school she was a studious child who never gave any trouble to her teachers. After leaving school she took an Arts course at Melbourne University, and then taught for two years in Fiji—small, brown children, between the ages of five and ten. She has an inexhaustible understanding of and sympathy with children, her outlook is kindly and tolerant, and she has never had time to grow into a rut or develop a stereotyped manner—that bugbear of the children's storyteller. In fact, she is one of our most popular radio friends, and probably will still be broadcasting when television is added to the home radio set.

I hope so. For Mary Mary has nothing to fear from television. She is no formidable "Auntie" of the comic paper. Young attractive, with lovable, sympathetic mouth and thoughtful eyes, her expressive face lit by the glow of the studio desk-lamp, she is perfectly in harmony with the pictures her words evoke. At her bidding sprites, kobolds, gnomes, fays, pixies, and elves cluster round the microphone. She is a real Queen of the Fairies—long may she reign.

HITTING BELOW the BROADCAST BELT



(Short-wave and Amateur Notes by VK2NO)

IN the first place let us state very definitely that the pugilistic gentleman which the artist (with that free abandon which marks the Bohemian) has sketched into the heading does not represent, nor in any way resemble, the author of these notes. Whether or not, it pictures the agitated reader after having failed to log all the stations we so blandly talk about, we refrain from guessing. It would hardly be complimentary to our readers, would it now?

Talking about the heading, however, I feel that a more appropriate name this week for this section of "Wireless Weekly" would have been "short wave shortcomings" for the behaviour of the higher frequencies from 15 to 45 metres has been anything but pleasant.

As a rule the range from 15 to 25 metres is reasonably free from static, and one may usually rely on being able to clear up 5SW on his announcements. Only on one or two individual evenings has this been possible recently, for the little "green devil" who sits on the aerial has grown considerably. It is really only what we may fully expect at this time of the year with sundry thunderstorms in the boiling all over the country, and the only thing to do is to grin and bear it.

Some prominent short-wave radio engineers were recently discussing the difference in reception to-day and reception in 1924. It was pointed out that we have theoretically and practically highly efficient receivers compared to those we delighted in "in the old days." We are able to definitely amplify at radio frequencies as high as 30,000 kilocycles (10 metres), and yet our long-distance reception is in no way to be compared with that of the earlier years. In early 1925 Australian experimenters were in reliable two-way communication by telegraphy and telephony with their fellow experimenters in England, France, America, and other countries, while using wave-lengths varying from 80 to 100 metres. Such communication seems to-day a sheer impossibility. What is the explanation?

The American Bureau of Standards has come to the rescue with a solution which points the finger of accusation at the same old sun which floods over the golden sands of our surf beaches! "Old Sol," with his gaseous and electronic eruptions, known in astronomical parlance as "sun spots," is the culprit! According to the investigating research engineers sun spot activity occurs in cycles of 11 years, and just at present this activity is unfortunately at its maximum.

A return to the "Good Old D.X. Days" will, it is predicted, take place in 1933.

If this is so, what may we not expect of reception by then? At the speedy rate apparatus for reception is constantly improving we may hope to find such distant stations as 5SW, Radio Paris, and PCJJ continuously at our "front door!" It seems a long time to wait, but apparently there is good foundation for the prediction.

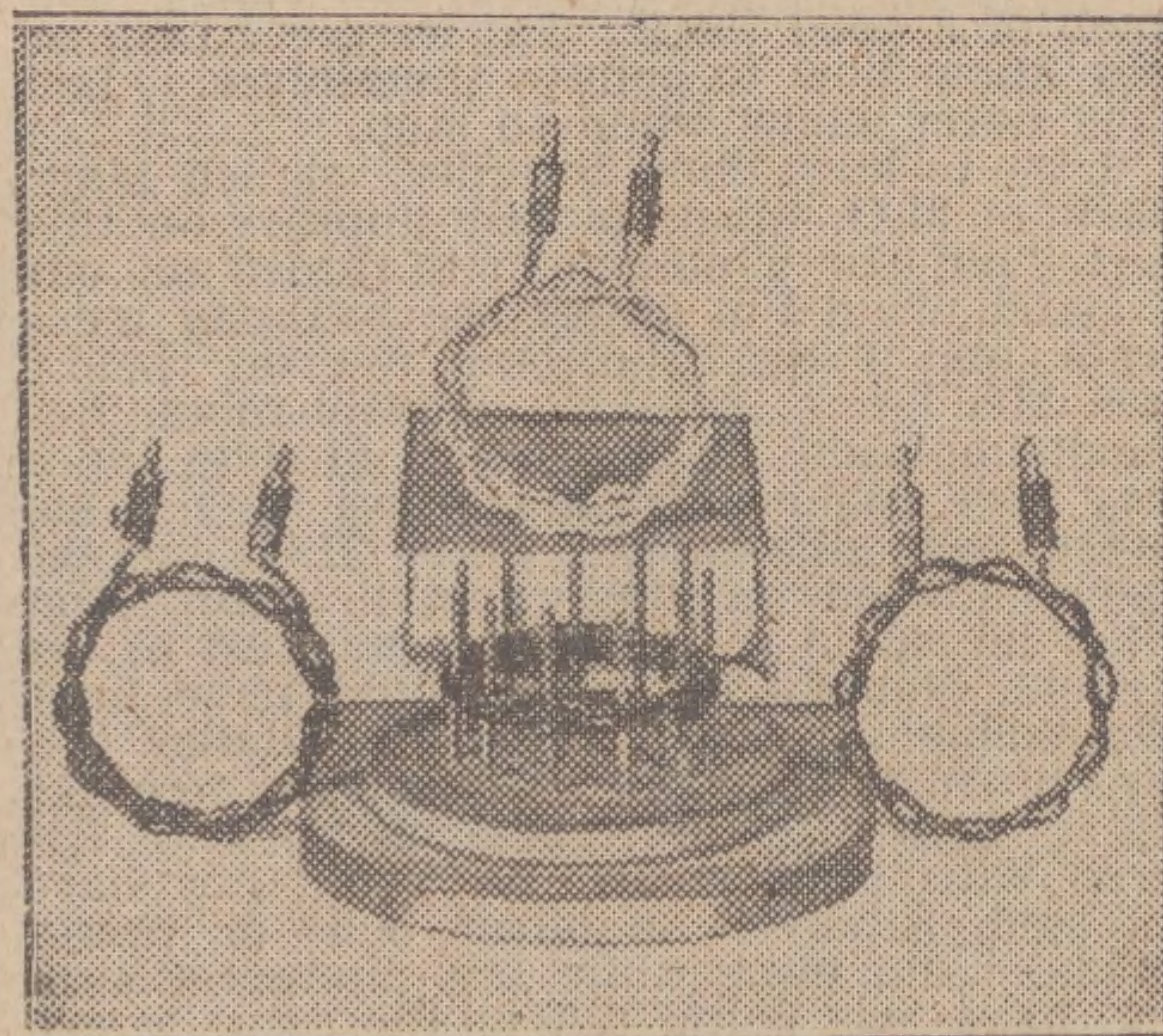
I well remember a remarkable phenomenon in short-wave reception which took place exactly as the old year went and the new year came in on New Year's Eve, 1927. Judging by the occurrence, it would appear that

a lull in sun spot activity must have been the cause. The night was particularly dull, and there appeared to be sheet lightning playing on the horizon. As I listened to the din of the sirens in the harbor ushering in the new year it occurred to me that to do any DX would be out of the question owing to the certainty of static. Going past the operating room on my way to retire for the night I went inside, and just put the head 'phones on for a minute (as I thought).

My surprise was sudden at the perfectly silent background. There was not the slightest sound of what we know as noise level, and on running over the dial of my "detector and one step" the surprise was very complete on hearing European stations coming in with amazing strength. Normally European stations were not audible on 32 and 45 metres until 4.30 a.m. At full strength were Irish 2IT, English 6TD, 5XY, German 4DBA, Finnish 2NM, South African A5X, and a host of 10-watt English experimental stations.

Needless to say, sleep was not for me that night, and, starting up the transmitter, I yarned away until breakfast time with the other end of the earth to my heart's content. The phenomenon lasted for two weeks, and subsequently I received a number of letters from observers in Europe who wrote saying how astounded they were to hear Australian experimental stations so strongly at midday in London, Paris, etc. That two weeks probably hastened my grey hairs in loss of sleep, but it was intensely interesting, and if it was a taste of the future, then there are good times ahead for short-wave reception. It requires little imagination to think how we shall hear 5SW, PCJJ, and such stations.

Talking of PCJJ, listeners will be interested to hear that the following radiogram was sent by the Philips Company to the Byrd Antarctic expedition:—"To Chief Operator,



One of the most efficient types of coils for use in short wave receivers is the Lorenz, or "basket weave." It was by the use of such coils that pioneer experimenters helped to pave the way for world-wide short wave communication. The photo. shows the construction of Lorenz coils and the method of winding them.

City of New York,—PCJJ 31.4 metres will call you every Saturday 5GMT. Also transmitting regularly Thursday 18/20 and 23/3, Fridays 18/20, Saturdays 0/6, all GMT... appreciate reports."

Listeners should keep an ear open for these tests, and those interested in PCJJ and the new station, KPBF5, may obtain detailed report forms from Philips' Lamps, Sydney.

Observations over the week-end of December 15 and 16 showed that with very few exceptions Australian experimental transmitters were using their new prefix VK. Gradually the 32 to 33 metre band is being abandoned, and although a few were to be heard here many were tuning up their transmitters on the new band from 41 to 42.8 metres. In some cases inter-State stations seemed stronger on 42 than on 32, but it was noticed that out of all those I heard calling Americans on 42 not one seemed to obtain an answer, yet the Americans could be heard replying to the 32-metre Australians.

The result so far is a general air of disappointment among Australian experimenters, but in my opinion it is far too early for pessimism. One good thing about the new regulations is that they will have the effect of forcing renewed activity on the 20-metre band, which incidentally is the most interesting because of the unexpected tricks it seems to play. One can never tell what will happen on 20. At one time, only a short time ago, night communication on 20 metres was considered a waste of time. Some of my most interesting contacts, however, with remote parts of the world have taken place on 20 metres during the hours from 9 p.m. to 3 a.m. Sydney time.

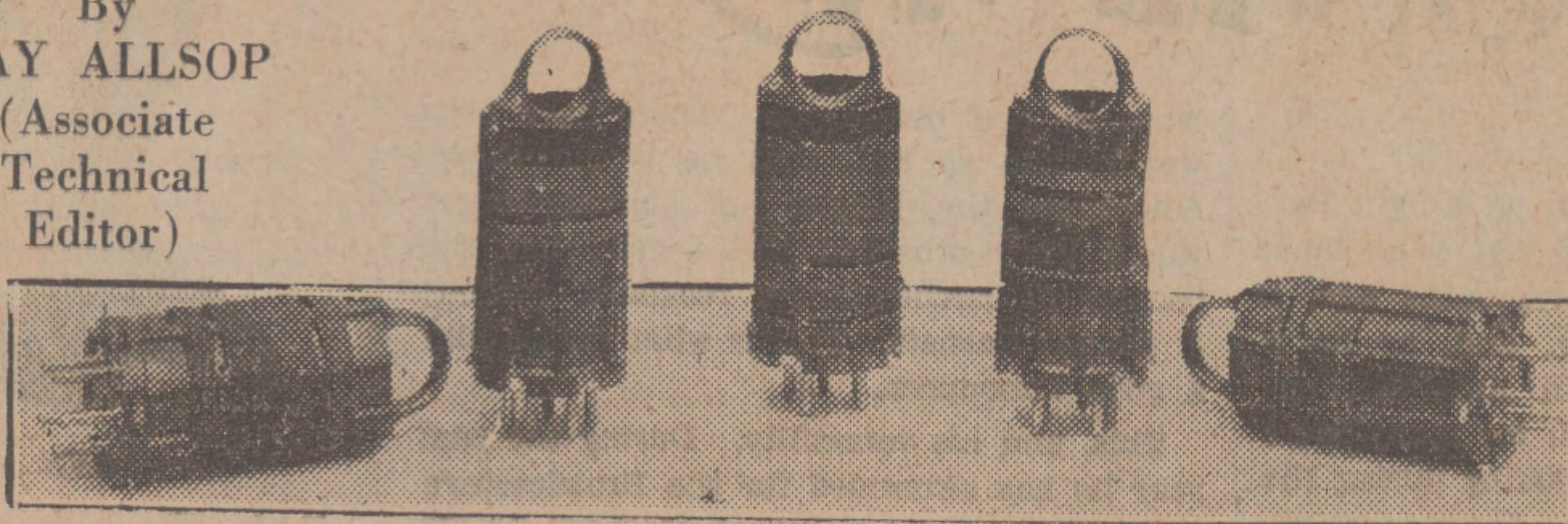
Very little is being done among the experimenters on short-wave telephony. The reason is that they are too busy adjusting and overhauling their transmitters, and are for the time being confining their work to telegraphy. 2FC and 3LO are putting over occasional short-wave transmissions, which are well heard in England. Reports from England show that our short-wave international stations seem to be better heard there than 5SW is here. A letter from England this week says:—"Armistice Day—last night we heard Chapman (captain of M.C.C.) speak from Sydney. He said it was early on a perfect Sabbath morning—here we sat close round the fire, and outside it was damp, cold, and foggy." The two extremes—and no doubt the English winter accounts for the better reception.

Last night, December 17, Mr. Allsop relayed 5SW through 2BL. Static was very bad, but the bulletins referring to the health of his Majesty the King were heard in their entirety. Listening with my present experimental receiver I heard the London announcer say they were going over to relay the service from (?) Cathedral. The choral music was patchy and subject to high-speed fading. In the near future I have two excellent receivers pending. They are the "Silver Wasp" and a special 6-valve receiver using two screen grid valves, detector, and push pull audio. As soon as they are complete "Wireless Weekly" readers will have something well worth while constructing.

The WASP all-wave Receiver

By
RAY ALLSOP
(Associate
Technical
Editor)

On the right is seen
the new all-wave
coils.



A wiring diagram
for this receiver will
be published next
week.

IN this article I put forward a suggestion for a detector and penthode receiver to cover all wave bands from 17 to 500 metres. There are, I am sure, many listeners desirous of exploring the short-wave bands, but refrain from going to the expense of building a valve receiver solely for this purpose. A combination of the two may be accomplished with correct inductance and capacity values.

The arrangement consists of five interchangeable coils, products of the Twin Coupler Company of America, each unit comprising a grid, plate, and aerial inductance. As the aerial coupling coil is fixed and "dead spots" may be found on the tuning dial, a small .000015 variable condenser should be connected in series with the aerial.

The circuit shown in the accompanying diagram is the familiar capacity controlled hook-up. There are two controls, tuning and regeneration, and since the feedback is quite constant over a fairly wide band, with a correct adjustment of the aerial series condenser, the operation is quite simple.

Two variable condensers are required to obtain the correct wave bands. A 140 micromicrofarad (.00014) S.L.F. condenser must be used for the grid tuning circuit, while the regeneration control may be any 250 micromicrofarad (.00025) condenser of good construction. The detector socket must be of some spring or cushion construction. The audio transformer of some respectable manufacture—I suggest Philips, since a Philips A415 in the detector socket is recommended, and a 443 Penthode for the audio stage.

The filament circuit may or may not be grounded. Now, with the receiver hooked up for test, first try for oscillation. Some

short wave receiving sets go into oscillation with a bang or howl instead of a steady hiss. Next try changing the detector grid return, and you will find one either positive or negative return which will give steady and smooth oscillation control. It is also advisable to experiment with the grid condenser and leak. The smallest capacity and highest value of leak will give the loudest signal; try a .0001 mfd condenser with 5 to 10 megohm leak, but if howling is found with these valves, the capacity must be raised, and leak lowered in resistance. This receiver can be built into a compact set, and, if correctly constructed, will give ex-

PARTS REQUIRED.

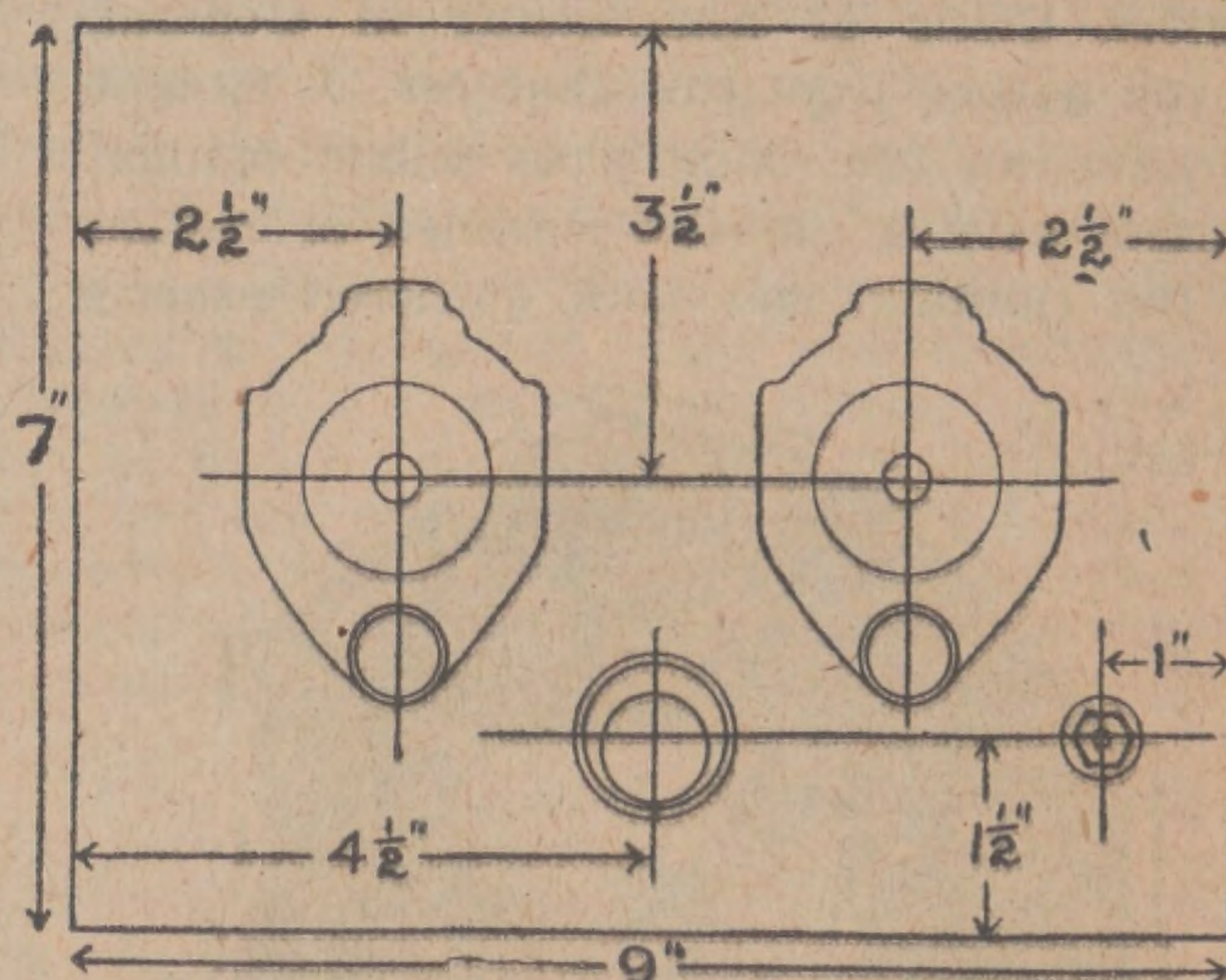
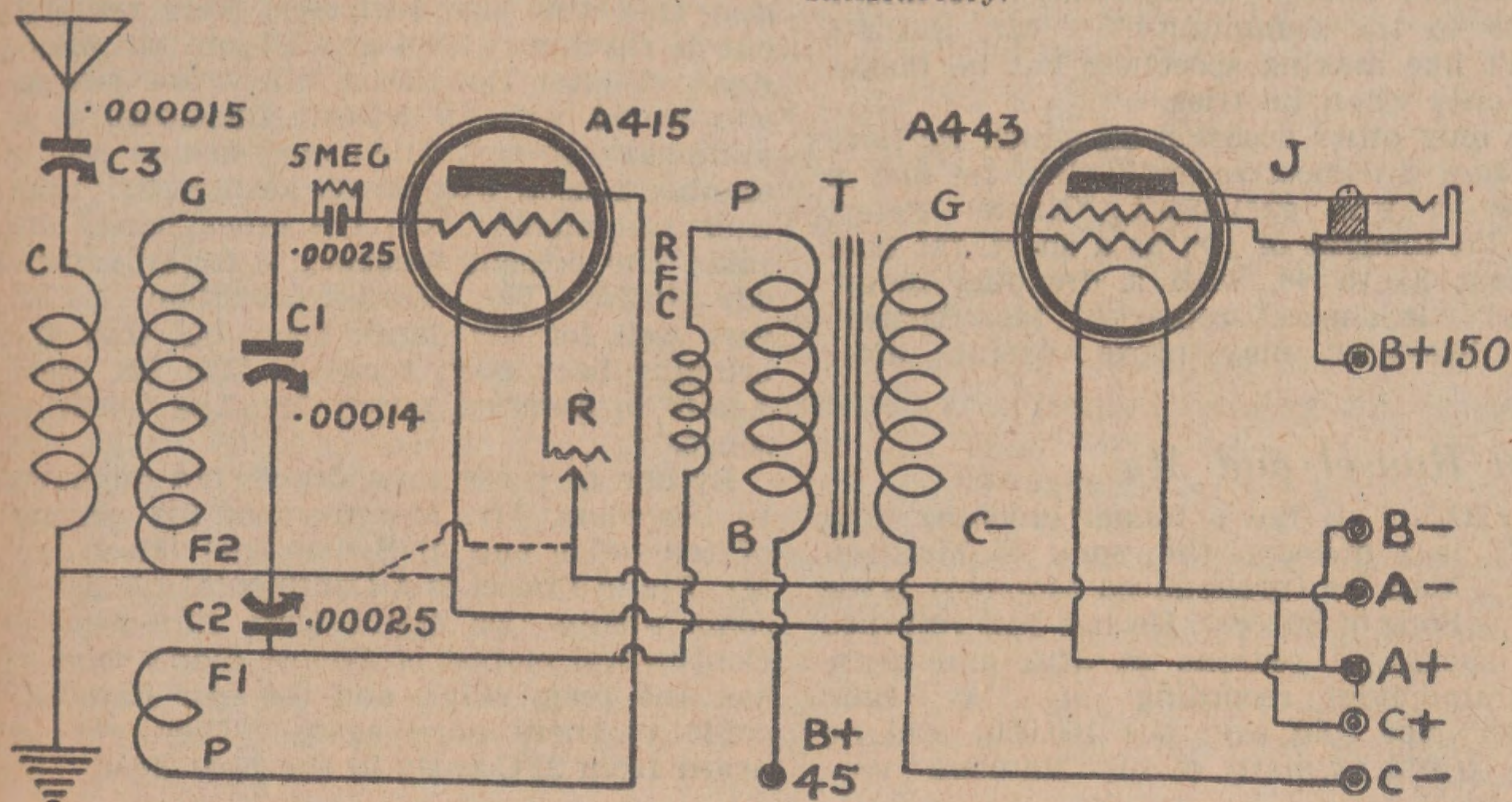
- 1 Kit Pilot wasp coils.
- 1 140 M.M.F. S.L.F. condenser, of high-grade manufacture.
- 1 250 M.M.F. condenser.
- 1 rheostat.
- 2 U.X. sockets.
- 1 U.Y. socket for coils.
- 1 grid condenser, .0002 M.F.
- 1 grid leak—5 meg.
- 1 .000015 midget condenser for aerial coupling.
- 1 R.F. choke, may be home-made (200 turns of 34 or smaller on a 1in. former).

cellent results. Good loud phone strength on overseas S.W.B.C. stations at the correct periods, and good L.S. volume for a room on the local broadcasting stations.

At an early date I intend to give complete building instructions for a short wave receiver, employing 2 screen grids in push pull, det. push pull, and audio push pull. The results of the preliminary experiments with this receiver have proved exceptionally satisfactory.

One immediate advantage of this little set is that it is truly "all-wave." In a broadcast receiver we are used to condensers with capacities up to .0005 mfd, which takes us up to 600 metres with the average coil.

It is reasonable to suppose that if we do not wish to go any higher than 200 metres about a third of this capacity will be ample. This is about right if one wishes to construct a continuous range tuner to go from about 15 to 200 metres with about four plug-in coils. At the higher frequencies the tuning will be cramped and will necessitate a vernier to separate the stations, but by using a smaller condenser and more coils the entire range from 17 to 500 metres may be covered. The Pilot short-wave coils are ideal for this purpose and do the trick perfectly when used with a Pilot of J.B. .00014 mfd variable condenser. Many plug-in short-wave coils are too big and flimsy, and do not always make proper contact with the sockets. The receiver is meant to be used with the headphones, but, owing to the B443 Penthode in the audio stage, will work a loud-speaker on strong



signals. This refers to the short wave bands, but on the broadcast band using the No. 5 (blue ring) coil, it will give very good loud-speaker results.

The diagrams will show the layout suggested. When wiring up use resin core solder and avoid the use of soldering paste or liquid. Detailed instructions are not given for the wiring or assembly, as those readers who have at some time or other constructed any kind of a wireless receiver will have no trouble in following the diagrams. A good vernier dial should be used for the tuning condenser. One of the most suitable is the Pilot type 1282 illuminated vernier. This and the coil kit referred to are obtainable in Sydney from Harringtons, Ltd., George Street.

PROGRAMME PERSONALITIES

A Youthful Uncle

THE photograph is of Mr. J. Knight Barnett—Uncle Peter—of 2BL. He joined the staff just twelve months ago, is still crowing strongly, and, as he is the youngest announcer in Australia, expects to be heard from 2BL for many more years. Few who hear him joking during the children's session, or reading the market reports, or introducing artists, know that he is one of the best organists in Sydney. It is the price one pays for versatility; the man whose pride is his manipulation of a poker hand finds oblivion as a great financial magnate; the man who wishes to be known for his cleverly-turned sonnets is publicly recognised as "Bloggs the politician"; and Mr. Barnett, who thinks the organ the finest of musical instruments, is the popular "Uncle Peter of 2BL."

He began on a church organ when he was twelve years old, and since then has played in many churches which are still standing. He became a public accountant for a while and filled in his spare time as conductor of several musical societies—the Roseville Musical Society and the Manly Amateur Theatrical Society—and for eighteen months as the conductor of the old 2BL Light Orchestra.

Last December he began to announce from 2BL. The public made no objection; and the public of those days combined the functions of examiner in English Grammar, sole Arbiter of Artistic Taste, Moralist in Ordinary to Wayward Announcers, and prejudiced Critic of Announcing in General. If you gather from this that Mr. J. Knight Barnett ran the gauntlet of public opinion without getting hopelessly lashed or ruffled in the running, you have gathered exactly



This is Miss Julia Russell, the well-known operatic soprano, who is appearing in a series of recitals at 3LO, Melbourne.

what we cast before you. There have been wagers laid at 2BL that he is unruffled. Sometimes the tangles of circumstances would have provoked the angels; but the tangles of circumstances reckoned without J. Knight Barnett. This is what makes him a good announcer.

This, and his versatility. During the past year he has strummed for the Broadcaster's Trio, accompanied numbers of those people whose delight it is to sing for 2BL, and played many a pianoforte sollee, as one purist has it. He has been billed as an entertainer, a musical monologuer, and a one-act player. Lately he has been associated with Miss Dorothy Dewar in several short "acts"; and has managed to live down the horror of their classification as "a clever duo." This needs some doing. We have seen many artists fade into obscurity under the weight of "Clever Duo." He has seen service as a vocalist; but claims no praise for a number of licenses cancelled after the battle. And he is the Sardonic Singer of the Topical Chorus.

We were at the studio one Saturday afternoon and found Mr. Barnett a little worried. "They're opening a wardful of headphones at the Children's Hospital to-day," he confided, "and I've got to make a speech." Which he made. It ended, as we remember: "We announcers have a pretty hard time all day in the studio, and, speaking to an unseen audience, we sometimes wonder if we are doing anything worth-while. But when we see how radio appeals to the sick—to those who would have little interest in life without it, we feel that we are actually doing some good, and a service to the community." Mr. Barnett doesn't like making speeches; but he makes good ones when he tries.

The only other occasion on which we have seen him disconcerted was when he met a listener-in who exclaimed, "Uncle Peter! Why, I'd thought of you as a short, fat man of about 34 to 40, with a drooping moustache." "It shows," remarked Mr. Barnett, "that television may prove useful, after all."

"Just Rousel and Me"

WHEN it is not a tender crooning of a jazz melody, the song of Mr. Len Maurice (pronounced Moreece) is the Song of Success. He has just returned from successful seasons at 5CL and 3LO; his gramophone recording of "My Blue Heaven" has sold over the 100,000; and he hopes to sell as many of his "Ramona" rec-



LEN MAURICE.

ordings. On each of which he receives a royalty.

"Not too bad for Australia," he remarked. "Gene Austin sold a million 'Blue Heavens' in America." Which does seem to prove that, per head of population, Australia has quite as much spiritual yearning as America. Anyhow, enough to make Mr. Len Maurice satisfied with life. But he has worked very hard for his satisfaction, probably because this is the only way to get it.

"Many years ago," he said, "I sang nothing but opera and oratorio. It wasn't what the public wanted."

So he switched on to what Madame Melba didn't call "muck." Consequently, and as a reward for his taste and judgment, he is now the most highly paid artist on contract with a gramophone company whose name we forbear from advertising.

For many years, as the novels have it, he has wandered the weary width of Australia, and the watery waste between Australia and New Zealand. He tells the story of a trip to New Zealand with an opera company. It appears that there was a strike, and no accommodation for the company aboard the only available ship. So the shipping company fixed up berths for the artists in the hold of the vessel. The close-packing was responsible for a prima donna speaking to an ordinary man of the chorus, and, in fact, the whole company became remarkably democratic. "They had to," mused Mr. Maurice, "but it was rather bad luck that Wirth's Circus was aboard. The animals were all seasick."

"Jazz," said Mr. Maurice, is a commercial business. Opera and all that kind of thing is a commercial business; but the turnover is declining."

This is a new way of stating the case; but it seems rather a sensible pronouncement. Hear some of Mr. Maurice's opinions.

"Jazz will always go over, because it has the appeal. It is the relaxation of business-weary people. The first talking picture contained jazz." We were bold enough to suggest that the jazz composers were running out of rhythms. "Not at all," said Mr. Maurice. "Walter Donaldson still writes jazz as you would write a letter. Donaldson is a millionaire to-day. The money behind jazz is another reason why it will keep going." Sincerest statement! "On the other hand," he said, "the present tendency is towards 'melody stuff.' The ultra-syncopation is all very well for the dance floor; but they are bringing back such songs as 'Till We Meet Again' in America, purely for their worth as songs."

By one of those coincidences not unknown to travellers, Mr. Maurice met his partner of ten years ago in Sydney the other day. Mr. Franc Rousel is a Continental pianist of some ability (we aren't quite sure what a Continental pianist is; but we didn't want to ask and seem silly), and the pair have become partners once again. They will be heard from 2FC early in the New Year.



J. KNIGHT BARNETT
—Uncle Peter, of 2BL.

(Howard Harris photo.)

Many Good Resolutions in these New Year Features

2FC-2BL Features

Classical Programmes

MUCH CONTROVERSY has raged around the all-important topic—"diversity in broadcasting." There are those listeners who frankly prefer popular music, and in deference to their wishes they consider Radio entertainments should be in lighter vein.

On the other hand lovers of the classics protest against really good music rubbing shoulders with a jazz composition of the most frivolous order. The New South Wales Broadcasting Company has decided to devote Wednesday of each week to an entirely classical programme, which will delight the hearts of music-lovers, and on the same night a programme arranged along popular lines will be carried out through the service of 2BL. The first of the classical series has been undertaken by Oliver King, and this is set down for Wednesday night, January 9.



Mr. Oliver King, who will arrange the classical series.

The "Army"

ON Sunday evening, January 6, a transmission has been arranged from the Salvation Army Church at Dulwich Hill, which will be carried out by 2BL. A special service has been arranged on this occasion, and the broadcast should prove of considerable interest.

Studio Reunion

ON New Year's Eve 2FC will hold their usual reunion of studio artists, when an all-star programme will be presented by 50 to 60 of the station's leading personalities, who will remain in the studios until the New Year is ushered in. From 2BL on New Year's Eve a Scotch programme will be given. New Year's Day will be given up mainly to sporting descriptions in the afternoon, and popular descriptions at night.

Capital v. Labor

"STRIFE," John Galsworthy's most powerful play, to be produced by the H. W. Varna Company on the evening of January 2, at 2FC, shows a conflict between capital and labor in the mining district of South Wales. John Anthony, an inflexible chairman of directors, and his associates, conduct the dispute of the miners, headed by one David Roberts, who is actuated by hardships and privations borne during the bitter winter months, and the consequent shortage of money, food, and the necessities of life. The author depicts their sufferings, and arguments on both sides, concluding ironically by showing the futility of the whole proceedings. H. W. Varna is, perhaps, the most successful producer of those tabloid versions of famous plays. His long theatrical experience stands him in good stead; he knows just where to curtail, and where to add, so that the value of the work from a broadcasting standpoint may be increased.

3LO-3AR Features

Fancy Dress Ball at 3LO

GREAT doings are promised at 3LO on New Year's Eve, where a fancy dress ball is being planned by the staff to bid farewell to the Old and to usher in the New Year with due pomp and ceremony. Ned Tyrrell and his Radi-o-Aces will broadcast dance music that will set the feet of all listeners tapping, and, as the merry party gather round the microphone to sing "Auld Lang Syne," they will be uniting in spirit with thousands of listeners to wish each other the happiest and most prosperous New Year of all.

Scottish New Year

AS most people are aware, New Year's Eve is a great time with the Scots, and is ushered in with great ceremony, mirth, and merrymaking, and the traditional "first foot" who crosses the threshold carrying with him a small piece of bread, a knob of coal, and a little paper of salt ensures good fortune to the house. A special programme has been arranged at 3AR for New Year's Eve, when familiar Scottish airs will be played and sung, and much "pawky" Scotch humor dispensed by the well-known entertainer, J. Harcourt Bailey.

"A Messenger of Pilate"

AMONG the many attractive features that will be broadcast in the programme from



Miss Stephanie Deste, who will render a remarkable interpretive from 3LO.

3LO on Sunday, December 30, will be a recital by Miss Stephanie Deste, who has selected for her items, "A Messenger to Pilate," and readings from the Rubaiyat of Omar Khayyam. Miss Deste's wonderful speaking voice and powers of interpretation are too well known by listeners to need any further introduction in these pages, her Scripture readings being particularly impressive, and making a very wide appeal to members of all denominations.

The Brass Door Knob

THERE are few listeners who do not appreciate a good thrilling one-act play, especially when it is particularly well acted. On January 3, J. Beresford Fowler and his colleague, Miss Hettie Feuerman, will present a one-act play, "The Brass Door Knob," which should make an appeal to those who like something a little out of the ordinary. It would spoil the enjoyment of listeners to anticipate the plot—suffice it to say that it is full of intrigue, with a spy masquerading as a hawker; and Mr. Fowler and Miss Feuerman, both well-known repertory artists, contrive to get the very most out of their parts.



Arcadia
Organ
Recitals

NICHOLAS ROBINS, the well-known Wurlitzer organist, who arranges many popular recitals from the Arcadia Theatre, Chatswood, which are broadcast by 2BL Service, hails from Queensland. In the Northern State he was a very busy man in matters musical, being actively engaged in church work and teaching. Since coming to Sydney in 1921 he has become one of the most popular of our "air" organists. He has many compositions to his credit, and his work, which is of a high artistic standard, is always anticipated with pleasure.

Lance Fairfax at 3LO

MANY people who will shortly see the very fine acting of Lance Fairfax in the dual role he portrays in the very successful musical play, "The Desert Song," have, via the radio, been able to enjoy his singing, both at the theatre and in the studio. This talented artist is recognised as one of Australia's leading actor-vocalists, and, during the run of "The Desert Song," has added considerably to his artistic reputation. Mr. Fairfax is but another young Australian who commenced his professional career in the chorus under the banner of J. C. Williamson, and has rapidly come to the front rank. He will be singing from 3LO on Sunday, December 30, when his artistic vocalism will provide a rare treat for musical listeners.

Hawaiian Melodies at 3AR

A PLEASING musical interlude will be included in the programme at 3AR by the Honolulu Duo on January 5, when, with steel guitar, ukelele, and song, they will broadcast the charms of the beach at Waikiki. Mr. Charles Backstrom, who is responsible for the arrangement of the musical numbers, is one of the best known steel guitar players in Melbourne; and, when the Hawaiian entertainers were here some little time ago, seized the opportunity to take some finishing lessons from a native teacher. His repertoire comprises some little known Hawaiian melodies, and, as the majority of listeners enjoy the plaintive music of the steel guitar, the items of the Honolulu Duo should prove most popular.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."
FRIDAY, DECEMBER 28, 1928.

1500 Programmes

AFTER more than half a decade of scoldings from the minority of unsympathetic listeners, and cavalierly peckings from the press, the unhappy broadcast manager is to have the valuable attention of the politician and the Government servant.

For some time these gentlemen have made sly digs at the calibre of his essays at mass amusement—not without some unconscious qualification on their part. "What," these critics ask, "is the matter with the programmes?" The answer they give themselves has an astonishingly familiar ring. So much so that one cannot but wonder where broadcasters have been all these years. "Radio programmes," they say in effect, "need showmanship, intelligence, and creative genius." There is nothing new in this prescription, and it will indeed be an historic event when an intelligent showman possessed of creative genius is found.

Without wishing to disagree in spirit with the criticism of the station's managers' frantic exploitation of the specialised programme at every possible excuse, we must offer a few qualifying footnotes to the denunciation of radio programmes. Here and there, among the manifold schedules of weekly offerings, we have found, and still do find, various items that bear all the earmarks of intelligence, showmanship, and adaptive talent, which is the next best thing to creative genius; and while we should remain dry-eyed and calm if the broadcasters were to throw away many of their current styles and customs, we should not like to see them confuse their good deeds with their bad ones when the reforma-

When we remember that each broadcasting station has, during its brief existence in Australia, produced probably 1500 different programmes, we may perhaps understand a little better the frantic effort for variety. We have, indeed, had many excellent programmes from the stations, considering the limitations. It is not surprising that they should fail sometimes—although those programmes which do not strike us as being first-class, are not necessarily failures.

If the politician and the Government servant can muster up enough showmanship, intelligence, and adaptive talent to construct the programmes as good as the best of those we have received, they will do very well indeed.

Past Programme Standard Is Worth Emulating

THE year 1928 has been one of outstanding radio progress so far as New South Wales is concerned. A glance at the figures as supplied by the Postmaster-General's Department shows that the year 1928 opened with 72,000 licenses in force, and on present appearances the year will close with a total approximating 92,000 registrations. The gain of 20,000 set owners is the best answer to any criticism of the efforts of those controlling the broadcasting services in N.S.W.

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

A retrospective view of some of the main features of the past year brings into prominence the broadcasting of grand opera, the description of the arrival of Hinkler and the "Southern Cross," the transmissions in connection with the Eucharistic Congress, the English footballers, the tour of the English

LICENSES IN FORCE AT NOVEMBER 30, 1928.

	Month's Cancellations.	Month's New issue.	Month's Net Increase.	Total in Force.
Victoria	1269	2534	1265	143,250
N. S. Wales	1527	2917	1394	90,177
South Australia	168	672	505	22,019
Tasmania	46	137	91	3,946
West Australia	77	64	*14	3,830
Queensland	849	518	*331	25,235
Commonwealth	—	—	—	288,457

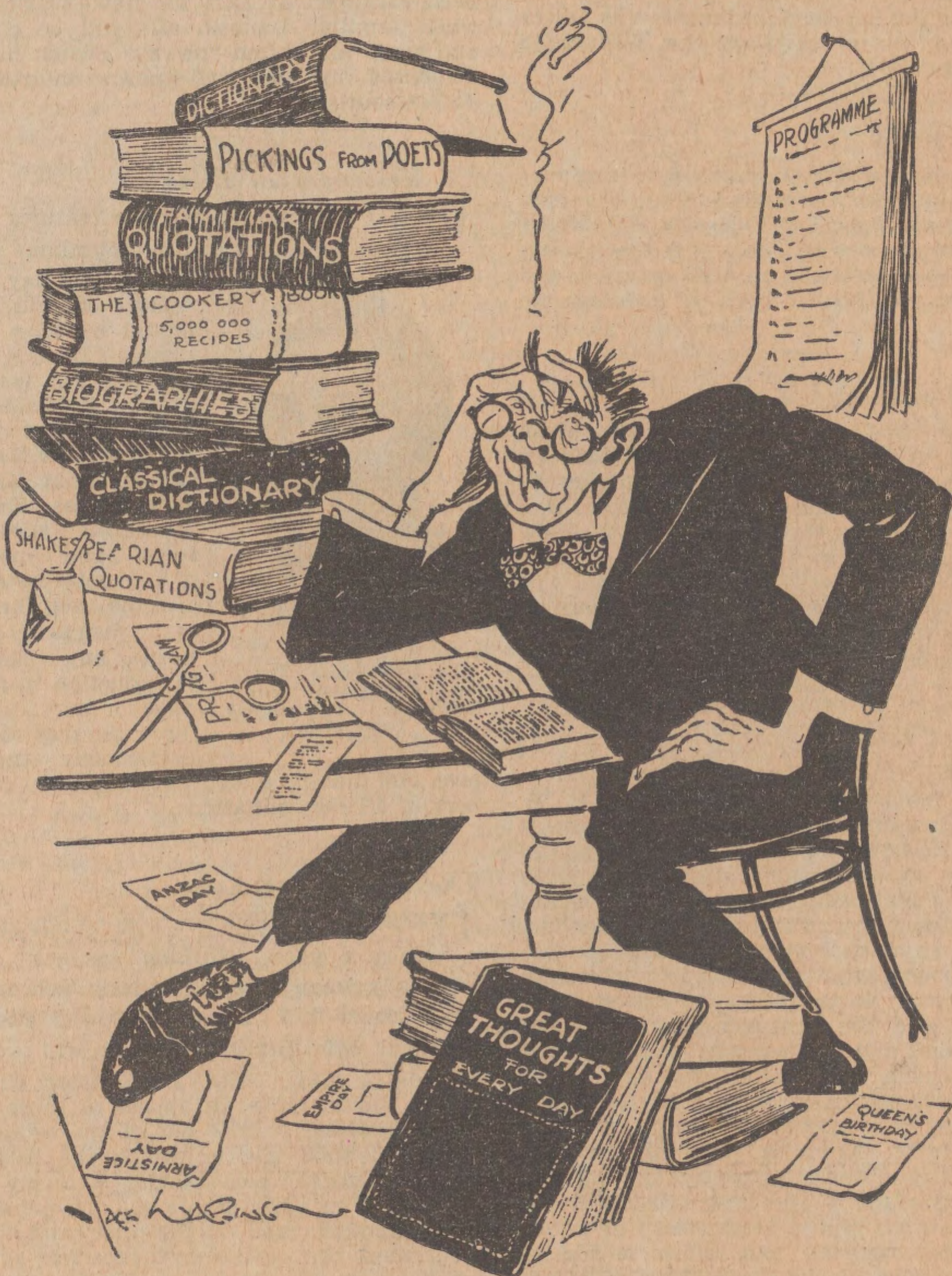
* Decrease.

cricketers, the frequent rebroadcasts of many overseas stations, the Federal elections, and the best that could be given in the world of local sport.

During the recent months a fresh field in local broadcasting talent was actively sought. To this end a radio eisteddfod

was carried out, in which nearly 1500 individual entries were received. The result of this effort has been to increase the range of choice presentations.

The year which we are now entering upon will bring to a close the terms and conditions under which the first "A" Class broadcasting licenses were issued through Australia. When compared with the progress which has been made in other countries in regard to the transmissions, programmes, and general popularity of broadcasting, we feel that those who were entrusted with the pioneering of this great public utility have not failed in their obligation to the listeners at large. Whatever the future may bring forth in the way of control, we trust it will at least be recognised that the high standard set during the years of inauguration is well worth emulating.



Pity the Poor Programme Director!

The Safety Valve



Readers are urged to express their opinions on matters pertaining to broadcasting. If you have some grievance, if you have some constructive criticism to offer, here is your chance for expression—your safety-valve. The

editor assumes no responsibility for statements made by readers and published on this page, as opinions of correspondents do not represent our editorial policies or beliefs. Anonymous letters are not considered.

Chop and Change

Dear Sir,—I know the stations have to cater to all tastes; but I just want to say what I think a lot of people are thinking—that is, that there are too many interruptions to good programmes. They give us good jazz songs and comedians now and then, but they are always pushing in some pianist or singer in the middle of the things we understand. To anyone whose tastes are to my way of thinking this is most annoying, and I cannot remember one night lately when I have not had to chop and change among the programmes to find something really good. It doesn't say much for the stations' organisation.

Yours, etc.,

Warrawee. F. P. FITZMAURICE.

Let Us be Ourselves

Dear Sir,—While I am not a deeply religious man, my family and I appreciate the church services when broadcast from the church—no matter which service we wish to tune in to. When I hear the bells of St. Jude's, Randwick, and St. Mark's, Darling Point, it brings back to me many boyhood memories. It cannot be the same if the services are broadcast from the studio, and I would absolutely vote against any alteration in the present conditions. The Yanks are certainly ahead of us in the wireless world, but let us keep our own idea in this matter.

Yours, etc.,

"UNION JACK."

West Ryde.

Religious Broadcasting

Dear Sir,—The above matter is one which should concern every set-owner. After all, broadcasting is only a service rendered for fees paid. Each licensee is a shareholder, and each shareholder has a right to equal dividends in the shape of the programmes; and, in my opinion, no shareholder has any right to a larger dividend than the other. At the present time, however, shareholders are not getting equal dividends from the A class stations.

Take Sunday programmes, for instance. We have six religious services—three from 2FC and three from 2BL; but ever since I have owned a set the number of times that 2FC have broadcast the Catholic services is not worth recording, and 2BL have not broadcast any Catholic services whatever. The Theosophical Society have never, to my knowledge, broadcast these services either.

As all licensees pay their fees in to the A class stations, I am of the opinion that they have equal rights regarding programmes. Under the present conditions, however, there is a big monopoly. I am sure if our A class stations were to render a programme consisting of sacred and first-class music on Sunday each shareholder would receive equal return for fees paid. Under the present system I am not in favor of the A class stations broadcasting religious services.

Yours, etc.,

"CONSTANT READER."

Kuring-gai.

Sunday Gramophone Recital

Dear Sir,—Re complaints of F. W. Reynolds ("Wireless Weekly," December 7) and others re gramophone records. I have spoken to many others regarding same, and it has been agreed that these particular items constitute one of the best features of the programmes, allowing as it does those of moderate means to hear the world's greatest artists. It is not everyone who can afford a good gramophone in addition to a wireless set.

I think if 2FC or 2BL followed the lead of 3LO, and instituted a Sunday afternoon gramophone recital, it would be greatly appreciated. The only thing I dislike is too many of those nasal fox-trots.

Yours, etc.,

"RADIO."

Cessnock.

A C3 Natin

Dear Sir,—In last week's "Wireless Weekly" I noticed an article headed "Radio Insect Exterminators." I wish we had some in Australia. Comedians, jazz melodists, pseudo-classical singers, and boxing announcers—I wish we had some really good powder to exterminate these radio insects. I know perfectly well that there are enough lowbrows in Australia to make it a C3 nation; but I see no reason in this for making the broadcast programmes suit the lowbrows. I think that the people who run the broadcasting stations should call in the recognised authorities in all the arts, and concoct a programme, not to suit public taste or convenience, but to ensure an artistic standard to which the ignorant and uneducated may rise.

Personally, I don't mind confessing that I am of the genus known as highbrow; and for that reason I take a broader interest in broadcasting than is commonly to be noticed. With such a new scope for artistic expression as the radio, it is very painful to find how little is made of it, and to hear that the awful, bourgeois programmes are "the things the public wants." So far as I can see, and I have studied history, the public never knows what it wants, has never known what it wanted, and never will know what it wants. When the authorities find this out, and draw out programmes on the lines I have suggested, broadcasting will begin to justify itself.

Yours, etc.,

GUNN.

Preston, Vic.

Mr. Gannon Replies

Dear Sir,—In "Wireless Weekly," December 7, under the "Safety Valve" column, headed "Attention, Mr. Gannon," Mr. Easton asks for circuit diagram, list of parts, etc., for the two-valve receiver described in "Wireless Weekly," November 23, by me. As extraordinary results are obtained on this receiver, it was not surprising to receive hundreds of letters from all parts of Australia and New Zealand, and, being thus overwhelmed, I cannot comply with readers' requests for particulars, so I am asking "W.W." to allow me to answer all inquirers through the paper.

The circuit is the world-famed three-coil

regenerative, with improved tuning arrangements. Instead of using the old-fashioned honeycomb and spiderweb coils on the outside of the panel, Dilecto formers, 2½-3 in., are used inside the set. The object is to provide the details for constructing a receiver for a dual purpose—that of receiving the short-wave stations and also the broadcast stations. To this end no radio-frequency amplification is used, and the set consists of a straight-out detector, followed by two audio-frequency stages. For the short waves, one primary and one reaction coil are used, together with two secondary coils. The first secondary tunes from 25 to 45 metres, and the second covers the band from 45 metres to 90 metres. The same primary and reaction coils are suitable for each secondary coil.

The 25-45 metres coil consists of 5 turns of No. 20 gauge enamelled wire, wound on a 3-inch former—space-found, i.e., each turn is spaced its own distance from the adjacent turn. The 45-90 metres secondary coil is of 13 turns of the same gauge wire, and of similar construction. The primary consists of 5 turns of the same wire on a 2½-inch Dilecto former, on a similar length of which is wound the reaction coil—7 turns of No. 20 gauge enamelled wire. The secondary coils are interchangeable. All that is necessary to change the tuning range of the receiver from the 25-45 metre band to the 45-90 metre band is to lift out the smaller coil and replace it with the larger coil, the primary and reaction coils being common to all short waves.

For the broadcast band similar formers are used—primary 25, secondary 70, and reaction 35 turns. The primary and reaction coils are wound on 2½-inch formers, one inch in length. Groden Ecs sockets are fitted to the edges of these coils, which plug into Dilecto rods, which are varied in angle by the back-of-panel Emmco vernier dials (two) on a 3-inch former 1½ inch in length. The tuning condenser is .0003 mfd. Mine is a 13-plate Gecophone with vernier dial. I strongly urge builders to use Ferranti transformers No. 3; they are on their own for pure reception. Use a 3-meg. grid leak for local stations, and a 5-meg. for short waves. Mullard and Philips valves are used; PM6 is the best for the audio, and D4 and 615 are splendid detectors. Bradleystats are used to control filament voltage. PCJJ Holland, RFM Russia, come in like locals. It is no trouble to tune in all Australia. RFM comes in from 5.30 p.m. to 9.30 p.m., our time. 3LO, 2BL, and such stations come in with tremendous volume, and the chimes can be heard striking three-quarters of a mile away from my receiver, so residents inform me. This is right across the water, and this, of course, would help carry the sound. Residents on the other side of the water set their clocks by me.

I got all my parts from Colville Moore. By the way, I would advise constructors to use a copper or brass shield at the back of the panel, in order to eliminate hand capacity, which is troublesome at times when tuning in oversea stations.

Yours, etc.,

J. J. GANNON.

Woy Woy.

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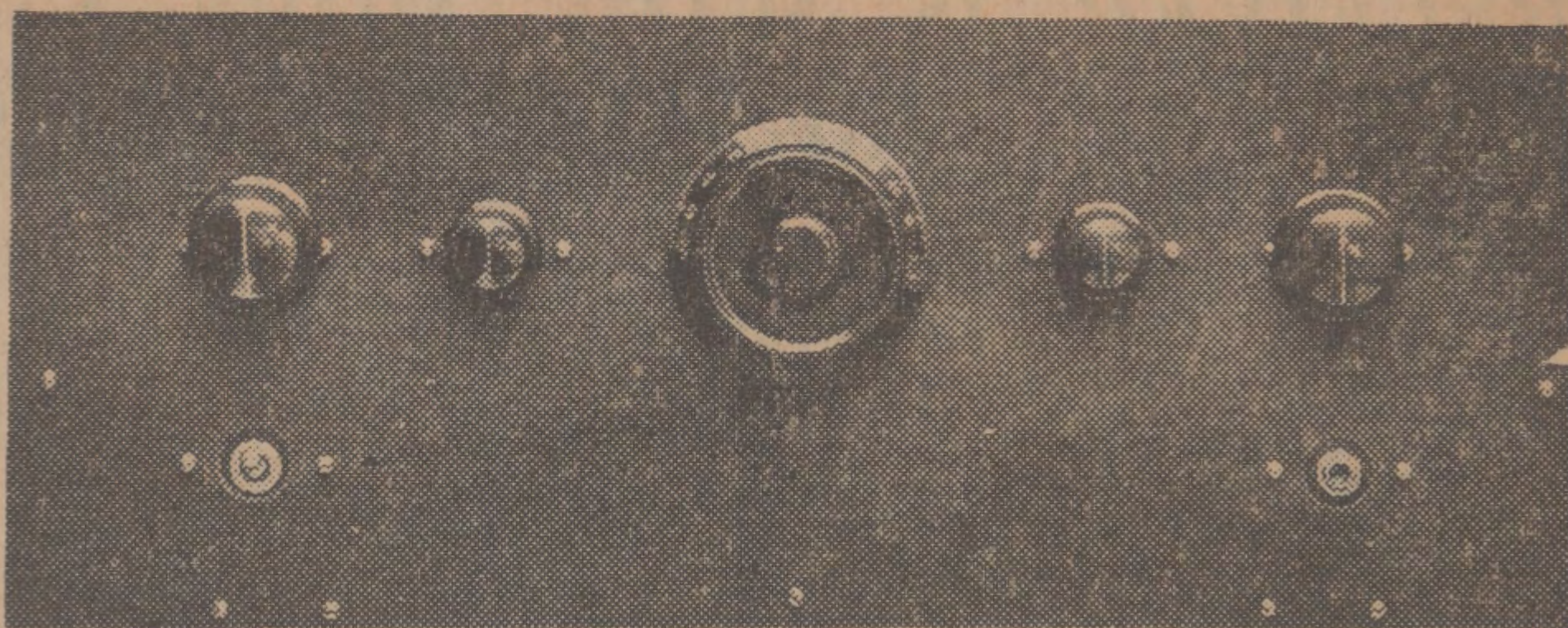
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By
DON B.
KNOCK
(Associate
Technical
Editor)



The UNI-INTERNATIONAL Short-wave Receiver

BY the time this article reaches our readers the festive season will be with us and the customary greetings will be in the air and on the air. Wireless communication plays an important part in the distribution of good will, and from every source these messages will speed on their way.

Out on the open sea, the marine wireless operator will find his quota of ship's messages considerably increased as passenger after passenger hands in his or her message to those at home. In touch with a sister ship, the operator on watch may recognise the familiar "fist" of a former shipmate by the style of handling the key, and who will blame him if he unofficially puts over a brief "Merry Xmas OM"?

On land, the broadcasting stations will be busy with their Christmas programmes in all countries of the world where stations exist. This year, the season will be doubly interesting for those who are using short-wave receivers. The season's greetings will be heard everywhere. By the medium of short-wave transmission and reception the Christmas bells of many of the world's great cities may be heard in all corners of the seven seas.

The experimental transmitter will be busy with his exchange of messages, brightened by reference to the time of the year, and if you can read the Morse code you may even hear the son of a Soviet commissar in Russia extend the greetings of the season to the son of a millionaire in Chicago!

By the use of the higher frequencies or shorter waves, intercommunication is daily and nightly helping to foster a fellow-feeling between nations, and the time may come when the tendency of man to go to war against his brother is written in the historical past, and those who brought all countries within instant touch by short-wave wireless communication will be hailed as real pioneers.

There will be many of the listening public who as yet have not touched the realms "below the broadcast belt," and who would like to have a good short-wave receiver, particularly at this time of the year. I take this opportunity of extending to "WIRELESS WEEKLY" readers the compliments of the season, together with the constructional details of the UNI-INTERNATIONAL FOUR—

the ideal short-wave receiver for those who are unaccustomed to fine tuning.

The name of this receiver conveys an idea of its nature at once. It is a real single con-

trol short-wave receiver, much more sensitive than the usual detector arrangement alone, and as easy to tune as the average Reinartz broadcast receiver! It is useful to the international listener and the broadcast listener, and has many virtues which recommend it to both.

The UNI-INTERNATIONAL FOUR is different from all the short-wave receivers I have described previously, such as the GO-GETTER, the ALL-EMPIRE, and the MIDGET FOUR. While it is much more sensitive than the GO-GETTER, it is not so sensitive as the ALL-EMPIRE or MIDGET, but it has the immediate advantage of simplicity and single control. Of necessity most short-wave receivers are designed for maximum efficiency rather than for ease of control, and are somewhat complicated in operation.

The construction and operation of the UNI-INTERNATIONAL FOUR has been simplified as far as possible, yet the receiver retains a high degree of sensitivity and selectivity. The highest efficiency obtainable is not always desirable. As an instance, a five-valve tuned R.F. type receiver is preferable to a three-valve regenerative receiver, even though both sets are capable of giving almost the same performance. By slightly lowering the efficiency of the tuned R.F. receiver, the desirable features of the ordinary regenerative are retained; it becomes easy to operate; and the stability of the circuits is greater.

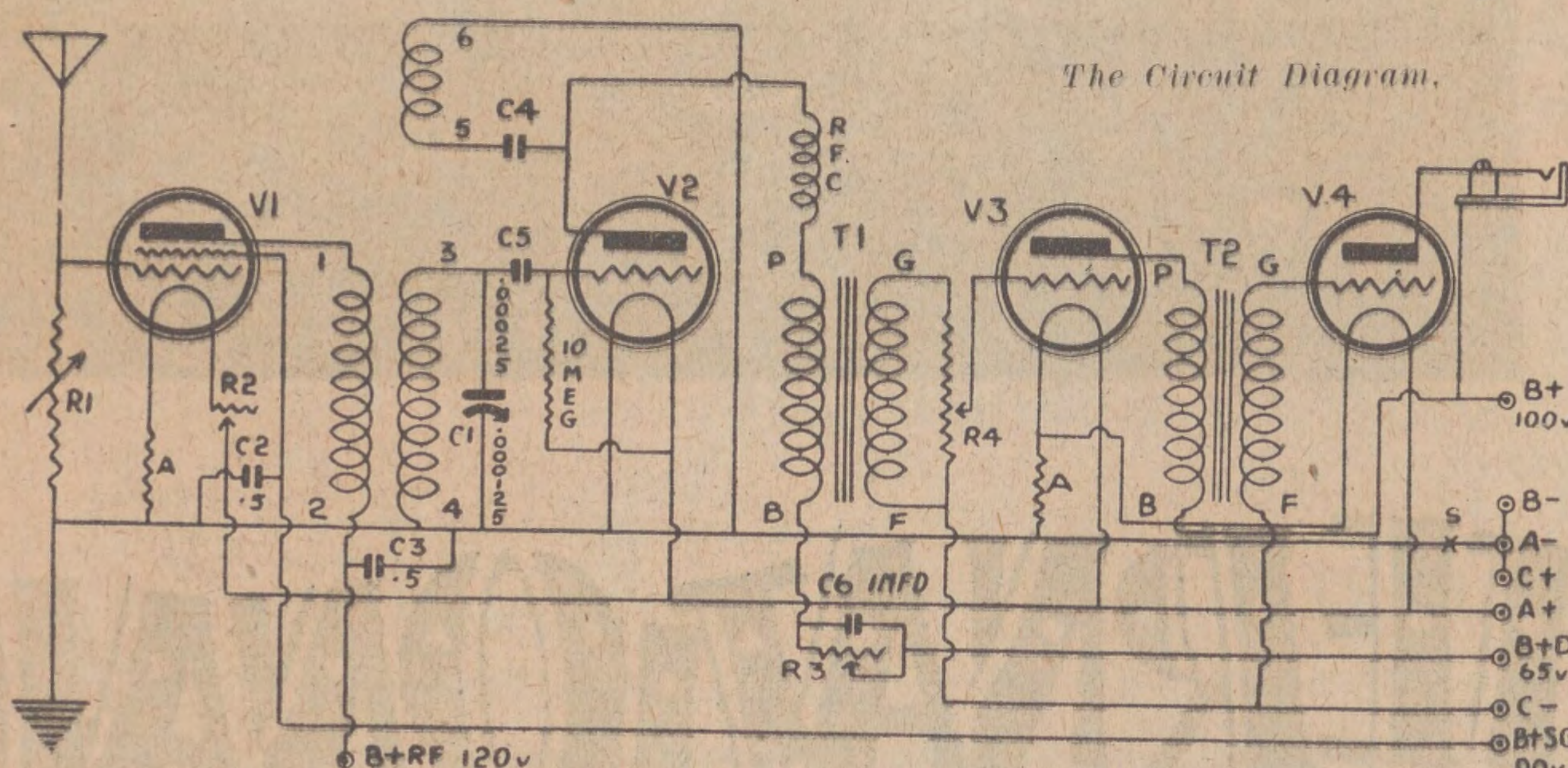
In designing this short-wave receiver this comparison has been borne in mind. A start was made with the sensitivity and selectivity, then the stability and ease of operation, and last of all the efficiency was considered. The result is a short-wave receiver which is the easiest of all to control and which gives greater volume than the ordinary straight detector type. Most readers will know that the design of most short-wave receivers embodies a regenerative detector followed by one of two stages of audio amplification. If an untuned R.F. amplifier using a three electrode valve is connected in front of the detector the amplification gain would be hardly noticeable, and you would be burning an extra valve filament for nothing.

In the UNI-INTERNATIONAL FOUR, a screen-grid valve of the Radiotron UX222 type is used before the detector. This R.F. amplifier is untuned, thereby doing away

List of Parts for the UNI-INTERNATIONAL FOUR

- 1 aluminium panel, 18 by 7 inches.
- 1 Bakelite sub-panel, 18 x 9 x 3-16 inches.
- 1 .0005 Gecophone SLF variable condenser, C1.
- 2 Ferranti AF4 audio transformers, T1, T2.
- 1 Radiokes screen grid short wave coil kit.
- 1 Radiokes RF choke (RFC).
- 4 Pilot UX spring valve sockets.
- Alternative home-made coils—
 - 4 4-inch lengths, 2in. diameter, Bakelite tubing.
 - 6 plugs.
 - 24 split-end sockets, wire as specified.
- 1 Royalty 0 to 500,000 ohms variable resistance (R3), or Clarostat.
- 1 Royalty 1500 to 100,000 ohms variable resistance (R1).
- 1 Royalty 0 to 500,000 ohms potentiometer (R4).
- 1 5 or 10 meg. Mullard grid leak, with base.
- 1 Sangamo .00025 fixed condenser, (C5).
- 1 Sangamo .001 fixed condenser (C4).
- 1 TCC, 1 mfd fixed condenser (C6).
- 2 TCC .5 mfd fixed condensers, (C2), (C3).
- 1 Bradleystat (R2).
- 1 Amperite (for 2UX 201A's), A.
- 1 Amperite, type 120 or 622, A.
- 11 terminals.
- 1 single circuit jack (J).
- 1 H and H toggle type battery switch, (S).
- 1 small battery clip (for SG valve).
- 4 doz. NP 1-8in. nuts and bolts.
- 1 Radiotron UX222 screen grid valve.
- 2 UX 201A valves.
- 1 UX 112A valve.
- "Spaghetti" wire, solder, lugs, etc.

RECEIVER IS MADE MORE STABLE BY USE OF R.F. AMPLIFIER STAGE



with an extra control; yet, due to the fact that a screen-grid amplifier valve is used, the amplification gain by this untuned stage is very noticeable, and leaves the ordinary regenerative detector arrangement second in the running!

I stated that this UNI-INTERNATIONAL FOUR had many virtues to recommend it to all. Here they are.

First of all, by the use of this untuned R.F. amplifier stage the receiver is much more stable in operation.

Second: It effectively prevents the detector valve from radiating energy via the aerial, thus cutting out interference with other listeners.

Third: Accurate calibration of the tuning dial may be done if required, as the size of aerial has no effect upon the tuning condenser.

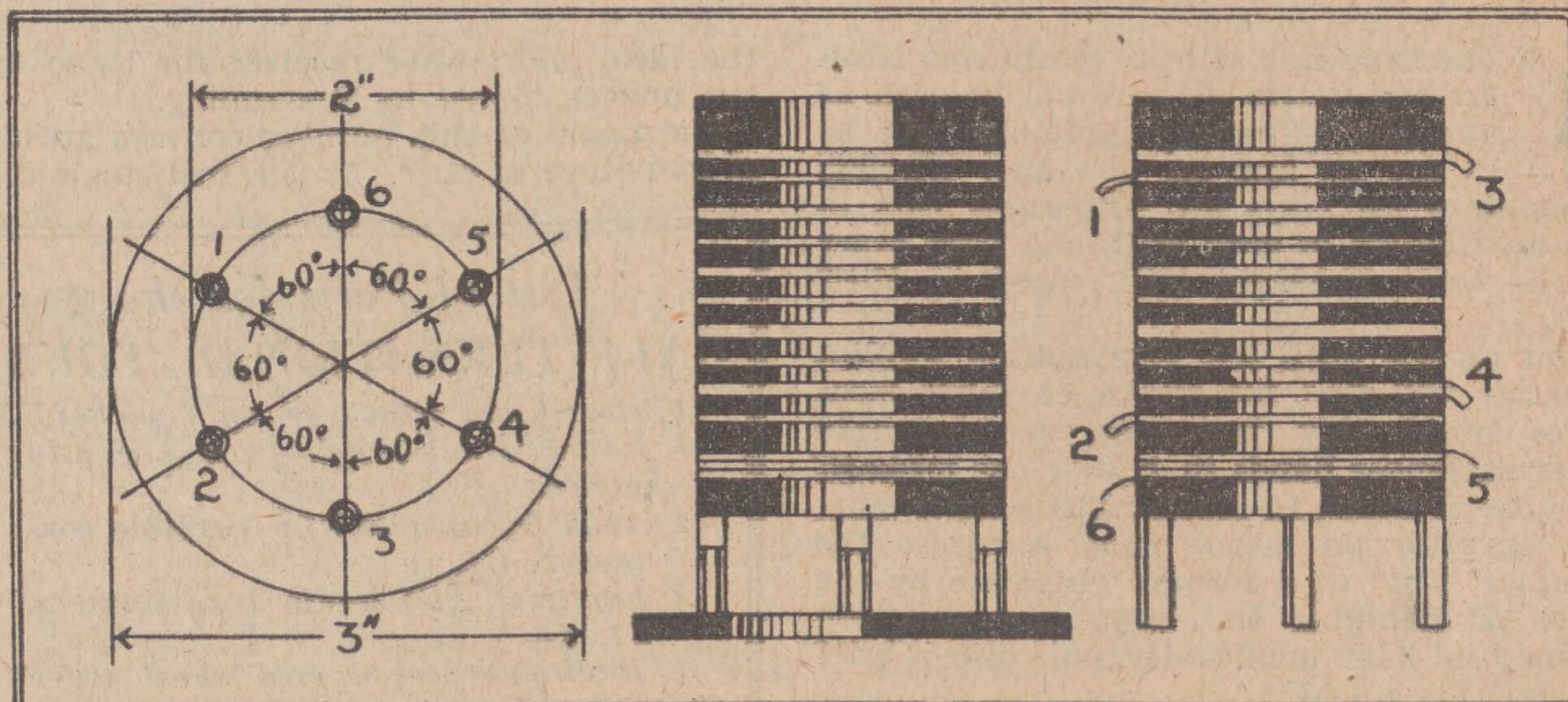
Fourth: Dead spots (where the detector refuses to oscillate owing to aerial characteristics) are eliminated, as the aerial is not coupled to the grid of the detector valve.

These four are ample reasons why the UNI-INTERNATIONAL FOUR is a set worth building, as all users of short-wave receivers will appreciate.

The front panel view of the receiver is a little misleading, and may at a first glance give the impression that the panel is covered in controls and that my statement about single dial control is not justified. A further examination and check with the other dia-

grams will show that there is only the one tuning control, and the oscillation check on the right of the tuning.

When the ease of tuning is of primary importance, I use the Gecophone variable condenser. One may spin the dial around with the little finger, and when a station is passed a return always brings that station back to the same setting. Such is the tuning that



gladdens the heart of the short-wave operator. This condenser is the control in the centre of the panel of the UNI-INTERNATIONAL FOUR, and it will be seen that the dial presents a very neat appearance. The condenser is not used as obtained from your dealer, but requires a little "doctoring." Ob-

tain a .0003 or .0005 S.L.F. variable condenser and disassemble it. This is not a very hard job to undertake if you are used to handling wireless components. On the other hand, various traders—Messrs. Colville Moore Wireless, Ltd., for instance—may supply the condenser and make the alteration for you.

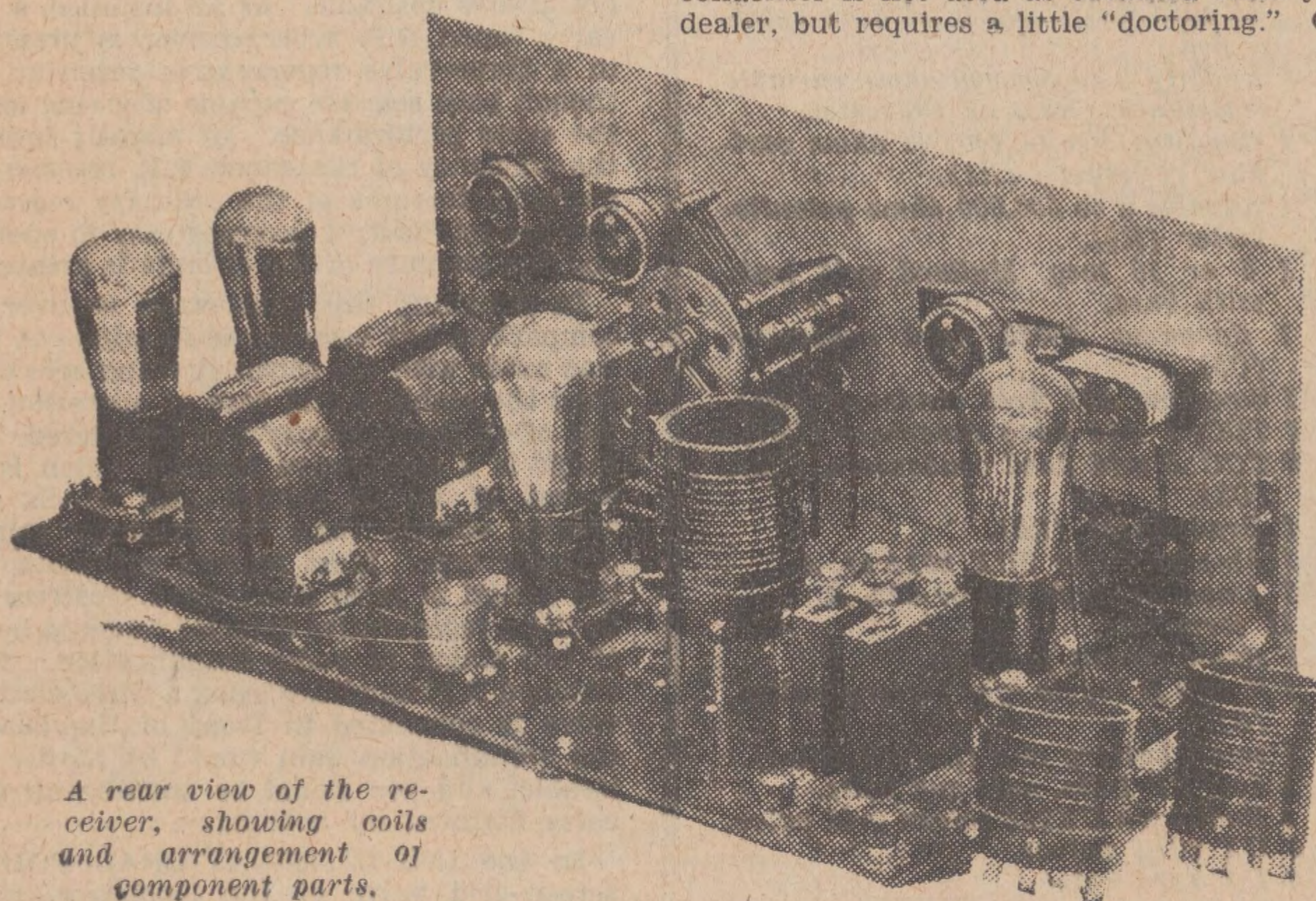
The condenser must be re-assembled with six stator plates and five rotor plates, **DOUBLE SPACED**. This double spacing is important, to enable a sufficiently large enough band of frequencies to be covered and yet at the same time to keep tuning from being too sharp. The resultant capacity of the "doctored" condenser is in the vicinity of .000125 microfarads. This may or may not be strictly accurate, as I did not check the capacity of the condenser, but it is sufficient to know that with the coil units provided it is just right.

The condenser is mounted by its one hole, fixing on to the aluminium panel. The panel and the rotor of the condenser are earthed in the circuit to minimise hand capacity troubles. Check the controls I refer to on the panel with the circuit diagram. The tuning condenser is marked C1.

On the right of this is a small knob controlling a Royalty variable resistance, value 0 to 500,000 ohms, R3. This resistance is the oscillation control, and does its work by al-

lowing, according to its resistance, enough plate voltage through to the detector valve as required. You may use as a substitute here a Pilot Resistograd or a Clarostat. The Clarostat is very silent in action, and these all-useful resistances may be obtained from the Economic Radio Stores, Ltd. No matter what variable resistance is used here, it must be shunted by a by-pass condenser (C6) with a capacity of 1 mfd. This by-pass condenser is effective in blocking out any noise as the resistance is adjusted. The advantage of resistance control of regeneration is that the frequency remains constant and the alteration of the resistance does not affect the tuning as in capacity control.

The control on the panel to the right of the oscillation control R3 is a Royalty potentiometer R4, with a value of 0 to 500,000 ohms. This potentiometer is a volume control and is shunted across the secondary of the first audio transformer T1. The moving contact is connected to the grid of the first audio valve. If this volume control were not included in the design of the receiver it would be essential to fit an intermediate jack so that the first stage only of audio could be used, otherwise a strong Morse signal sweeping over the scale would be decidedly unpleasant to the ear-drums! By controlling volume in this manner (by potentiometer), a setting may be found which just suits the ears, and the noise level of the audio amplification in relation to signal strength is greatly reduced.



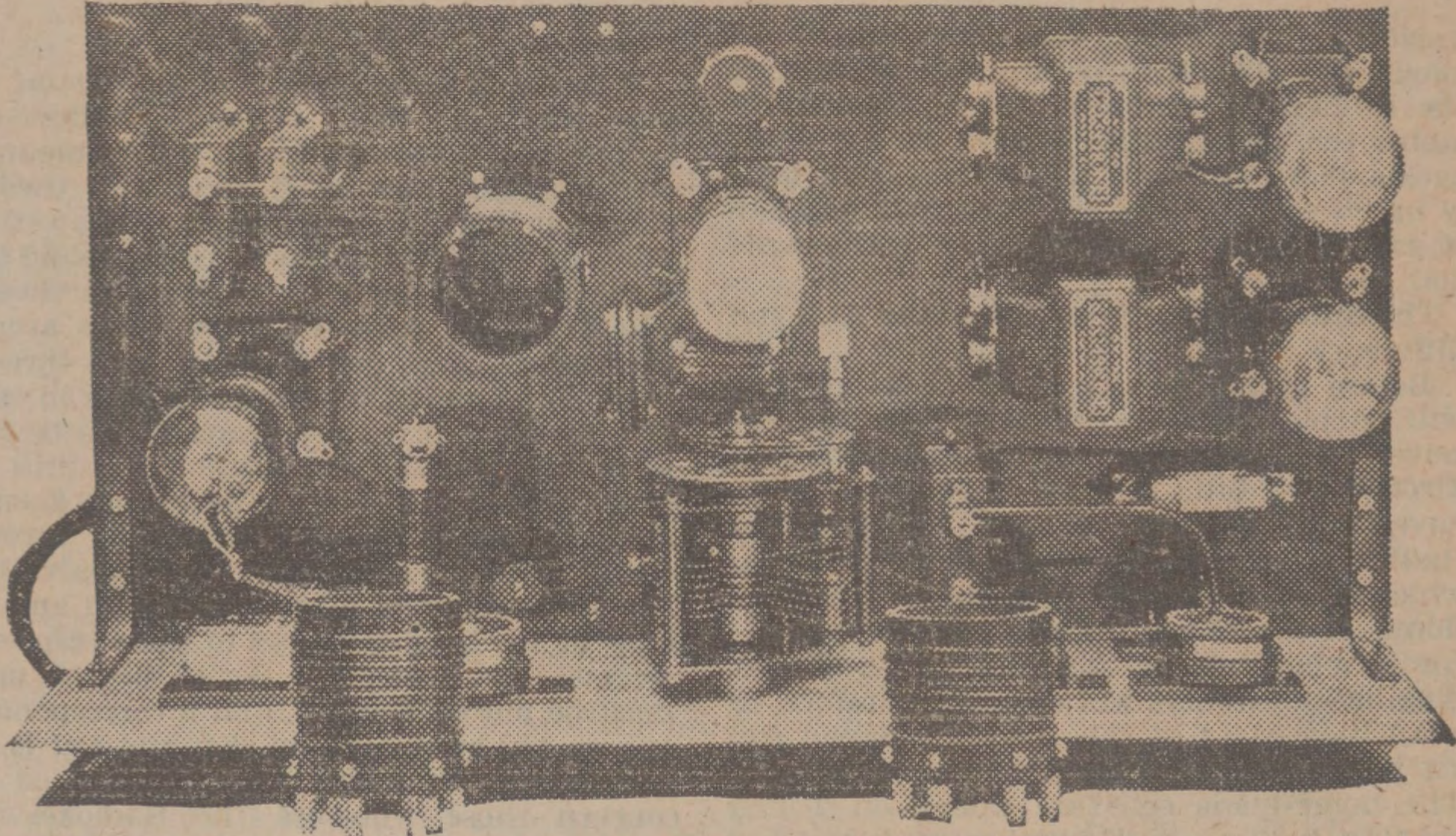
A rear view of the receiver, showing coils and arrangement of component parts.

DETECTOR VALVE PREVENTED FROM RADIATING ENERGY THROUGH AERIAL

The audio transformers first tried with the set were Gecophone. Subsequently they were replaced by Ferranti AF4's, the peak frequency of which seems more suited to reception of high frequency Morse and telephony signals. On the left of the tuning condenser is a small knob controlling the aerial coupling resistance R1. This is also a Royalty, with a value of from 1500 to 100,000 ohms. It will be seen from the circuit diagram that it is connected between aerial and earth. In most short-wave receivers of American origin, and using an untuned screen-grid R.F. amplifier,, a special low capacity choke is used to couple the aerial, but I find that the variable resistance seems more efficient. It has the advantage of being immediately adaptable to any existing aerial system. Once the correct setting of this resistance is found it need never be altered.

One point I must make clear here. Do not expect the UNI-INTERNATIONAL FOUR to give a degree of sensitivity equal to the ALL-EMPIRE or MIDGET FOUR receivers. A good outside aerial MUST be used. If a short inside aerial is used the signal strength will drop away enormously. Local signals will still be strong, but the distant ones will be very weak. The longer and higher the aerial with this receiver the better.

Special plug-in R.F. transformers are used, having three windings. The R.F. transformer couples the plate circuit of the screen-grid valve with the grid circuit of the detector. The coupling between the windings is fixed. The Bradleystat R2 on the left of the panel controls the filament voltage to the UX222, and is in the A positive lead. The requisite



is greatly improved by having a black crystalline finish put on it, as may be seen from the front view of the set. A few words on the Gecophone variable condenser will be useful for those who feel inclined to do the alteration themselves. The condenser is mounted on the panel without the use of any insulation, and so makes the earth connection to the panel. The double spacing is done in the following manner: First remove the knob and dial, then undo the four screws which hold the frame together at this end. Next undo the small nut holding the rotor plates in position on the central shaft. The

on the shaft) and put on two of the small brass washers. Next pass through the last plate and put on an ebonite washer, and lastly the nut. The rotor is then assembled ready for use.

THE FIXED PLATES

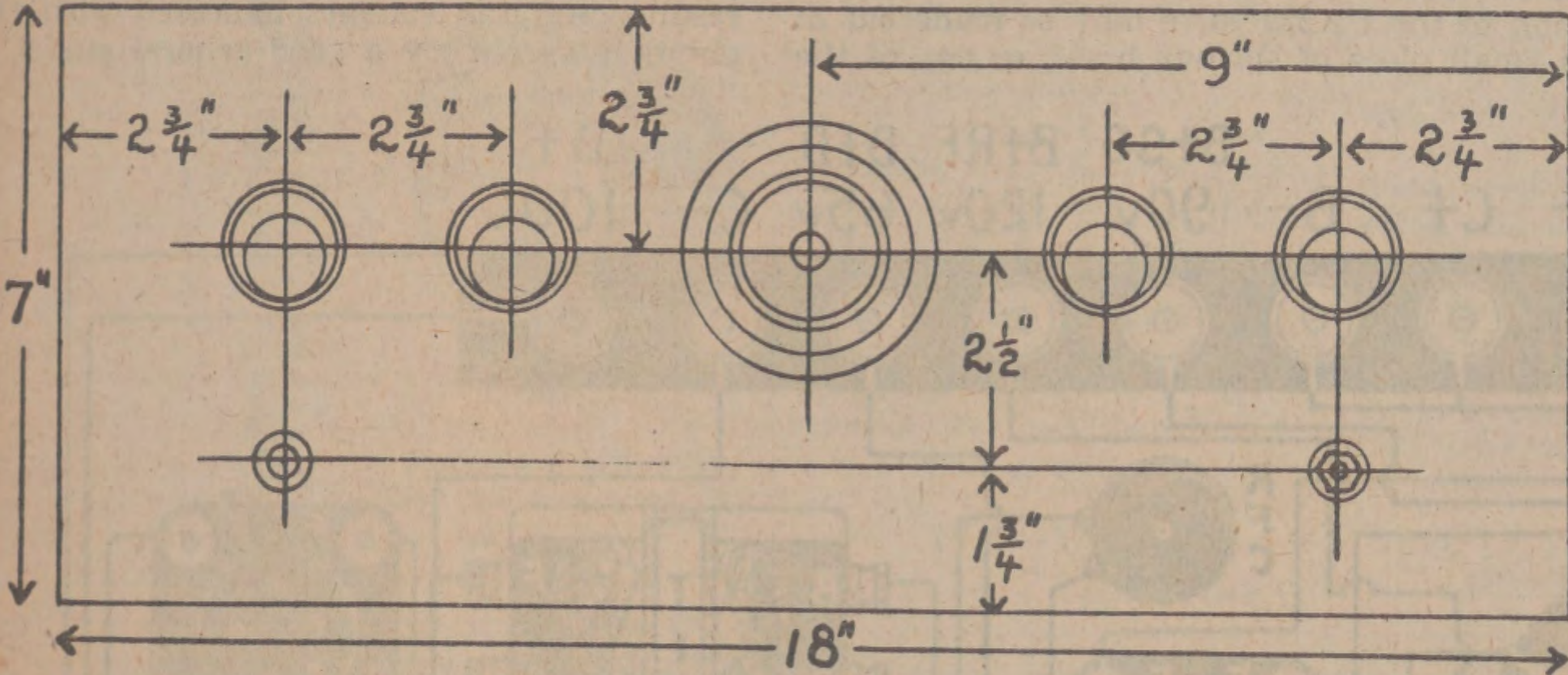
Undo the pointed nuts and lock nuts from one end only of each of the screwed rods, and then take off the plate-fixing nuts from both ends. Take off all the plates with the exception of the last. Take four of the brass washers and put two of them on each of the rods, adding another plate and two more washers for each until there are six plates. Next put the plate-fixing nuts on each, then the lock nut, and finally the pointed nuts.

ADJUSTMENT

This completes the stator plates. The next step is to start building up the condenser, reversing the procedure taken in dismantling it. Adjust the plates by means of the pointed nuts, and the condenser is ready for use. The sub-panel method is used for mounting the components, as in this way all the wiring may be taken beneath and out of sight, giving the finished set an exceptionally neat and tidy appearance. Actually, in the set illustrated, the neatness is enhanced by the use of a battery cable, but to avoid any possible confusion in the wiring the set is shown in the wiring diagram as if arranged for terminals. This procedure will be invariably followed in the technical articles of "WIRELESS WEEKLY," so that readers will be able to see at a glance exactly just where connections should go.

COILS

Now we come to the coils. Those used in the original model of the UNI-INTERNATIONAL FOUR are home-constructed, the idea being derived from a similar original in American "Radio News." Mr. I. Dye, of Australian experimental station VK2AW, was responsible for the design of these coils. They are easy to make, and when finished provide a very rigid series of coils, which one could only damage by very rough usage. Short-wave coils are not like coils for the normal



filament voltage for the UX222 is 3.3 volts, and as the set is fed from a 6-volt supply (the detector and audio valves being 6-volt type), it is necessary to provide a censoring resistance. The Bradleystat would not be safe by itself, so that a 15 ohm resistance is included in the A negative side. This is an Amperite No. 622, specially made for regulating the voltage to the 222 valve when used from a 6-volt supply.

No filament resistor of any kind is provided for the detector, but the two audio stages are regulated by one Amperite, as shown in the circuit.

The actual construction of the set presents no difficulty, the only part needing special care being the cutting or drilling of the aluminium panel.

Large clearance holes must be drilled for the variable resistances, the output jack, and the battery switch. As will be seen from the photograph showing the back of panel view, these components are insulated from the panel by bakelite strips. All measurements can be seen from the panel-drilling diagram. The panel measures 18 by 7 inches, and is used with a bakelite sub-panel 18 by 9 by 3-16in. The appearance of the panel

two complete sets of plates, rotor and stator, will then be removable. Do this in the following manner:—

THE ROTOR PLATES

Undo the large nut holding all the plates together and also remove the small nut and bolt spacing the end of the plates.

Next remove all the plates with the exception of the last from the shaft. Take two of the large spacing washers and put them on the shaft, then put on another plate and two more washers, and so on until there are five plates on the shaft. Put on the remaining washers and the lock nut. Next pass the bolt through the first plate (already mounted

The coil data are quickly conveyed by this table. Pay careful directions to windings.

WAVE LENGTH RANGE	HEIGHT (A)	DIAMETER (B)	PRIMARY (1-2)		SECONDARY (3-4)		TICKLER (5-6)	
			SIZE	TURNS	SIZE	TURNS	SIZE	TURNS
115 TO 64 METERS	3 5/8"	2"	26 ENAMEL	24	16 ENAMEL	24	26 D S C	4
65 TO 37.5 METERS	3 5/8"	2"	26 ENAMEL	13	14 ENAMEL	14	26 D S C	3
40 TO 24 METERS	2 3/4"	2"	26 ENAMEL	6	14 ENAMEL	7	26 D S C	2
25 TO 15 METERS	2 3/8"	2"	26 ENAMEL	4	14 ENAMEL	4	26 D S C	2

ACCURATE CALIBRATION OF TUNING DIAL MAY BE MADE IF REQUIRED

broadcast band. One can knock the latter about, and even if turns are a little slack or the former out of shape the calibration remains the same within limits. If one damages a short-wave coil the calibration is badly upset, and if turns are loose it is hopeless to expect to find a station twice in the same dial setting.

The difference in frequency makes ALL the difference.

Before giving details of the coils readers will be pleased to note that since this receiver was constructed the Metropolitan Electric Co., Ltd., makers of Radiokes coils, have now placed on the market the Radiokes screen-grid short-wave coil kit, which checks exactly with these specifications. It is a robust kit, arranged for a horizontal mounting for the coils with a six-pin plug base. Readers will do well, therefore, to avail themselves of this modestly-priced coil kit in preference to making their own coils. The home-made coils are wound on 2-inch bakelite tubing. The number of turns and gauge of wire are given in the small table. From the diagrams and photographs it can be seen that the secondary is wound with heavy wire, and the primary wound with finer wire. The primary is wound in between the turns of the secondary, and the re-action coil wound on one end of the former. In the reaction end the six mounting sockets are fixed. These fit on to the plugs, which are arranged correspondingly on the sub-panel. The plugs and sockets are the same kind as used in my GO-GETTER receiver, and are obtainable from Colville Moore Wireless, Ltd. In making the coils the secondary must be wound first, then the primary, and lastly the reaction. Dope the finished coil with Colloidum, and put aside to dry.

SOCKETS.

When it is done mark a circle out on the sub-panel so that it falls under the centres of the sockets, which will be mounted on the coils. Now, with the radius used to mark out this circle, and starting at a certain point on the circumference, mark round the circle so that the circumference is divided into five equal parts with six marks around the circle. Next drill a small hole through each of the marks, and mount a plug in each. If a socket is fitted over each it will be easy to manipulate the coil until it fits into the slotted top of the socket. Marks may then be made on the former by scratching through the holes in the sockets and the holes drilled. The sockets should now be bolted on and the ends of the coils attached to their respective sockets (see diagram). Some sort of mark must be put on the coil, and a corresponding one on the sub-panel, so that the coil is not inserted in the wrong way. This need not concern those who use the Radiokes coil kit, as it is only possible to mount the coil in the correct way. The diagrams and photographs make the method of mounting these home-made coils very clear.

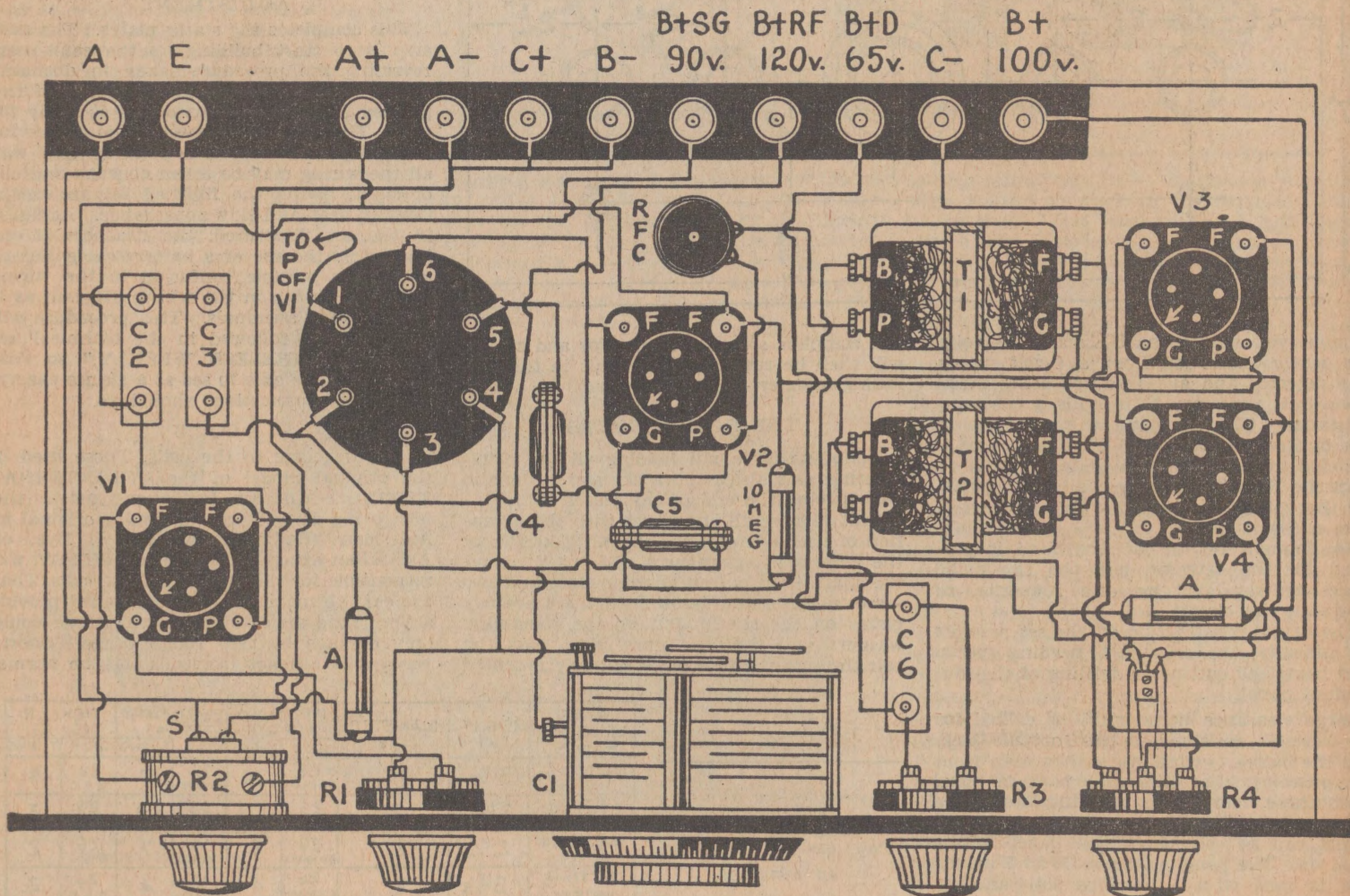
THE SUB-PANEL.

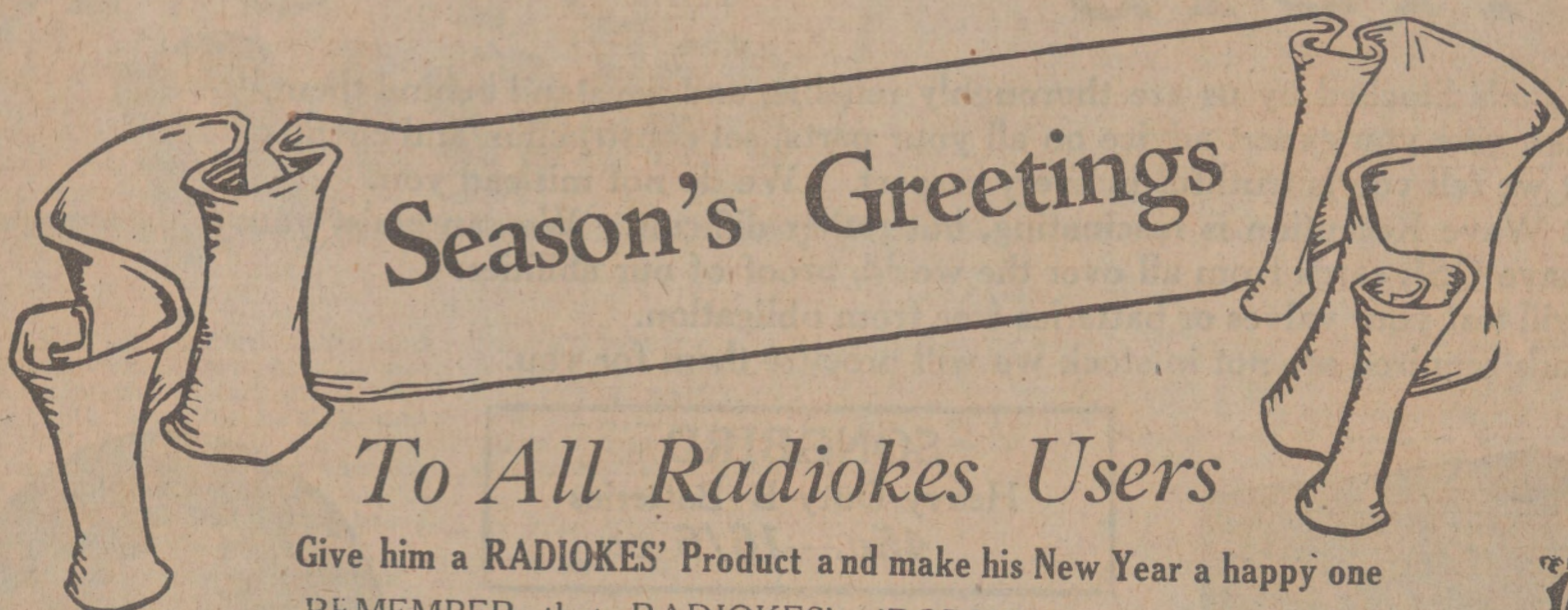
Sub-panel brackets are not used in the assembly of this receiver. Instead, four little brass angle brackets are provided. The back of the sub-panel has two little bakelite feet to keep the wiring clear of the table. There is, of course, no reason why sub-panel brackets should not be used in the usual way. All the wiring is done with 18 gauge tinned copper wire covered with spaghetti insulation. The clip for the control grid connection to the UX222 valve may be made out of a small piece of springy brass, or one of the

small nickel-plated battery clips may be pressed into service. The point-to-point wiring diagram amply indicates where each wire should go, so that a verbal description is superfluous. Very few instructions with regard to the operating of the set are necessary, the only tuning control being the condenser.

VALVES.

The valves used are the UX222 (RF), UX201A (Detector), UC201A (First Audio), and UX112A (Second Audio). About nine volts negative grid bias will give good undistorted reproduction from the audio amplifier. Care must be taken not to operate the UX222 at an excessive filament temperature, as the filament of this valve is very delicate. Oscillation is easily controlled by the resistor in the plate lead of the detector (R3). For telegraphy, the controls, once set, need never be altered, stations coming by simply rotating the condenser dial. The tuning is quite selective, considering that an untuned RF amplifier is used, and the signal strength may be regulated to any required degree by the volume control R4. Stations received at good speaker strength, using an aerial 100 feet long and 30ft. high, are, under favorable DX conditions, PCJJ, 5SW, Radio Paris, W2XAF, ANE, and a host of other experimental stations. No hand capacity is noticeable even on 15 metres. When tuning in a telephony station the carrier wave is located by its whistle in the same way as an ordinary regenerative broadcast receiver, and the controls varied until the carrier disappears, leaving only the clear telephony. All B battery voltages should be experimented with for best results, and the voltages indicated with the circuit diagram are a good general guide.



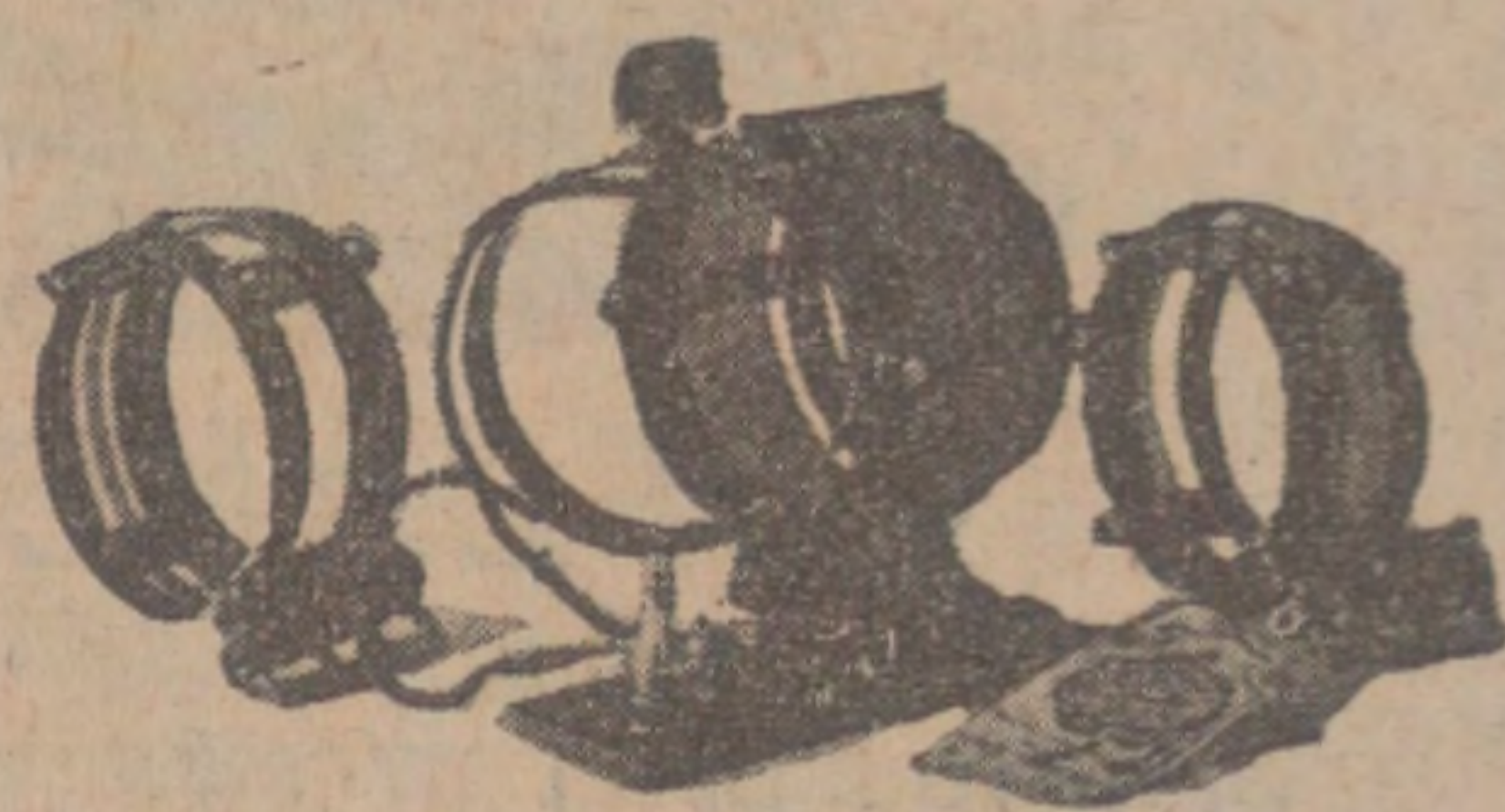


Give him a RADIOKES' Product and make his New Year a happy one

REMEMBER that RADIOKES' PRODUCTS are guaranteed for all time, and therefore must give pleasure the year round.

Radiokes' products are available in suitable Gift Packing, with Greetings Tag. Your dealer will show you.

SHORT-WAVE TUNER.



Radiokes Short-Wave Tuner, £2/15/- per Kit.

Short Waves are becoming increasingly popular throughout the world. This Kit is a masterpiece of coil construction, and makes up into a highly efficient Short-wave and Broadcast Receiver at no great expense. A present that will be well appreciated.

CIRCLOID KIT.



Radiokes Circloid Kit, £2/5/- per Kit of 3 Coils.

Three inductance units comprise this Kit, which makes up into one of the finest and most popular five-valve receivers in Australia to-day. Simple to assemble in your receiver, easy to wire, and no trouble to get working satisfactorily.

PERIDYNE KIT.



Radiokes Peridyne Kit, £3/15/- per Kit.

A very appropriate gift for the discriminating fan. Makes up into one of the finest sets of the day, either using screen-grid tubes or ordinary triodes. An excellent distance-getter, and is very simple and not expensive to build.

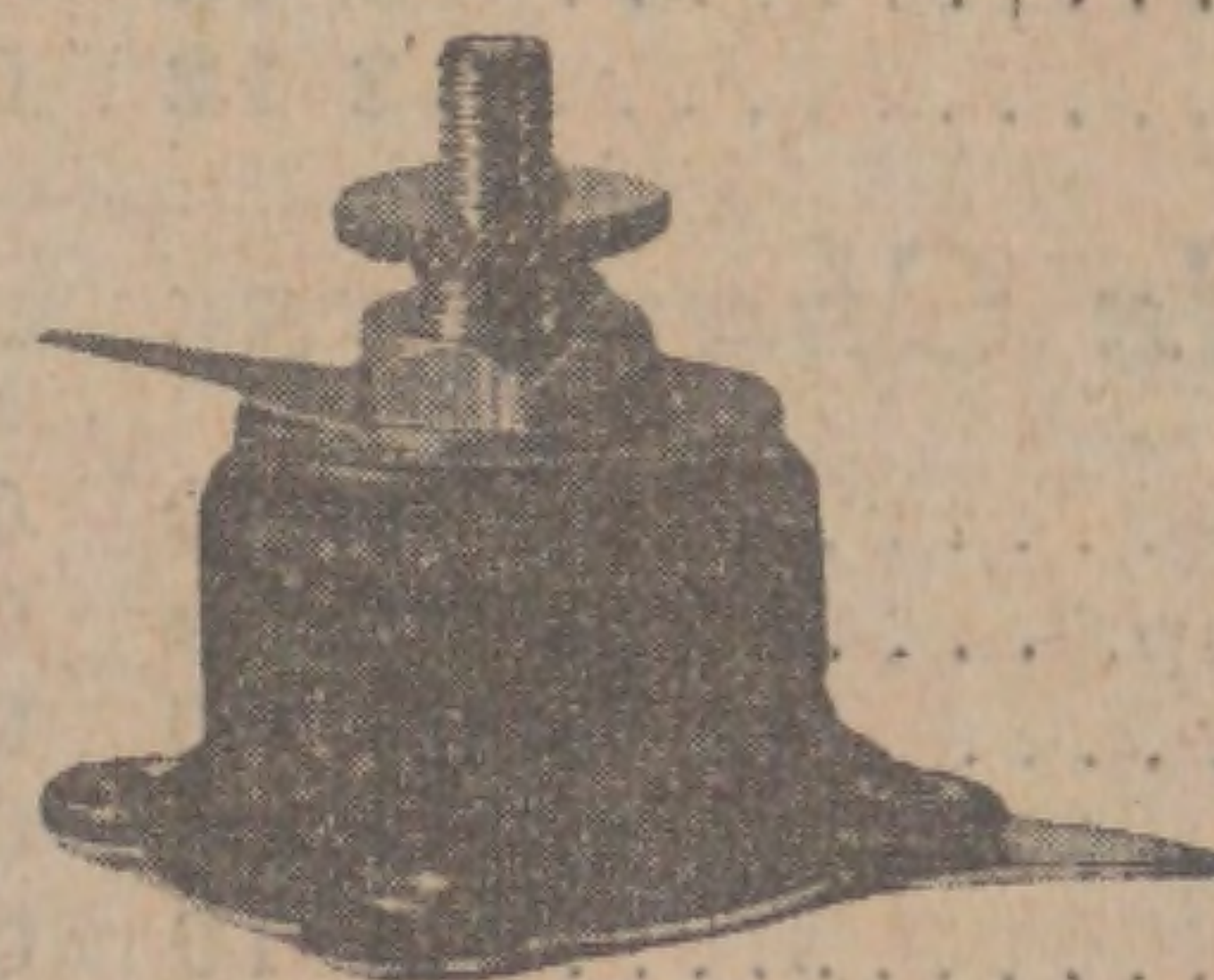
MASTER NEUTRODYNE.



Radiokes Master Neutrodyne, £1/12/6 per Kit.

This is a genuine Hazeltine Neutrodyne Kit, representing the latest development of the Neutrodyne art. A basic circuit, and one of the most popular circuits in the U.S.A. to-day. Neutrodynes are easy to construct and operate.

NEW NEUTRALISER



Radiokes New Neutraliser, 4/9 each.

This is an inexpensive little instrument, which is used in most modern circuits, and one which he will appreciate as an ideal little gift. Excellently constructed, robust, accurate, easy to adjust, wire, and install in circuit.

1928 BROWNING-DRAKE.



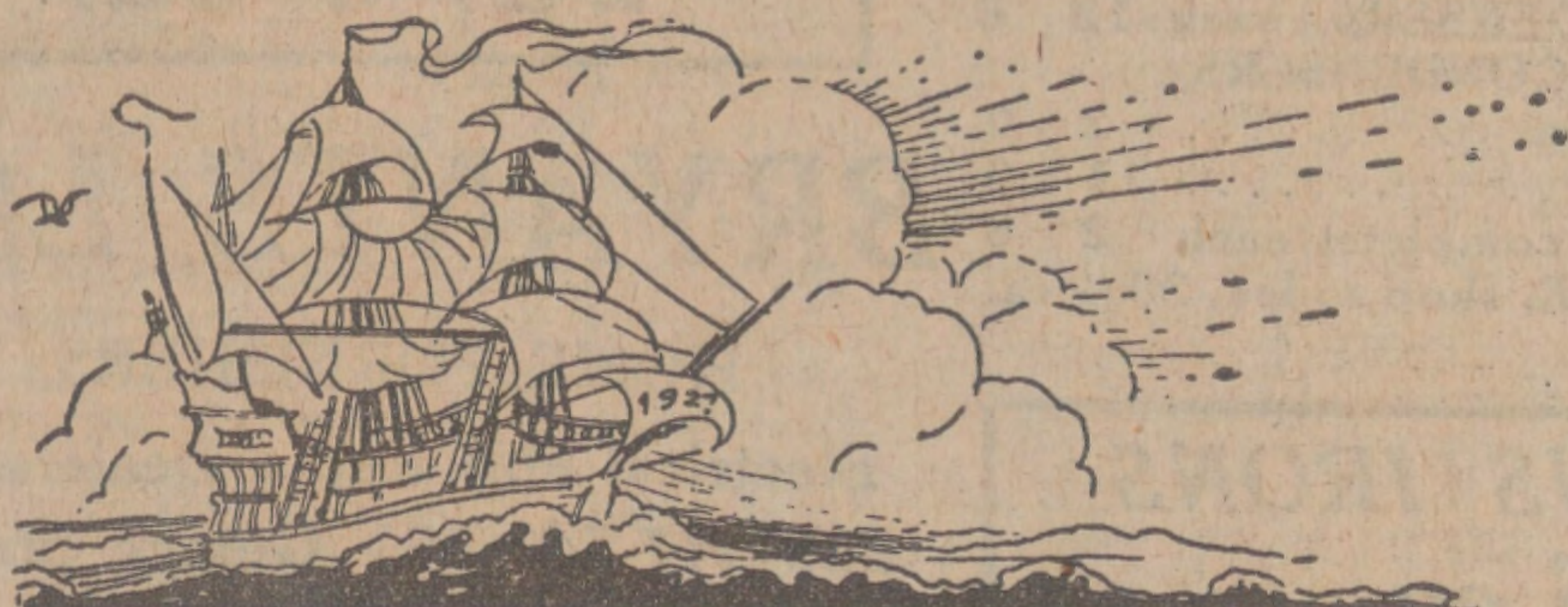
Radiokes Master Browning-Drake, £2 per Kit.

A splendid present for your fan friend is the Master Browning-Drake by Radiokes. This receiver has unquestionably been the most popular during the past three years, and that alone speaks volumes for this circuit.

IF YOUR NEAREST DEALER CANNOT SUPPLY, WRITE OR CALL DIRECT TO

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ELECTRIC CO.
LTD.

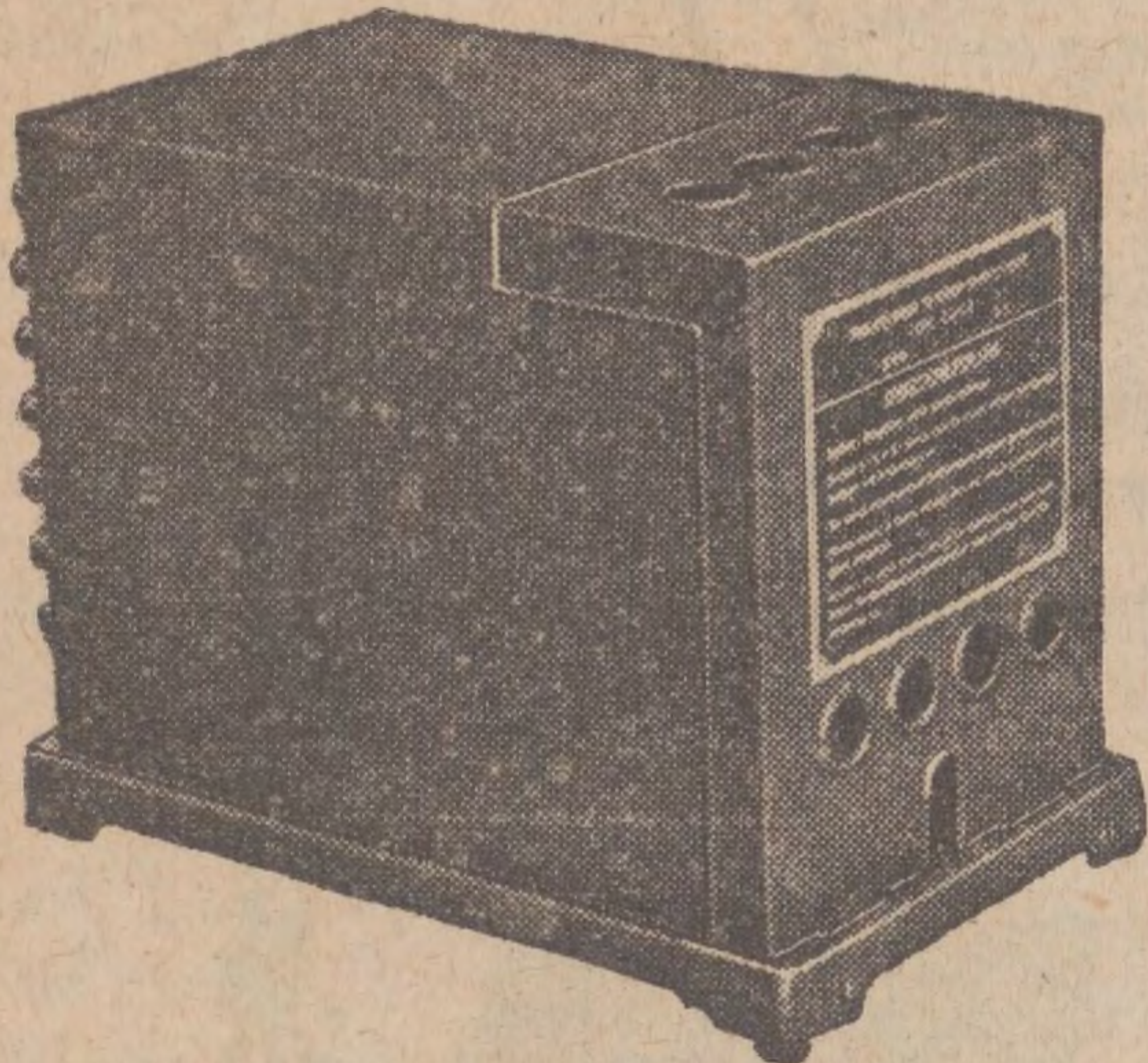
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SYDNEY.



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1. All Goods Stocked by us are thoroughly reliable, and we stand behind them.
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4. Short Wave Reception is fascinating, but rather difficult. We can assist you.
5. We have QSL cards from all over the world, proof of our abilities.
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7. If goods required are not in stock we will procure them for you.



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	£	s	d
PHILIPS No. 372	8	15	0
PHILIPS No. 3002	9	15	0
PHILIPS No. 3003 B.C. ..	11	15	0
ACME ELIMINATOR	10	15	0
ACME SUPER	15	15	0
EMMCO	10	10	0
EMMCO	12	12	0

Trickle Chargers

PHILIPS	3	10	0
EMMCO, $\frac{3}{4}$ Amp.	3	10	0
BALKITE	3	10	0
RECTOX	5	10	0
FERRANTI	5	10	0

CHARGERS

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PHILIPS, A and B	6	10	0
PHILIPS, A and Trickle ..	4	15	0

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Headphones
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20	2 0 0	6 6
25	2 10 0	7 6
30	3 0 0	9 0
40	5 0 0	11 0
50	7 10 0	12 6
60	10 0 0	15 0
70	12 10 0	17 6
80	15 0 0	20 0
90	17 10 0	22 6
100	20 0 0	25 0
110	22 10 0	27 6
120	25 0 0	30 0
130	27 10 0	32 6
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AMPLION CABINETTE, shop soiled, 30/- ea.		

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19/6 ea.



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M.P.A. SPEAKERS	2	10	0
BABY STERLING	2	17	6
BROWN SANS PAREL ...	4	10	0
GOLIATH TEFAG	6	10	0
AMPLION CONE, Oak ..	3	0	0
AMPLION CONE, Mahogany	3	2	6
AMPLION JUNIOR AC4 Oak	5	5	0
AMPLION JUNIOR, AC4..	5	10	0
AMPLION SENIOR DRAGON AR65	4	15	0
STANDARD DRAGON, AR19	6	10	0
AMPLION MODEL, AC9 ..	9	10	0
MARCONI CONE	5	0	0
OPERADIO SPEAKERS ..	7	10	0
BROWN H.Q.	5	10	0
RCA 100	10	10	0
RCA 100A	10	10	0
MAGNAVOX DYNAMIC..	11	0	0

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WILL HELP YOU

PROVING RADIO!

No. 1 In our experience, we have not yet discovered the truly "elementary" text book on radio. The great demand for such information has led us to begin this series of articles.

By R. C. MEADOWS

IN THESE DAYS of modern inventions radio is treated with more or less unconcern by the matter-of-fact man. He knows that radio has come to stay, and knows that radio has come to stay, and he knows the various applications of wireless. He probably possesses a small vocabulary of radio phrases, and, as likely as not, has a general idea of the principles involved.

But we all ponder sometimes. Is it not really marvellous that sounds can be carried without any visible medium for thousands of miles, eventually to be reproduced even louder than they were when first made?

I met an old radio friend the other day. I call him a radio friend, because he dabbles in experiments. Yet, with all his knowledge, he said to me, "Of course, it's perfectly clear how sound-waves are radiated and picked up, but it's wonderful all the same. Yet, in all its simplicity, it is a marvel to me how radio was never discovered before."

Growing Interest

IN the early days instruments of precision, such as we are able to obtain to-day, were not available. Apart from this, my friend stressed that the theory of radio must have presented itself to some experimenter, even were he unable to put his thoughts into something material.

The same thoughts often beset the wireless "fan" of to-day. He commences by hearing a friend's receiver, then buying one of his own. His next procedure is to build a crystal or a small valve set, later improving this little by little, until with his experience, he has amassed a great knowledge of radio practices.

But, though he understands the "how, why, and wherefore" of radio, he will always readily admit that wireless is one of the greatest discoveries ever made by man.

The average man, interested only in radio as far as the reception of broadcast programmes is concerned, rarely allows the many points that assail his mind to trouble him. He takes things as a matter of course—

Until something goes wrong.

Frequent visits by radio doctors and agents prove to be costly. The radio "fan" decides to effect his own repairs—and unconsciously reads thoroughly the radio sections contained in most newspapers, and, whilst waiting for a train, may buy a radio periodical to while away the journey.

Few "Elementary" Books

UNFORTUNATELY, it is difficult to buy books of a purely elementary nature that will start the radio "fan" on his new road of radio. One sees, "Sound waves are changed into radio impulses, and these are detected, rectified, amplified," etc. There can be no better teacher than experience, and for those who are interested the following experiments may be carried out at a cost of a few pence. They will be very enlightening, and will embody the fundamental principles of radio.

You will be able to diagnose your radio faults in a moment if you understand HOW your receiver functions. It is not enough to know that the set is working. Isn't it far better to understand WHY the set is working, and when reception ceases WHY this happened.

For a few shillings you can make an actual short-distance transmitter and receiver. You can transmit through a wall, and observe the various results when the wall consists of metal or other material.

This is only one of the many experiments we hope to describe from time to time. In each of these articles, we are remembering

the fact that the cost of parts must be kept as low as possible, as, in all probability, they will not be used again. It will be found, however, that many of the parts can be used times without number for the experiments, and thus the cost will be kept low.

In the Beginning

WE shall start right off from scratch, and where technical terms are used the explanation will be given. In this manner the reader will automatically commence to learn his "radio jargon," and will be able to run it off with the best of them.

You will find that many of the parts required can be made by yourself at no cost. A microphone made completely by yourself will cost less than two shillings, and will be exactly the same as used by Marconi in his early experiments. So sensitive is this little microphone that the noise of a fly walking across it can easily be heard in the telephones, while the noise of an electric buzzer will be so loud as to sound like a terrific thunderstorm.

You should have no difficulty in procuring any of the parts mentioned. Though difficulty was experienced in one or two cases by the writer, he eventually found places where the components could be bought for moderate prices, and in such cases the name of the firm will be willingly given if you care to drop us a line.

Readers who carry out these experiments are also invited to write us regarding their experiences. They will be helpful to others carrying out tests. In this manner we shall work up easily and slowly until you should be fit to sit for an operator's certificate. The Amateur Operator's Proficiency Course will be given in a series of lessons each week, and our text books will be "The Radio Amateur's Handbook," published by the A.R.R.L., and "The Admiralty Handbook of Wireless," published by Turner and Henderson.

The experiments will be based on actual tests carried out by the writer with simple every-day parts. Many readers will discover other interesting phenomena during their experiments, and these are sure to be interesting to other readers, so let us have them.

Making Static Electricity

IN order to demonstrate what static electricity is, for the first experiment get a glass rod or tube, and rub it briskly with a handkerchief, when it will become electrified. Now hold the free end of the rod close to some tiny pieces of paper, and they will fly up to meet the rod. In this experiment, the rod is given a charge of electricity, or, in other words, is electrified by the friction of the silk on the glass. Since the charge on the rod does not become active until it is held close to a body, it is called static electricity, and because it is generated by friction it is sometimes called frictional electricity.

Static electricity can also be generated by rubbing a stick of sealing-wax on the coat-sleeve, or, better, with a woollen cloth. Paper will be picked up by the wax when it has been charged. In all of the experiments performed with static electricity, the objects used and the weather must be perfectly dry.

Another easy way of generating static electricity is to rub the back of a cat. If this is done in the light, you will only see the individual hairs repel each other and hear slight crackling sounds. But if you take the cat into a dark room, then rub, you will see myriads of little sparks. Static electricity can also be generated by combing your hair (especially if it is as long as the proverbial poet's), with a hard rubber comb—but go easy with the cat!

In England there is on sale a very amusing toy, which is worked by means of static electricity. This toy is called the Anno Kato,

and is quite easy to make. Make a tray of wood, 1in. deep, 8in. wide, and 12in. long. Glue and screw it together, and thoroughly give it two coats of shellac varnish. This latter can be made by dissolving shellac in methylated spirits until a tacky varnish has been formed. Inside and out of the tray should be varnished. Now cut out little figures of men, women, and animals, 3in. high, of pith, and lay them in the tray. This done, place a sheet of glass over the tray and bind the edges with gummed paper or adhesive tape. Now make a little pad of silk and dip it in an amalgam formed of tin and mercury. Rub the surface of the glass vigorously, when the figures will cut all sorts of capers, and they will even perversely stand on their heads.

Electrical Paradox

FOR the next experiment we shall demonstrate for ourselves the theory of electric attraction and repulsion.

Like kinds of electricity repel each other, and unlike kinds attract each other. You may have noticed this when using an ordinary horseshoe magnet. In other words, if you have two bodies positively electrified, and hold them close to each other, they will repel each other; if you have one body positively electrified and the other negatively electrified they will attract each other; and if you have two bodies negatively electrified they will repel each other.

This theory can be demonstrated by electrifying two strips of newspaper, as follows:—Lay a strip of newspaper, 3in. wide, and 12in. long, on a wooden table. Now, with the finger-nails of one hand, rub the paper vigorously. When trying to remove the paper from the table you will find that it tends to stick, which shows that the paper and the table have attracted each other. This is because the paper takes on a positive charge when you rub it, and the table takes on a negative charge, by what is called induction, for wherever you have a positive charge there must be in the immediate neighborhood an equal negative charge.

With the same piece of paper make a crease half-way down the slip, and hold this crease in the fingers. Do not forget to electrify it before the experiment, for it soon loses its charge. The two ends of the paper, you will notice, repel each other, because they are positively charged. If now you hold your hand between the strips of paper, it will take on a negative charge, when both strips will be attracted to your hand, since unlike kinds of electricity attract each other.

The Electrophorus

FROM these experiments you should be able to carry out many others. Next week

I shall tell you how to make some very interesting apparatus, including an electroscope, which is a simple little device for showing whether a body is electrified, and if it is, whether it is positively or negatively electrified. Also there are a number of experiments that can be performed with the electroscope. Another interesting piece of apparatus, too, which will be dealt with is the electrophorus, which enables you to generate a larger amount of static electricity than is possible by merely rubbing a rod, a cat, or a strip of paper. The electrophorus was designed by Volta, from whom we have the word "volt"—which is a very important unit in electricity, and will be dealt with in a later issue. In next issue I shall also tell you how to make a Leyden jar, and will give a number of experiments that can be performed, and we'll finish the second instalment by producing a miniature bolt of lightning, strong enough to blow a model house over.

List of World's Broadcasting Stations Which Can be Received in Australia on Long and Short Waves

AUSTRALIA.		Metres. Watts.		Metres. Watts.		Metres. Watts.	
New South Wales.		Metres. Watts.		Metres. Watts.		Metres. Watts.	
2FC—N.S.W. B'casting Co., Ltd. Market St., Sydney, 0700-2230	442	5000	ness College, Melbourne	255	500	2103. Silent day Tues.	306 500
2BL—N.S.W. B'casting Co., Ltd. Market St., Sydney, 0800-2330	353	5000	Queensland.			4YA—Radio B'casting Co. of New Zealand, Dunedin, 1700-2200.	
2GB—Theosophical B'casting Station, 29 Bligh St., Sydney, 1000-2200	316	3000	4QG—Queensland Govt. Radio Service, Brisbane, 0800-2200	385	5000	Silent days Mon. and Thurs.	463 750
2KY—Trades and Labour Council, Goulburn St., Sydney, 0900-2200	280	1500	4GR—Gold Radio Service, Margaret St., Toowoomba	294	100	FOREIGN	
2UW—Radio B'casting Ltd., Paling's Building, Ash St., Sydney, 1230-2230	267	500	South Australia			GREAT BRITAIN.	
2UE—Electrical Utilities, Ltd., 619 George St., Sydney, 0730-2330	293	250	5CL—Central B'casters, Ltd., 59 Franklin St., Adelaide, 1100-2310	395	5000	2LO—British B'casting Co., Savoy Hill, London, 1900-0850	361.4 3000
2MK—Mockler Bros., Ltd., Hawick St., Bathurst	275	250	5DN—5DN Pty., Ltd., 2-4 Montpelier St., Parkside	313	500	5XX—British B'casting Co., Daventry, 1900-0850	1604.3 5000 10000
2HD—H. A. Douglas, King St., Newcastle	288	100	5KA—Sport Radio, Ltd., 51 Kintore Av., Prospect	250	1000	UNITED STATES.	
2BE—Burgin Electric Co., 340 Kent St., Sydney. At present off the air	316	100	West Australia.			KDKA—Westinghouse Electric and Manufacturing Co., E. Pittsburgh, Pa.	315.6 50000
3LO—Dominions B'casting Co., 120A Russell St., Melbourne, 0715-2340	371	5000	6WF—Westralian Farmers, Ltd., 569 Wellington St., Perth, 1230-2230	1250	5000	KFI—Earle C. Anthony Inc., 1000 So. Hope St., Los Angeles	468.5 5000
3AR—Dominions B'casting Co., 120A Russell St., Melbourne, 1000-2200	484	1600	Tasmania.			KGO—General Electric Co., Ltd., Oakland, California	384.4 5000
3UZ—O. J. Nilson and Co., Bourke St., Melbourne	319	100	7ZL—Tasmanian B'casters Pty., 95 Elizabeth St., Hobart, 1130-2204	535	3000	KOA—General Electric Co., Ltd., 1370 Krameria St., Denver Colorado	325.9 5000-10000
3DB—Druleigh Busi-			NEW ZEALAND.			WEAF—National B'casting Co., 1950 Broadway, New York	491.5 50000
			1YA—Radio B'casting Co. of New Zealand, 419 Queen St., Auckland, 1500-2203. Silent day Mon.	333	500	WGY—General Electric Co., So. Scenecady, N.Y.	378.5 50000
			2YA—Radio B'casting Co. of New Zealand, Wellington, 1500-2200. Silent day Wed.	420	5000	WJZ—National B'casting Co., 195 Broadway, New York	454.3 30000
			3YA—Radio B'casting Co. of New Zealand, Christchurch, 1500-			EUROPE.	
						FL—Eiffel Tower, Paris, France	2650 5000

International Short Wave Stations: Times Stated are S.M.T.

AUSTRALIA.		Metres.		Metres.		Metres.	
2ME—A.W.A. (Syd.), relays 2FC, times irregular, usually Mon., from 0430-0600	28.5	2YG—Ray Allsop (Syd.), relays 2BL, times various	32.5	3ME—A.W.A. (Melb.), relays 3LO, times various. Usually heard about 0430-0630	32	6AG—W. E. Coxon (Perth), relays 6WF. Times various. Usually 2130-0200 daily	32.9
GREAT BRITAIN.		Metres.		Metres.		Metres.	
5SW—Marconi Co. (London), relays 2LO, 0400-0800, daily, except Sun. and Mon. From 0330 on alternate Saturdays, and 2100-2230 daily	25	2YT—Marconi Radio, Poldhu. Times various 25, 32, 92, 94		2NM—Gerald Marcuse, Caterham, Surrey, 1700-0400-0600 (Sun), 1000, Thurs. and Sat.	32.5 28	GLW—Beam Station, all times (Dorchester)	15.7
GLQ—Beam Station, all times throughout day. (Ongar)	24.5	GBH—Beam Station, Grimsby (Beam Station). All times	25.9	2XAD—G.E.C., Schenecady. Relays WGY, 0830-1300 Mon., 0400-0600 Tues. and Fri., 0800-1300 Thurs. and Sat.	21.96	6XZAR—San Francisco, 1000, daily	33
3XL—Boundbrook. Relays WJZ	59.96	9XU—Council Bluffs. Relays Columbian B'casting stations	61.06	2XBA—Newark, N.J., Relays WAAM, 1000-1500 Wed., Fri., and Sun.	65.18	8XF—Cleveland, daily from 1500	66.04
8XAL—Inglewood, daily							
UNITED STATES.		Metres.		Metres.		Metres.	
from 0930	66.04	WBZ—Springfield. Relays WBK	70	2XAF—Schenecady, Tues. 0900-1500; Wed., 0900-1430; Fri., 0900-1500; Sun., 0900-1500	32.4	WLW—Ohio, 0900, except Sat. and Mon.	52.02
KDKA—East Pittsburgh. Daily, from 0800	43.35, 63	WIZ—New Brunswick. Irregular, usually after 0900	43.35, 61.06	7XAO—Portland, Oregon. Daily from 0900-2300	53.54	2XG—Rocky Point, from 2400 Mon. and Fri.	16.02
2XE—Richmond Hill. Relays WABC daily, from 0800	22.1	WOWO—Fort Wayne, Indiana. Relays Columbian stations daily, 0800	22.8	8XK—E. Pittsburgh. Relays KDKA, 0300-0600. Tues. and Wed.	26.8	2XAG—New York. Telephony, irregular	26.92
2XAL—New York. Relays WRNY, 0900-1400 Tues.; 1100-1200 Wed.; 1200-1300 Sat.	30.91	8XAO—Detroit, Mich. Relays WJR daily	32	WCVG—Brooklyn. Daily, 0900	54	2XE—New York. Relays WABC and WBOQ daily, 0900	58.5
2XAA—Houlton. Transatlantic telephony	22.99	INDO-CHINA.		HVA—Hanoi. No information available	31.85	HOLLAND.	
PCLL—Kootwijk. 2240-2400 Wed.; and from 0200 Thurs.	21.96	PCMM—The Hague. Irregular	25	PCJJ—Eindhoven. 0300-0600, Wed. and Fri.; 0900-2400 Sat.; 0100-0400 Sun.	31.4	PCTT—Kootwijk. 0300-0600 Wed. and Fri.; 0900-	
2400 Sat.; 0100-0400 Sun.	21	PCPP—Kootwijk. Wed. and Fri., 0300-0600; Sat., 0900-2400; Sun., 0100-0400	27	PCUU—The Hague, 0300-0600, Wed. and Fri.; 0900-2400, Sat.; 0100-0400, Sun.	42	UNION OF SOVIET SOCIALIST REPUBLICS.	
RFN—U.S.S.R., Moscow	29, 60, 50	RFM—U.S.S.R., Siberia	60, 30	IMI—Milan	45	IDO—Italy	33.5
IAX—Rome	45	IMA—Rome. 0700 Sun.; 0300-0530, Mon.	34.5	SOUTH AFRICA.		JB—Johannesburg	20, 25
JAPAN.		JHBB—Ibarakiken, nightly	37.5	JIPP—Tokio	20	JIAA—Iwatsuki	79
GERMANY.		AGJ—Nauen. Daily, 0.500	56.7	POX—Nauen	70	POZ—Nauen. Press and news reports to ships	19, 26.4
AGA—Nauen. Press and news, daily	25.3	AGC—Nauen. Throughout day	17.2	AFK—Doeberitz. Tues., Thurs., Sat., 0500-0600 (Call sounds like "Ar-Eff-Car")	37.65, 67.65	NORWAY.	
LGN—Bergen. 0900. Irregular	30, 31.25	Stavanger. News bulletins. 0400	12.14	SWEDEN.		7MK—Copenhagen. Irregular	39.2, 32.8
7RL—Copenhagen	42.12	Motala. Tests irregularly after midnight	41	DENMARK.		ED7RL—Copenhagen. 2130-	
2300, Mon.; 0620-0700, Wed.; 0900-0930, Sun. Picture transmissions, 0900-1100, Tues. and Sat.	42.12	AUSTRIA.		OKK2—Vienna	70	OHK2—Vienna. Mon., 0400-1100	70
SPAIN.		Casablanca	51	FRANCE.		GC—Paris	61
YR—Lyon. Daily, 0230-0330	40, 20	FL—Paris. Time signals, 1756-0556	32	FW—Ste. Assise. At odd times throughout day	14.28	Radio Vitis, Paris, 0700-0900	37
Radio Agen, France. Wed. and Sat., 0800-0915	39.75	SWITZERLAND.		EH9XD—Zurich. Relay work, Tues., Thurs., and Sun.	85, 32	EH90C—Berne. 0500-0600	32
JAVA.		ANF—Malabar	56	JFC—Batavia	22, 40	ANDIR—Bandoeng	38.5
ANE—Malabar. 0340-0540. Wed. and Fri.	32, 31.26, 15.93	ANH—Malabar. 2240-2440, Sat.	17.4, 27, 32	INDIA.		VWZ—Poona. Beam station	16.3
FINLAND.		SPM—Helsingfors. 1930-0630	47, 31.5	BELGIUM.		4GG—Brussels. Almost daily, 0600-0900	34.7
TUNIS.		8KR—Constantine. Sun. only. 0800-1000	42.8	MOROCCO.		AIN—Casablanca. 1930-0630. Weather report	51

Local Programmes for Friday, December 28

2FC

EARLY MORNING SESSION.

Announcer: Laurence Halbert.

- 7.0 a.m.: "Big Ben" and announcements.
- 7.2 a.m.: Official weather forecast, rainfall, river reports, temperatures, astronomical memoranda.
- 7.7 a.m.: "Sydney Morning Herald" summary.
- 7.12 a.m.: Shipping intelligence, mail services.
- 7.15 a.m.: Studio music.
- 7.25 a.m.: Investment market, mining share-markets, metal quotations, wool sales, breadstuffs markets, inter-State markets produce markets.
- 7.40 a.m.: Studio music.
- 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

Announcer: Laurence Halbert.

- 10.0 a.m.: "Big Ben" and announcements.
- 10.2 a.m.: Pianoforte reproduction.
- 10.10 a.m.: "Sydney Morning Herald" news service.
- 10.25 a.m.: Studio music.
- 10.45 a.m.: A talk on "Home Cooking and Recipes," by Miss Ruth Furst.
- 11.0 a.m.: "Big Ben." A.P.A. and Reuters cable services.
- 11.5 a.m.: Close down.

MIDDAY SESSION

Announcer: Laurence Halbert.

- 12.0 noon: "Big Ben" and announcements.
- 12.1 p.m.: Stock Exchange, first call.
- 12.3 p.m.: Official weather forecast, rainfall.
- 12.5 p.m.: Studio music.
- 12.10 p.m.: Summary of news "Sydney Morning Herald."
- 12.15 p.m.: Rugby wireless news.
- 12.18 p.m.: A reading.
- 12.30 p.m.: Studio music.
- 12.45 p.m.: Cricket scores, inter-State cricket. New South Wales (2) v. Victoria (2).
- 12.47 p.m.: Studio music.
- 1.0 p.m.: "Big Ben." Weather intelligence.
- 1.3 p.m.: "Evening News" midday news service.
- Producers' Distributing Society's report.
- 1.20 p.m.: Studio music.
- 1.28 p.m.: Stock Exchange, second call.
- 1.30 p.m.: Popular studio music.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

- 2.30 p.m.: Programme announcements.
- 2.32 p.m.: A record recital of world-famous artists.
- 3.0 p.m.: "Big Ben" pianoforte reproduction.
- 3.15 p.m.: Popular music.
- 3.30 p.m.: From the Wentworth, the Wentworth Cafe Dance Orchestra under the direction of Jimmy Elkins.
- 3.40 p.m.: From the studio, Hilda Nelson (contralto).
- 3.46 p.m.: Cricket scores.
- A reading.
- 4.0 p.m.: "Big Ben." Norman Fielwood (baritone).
- 4.7 p.m.: Phillipa Alston (mezzo-soprano).
- 4.14 p.m.: From the Wentworth, the Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
- 4.24 p.m.: From the studio, Hilda Nelson (contralto).
- 4.31 p.m.: Phillipa Alston (mezzo).
- 4.36 p.m.: From the Wentworth, the Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
- 4.45 p.m.: From the studio, third call of the Stock Exchange.
- 4.47 p.m.: Popular music.
- 5.0 p.m.: Close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane

- 5.40 p.m.: The chimes of 2FC.

- 5.45 p.m.: The children's session, conducted by the "Hello Man." Letters and stories.
- 6.10 p.m.: Programme arranged by Madame Ada Baker's pupils.
- 6.30 p.m.: Dalgety market report (wool, wheat, and stock).
- 6.40 p.m.: Fruit and vegetable markets.
- 6.43 p.m.: Stock Exchange information.
- 6.45 p.m.: Weather and shipping news.
- 6.48 p.m.: Rugby wireless news.
- 6.50 p.m.: Late sporting news, told by the 2FC Racing Commissioner.
- 7.0 p.m.: "Big Ben." Late news service.
- 7.10 p.m.: Special record recital.

EVENING SESSION.

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

- 7.40 p.m.: Programme announcements.
- 7.45 p.m.: Pianoforte reproduction.
- 7.52 p.m.: Cricket results for the benefit of country listeners.
- 7.54 p.m.: Popular music.
- 8.0 p.m.: "Big Ben." A novelty night for listeners.

See Page 3 for To-night's Programme

To-night we have arranged a "Who's Who" programme. Listeners are invited to guess the name of each artist. The item will be announced, but not the artist, and to the one who guesses all the artists correctly a prize will be given.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 8 a.m.: G.P.O. clock and chimes.
- Metropolitan weather report.
- 8.1 a.m.: State weather report.
- 8.2 a.m.: Studio music.
- 8.15 a.m.: G.P.O. chimes.
- News from the "Daily Telegraph Pictorial."
- 8.25 a.m.: Studio music.
- 8.30 p.m.: G.P.O. chimes.
- Studio music.
- 8.35 p.m.: Information, mails, shipping, arrivals, departures, and sailings.
- 8.38 a.m.: News from the "Daily Telegraph Pictorial."
- 8.45 a.m.: G.P.O. chimes.
- Studio music.
- 9.0 a.m.: G.P.O. clock and chimes.
- Studio music.
- 9.30 a.m.: Half an hour with silent friends.
- 10.0 a.m.: G.P.O. clock and chimes; close down.

MIDDAY SESSION.

Announcer: Basil Kirke.

- 11.0 a.m.: G.P.O. clock and chimes.
- 2BL women's Sports Association session, conducted by Miss Gwen Varley.
- 11.30 a.m.: Advertising hints.
- 11.40 a.m.: Women's session, conducted by Mrs. Cranfield.
- 12.0 noon: G.P.O. clock and chimes.
- Special ocean forecast and weather report.
- 12.3 p.m.: Studio music.
- 12.30 p.m.: Shipping and mails.
- 12.35 p.m.: Market reports.
- 12.45 p.m.: Cricket scores, N.S.W. (2) v. Vic (2).
- 12.48 p.m.: "Sun" midday news service.
- 1.0 p.m.: Studio music.
- 1.30 p.m.: Talk to children and special entertainment for children in hospital.
- 1.57 p.m.: Cricket scores.

- 2.0 p.m.: G.P.O. clock and chimes; close down.

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist: Kathleen Roe

- 3.45 p.m.: G.P.O. clock and chimes.
- Cricket scores.
- 3.47 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.0 p.m.: G.P.O. clock and chimes. From the studio, Captain Fred Aarons, "Women of Other Days," "Catherine of Russia."
- 4.14 p.m.: Valda St. Nicolay (contralto).
- (a) "When All was Young" (Gounod).
- (b) "A Fat Lil Feller" (Gordon).
- 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30 p.m.: From the studio, cricket scores; J. Knight Barnett (entertainer).
- 4.37 p.m.: Valda St. Nicolay (contralto).
- (a) "Hindoo Song" (Bemberg).
- (b) "My Desire" (Cadman).
- 4.44 p.m.: "Sun" news service.
- 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 5.0 p.m.: G.P.O. clock and chimes. From the studio. "Our Serial Story."
- 5.10 p.m.: J. Knight Barnett (entertainer).
- 5.17 p.m.: Pianoforte reproduction.
- 5.27 p.m.: "Sun" news service.
- 5.34 p.m.: Producers' Distributing Society's poultry report.
- 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

- 5.40 p.m.: Children's session.
- Music and entertainment.
- 6.0 p.m.: Letters and stories.
- 6.30 p.m.: "Sun" news and late sporting.
- 6.40 p.m.: Dinner music.
- 7.10 p.m.: Cricket scores.
- 7.12 p.m.: Australian Mercantile, Land, and Finance Co.'s report.
- Weather report and forecast by courtesy of Government Meteorologist.
- Producers' Distributing Society's fruit and vegetable market report.
- Grain and fodder report ("Sun").
- Dairy produce report ("Sun").
- 7.25 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8.0 p.m.: G.P.O. clock and chimes.
- By courtesy of J. C. Williamson, Ltd., a theatrical transmission will be arranged from one of Sydney's leading theatres.
- 9.10 p.m.: From the studio.
- Weather report and forecast.
- 9.11 p.m.: C. R. Dexter will give last-minute sporting information.
- 9.25 p.m.: The Music-makers.
- "The Beloved Vagabond" (Glass).
- 9.35 p.m.: Jack Barnett and Dorothy Dewar (entertainers).
- 9.45 p.m.: Jack Clifton in "Fragments of Melody."
- 9.52 p.m.: The Music-makers.
- Fantasia, "Coppelia" (Delibes).
- 10.2 p.m.: A talk on "Gardening," by Mr. C. Cooper, Park Superintendent, City Council.
- 10.17 p.m.: Jack Barnett and Dorothy Dewar (entertainers).
- 10.27 p.m.: The Savoyans' Dance Band, with popular choruses by Art. Leonard.
- 10.37 p.m.: Late weather report and forecast.
- 10.39 p.m.: The Savoyans' Dance Band, with popular choruses by Art. Leonard.
- 10.58: Resume of following day's programme.
- 11.0 p.m.: G.P.O. clock and chimes.
- The Savoyans' Dance Band.
- 11.30 p.m.: National Anthem. Close down.

Interstate Programmes, Friday, December 28

3LO, MELBOURNE

EARLY MORNING SESSION.

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports. Market reports. General news. Shipping. Sporting information. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

11.0 a.m.: 3LO's different dainties for the daily dinner. To-day's recipe. 11.5 a.m.: Mrs. Dorothy Silk will speak on "Homecrafts." 11.20 a.m.: Musical interlude. 11.25 a.m.: "Au Fait" will speak on "Fashions." 11.40 a.m.: Musical interlude. 11.45 a.m.: Captain Donald MacLean, "Famous Women of History."

MID-DAY SESSION.

12.0 noon: Melbourne Observatory time signal. Express train information. 12.1 p.m.: Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. 12.15 p.m.: Newmarket stock sales. Special report by John M'Namara and Co. 12.20 p.m.: The station orchestra. "Musical Gems" (Tschalkowsky). 12.30 p.m.: Senia Chostia-koff (tenor). Two Russian folk songs. 12.37 p.m.: Stock Exchange information. 12.40 p.m.: The station string quartet. "Quartette" (Tschalkowsky). 12.50 p.m.: Constance Flavel (soprano). "Was I Not a Blade?" (Tschalkowsky). "A Cradle Song" (Tschalkowsky). 12.57 p.m.: The station orchestra. "Moszkowskiana" (Moszkowsky). 1.4 p.m.: Clifford Creighton (baritone). Selected. 1.11 p.m.: Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecasts. River reports. 1.18 p.m.: Senia Chostia-koff (tenor). "Oh, Beautiful Night" (Russian love song). Selected. 1.25 p.m.: The station orchestra. "Melodie" (Tschalkowsky). "Gondoliera" (Moszkowsky). 1.33 p.m.: Constance Flavel (soprano). "Solweig's Song" (Grieg). "Love's Faith" (Brahms). 1.40 p.m.: The station orchestra. "March Solemnelle" (Tschalkowsky). 1.45 p.m.: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 2.15 p.m.: The Strad Trio. "Trio in G Major" (Haydn). Andante. Poco Adagio Cantabile. Gipsy Rondo. 2.28 p.m.: H. Browne (tenor) (by permission J. C. Williamson, Ltd.). Selected. 2.35 p.m.: Cecil Parkes (violin). "Valse Triste" (Sibelius). "Obertass" (Wienawski). "Serenade" (Drdia). "Indian Snake Dance" (Burleigh). 2.47 p.m.: Colin Crane (baritone). "The Banjo Song." "Invictus." 2.54 p.m.: May Broderick (piano). "Andante and Rondo Capriccioso" (Mendelssohn). 3.1 p.m.: The Strad Trio. "Chanson Triste" (Tschalkowsky). "Tango" (Albeniz). "Spanish Dances No. 3 and 5" (Moszkowski). 3.12 p.m.: Miss Frances Fraser. "Speed the Parting. Welcome the Coming Guest." 3.27 p.m.: The station orchestra. "Fantasie" (Rubinstein). 3.37 p.m.: Doris M'Innis (soprano). "Villa" (Lehar). "I Love the Moon" (Rubens). 3.44 p.m.: Percy Code (trumpet). "An Old Adobe" (Schertzing). 3.49 p.m.: Herbert Browne and Colin Crane (tenor and baritone). "The Two Beggars." "The Moon has Raised her Silver Lamp." 3.56 p.m.: The station orchestra. "Polonaise Arietta" (Handel). 4.7 p.m.: Keith Desmond (elocutionist). "Square-deal Sanderson" (S. C. Battye). 4.14 p.m.: The station orchestra. "La Colombe" (Gounod). "Mountain Music" (Borsch). 4.24 p.m.: Roy Ryan (entertainer). "Thinking." 4.29 p.m.: A. Anderson (clarinet). "Roberto tu che Adoro." 4.34 p.m.: Doris M'Innis (soprano). "O Lovely Night" (Ronald). "Sometimes in Summer" (Bennett). 4.41 p.m.: The station orchestra. "O Lovely Night" (Ronald). "Sometimes in Summer" (Bennett). 4.41 p.m.: The station orchestra, suite, "Fruhlings" (Nevin). 4.48 p.m.: Keith Desmond (elocutionist). Request numbers. 4.55 p.m.: The station orchestra. "Slavic Dance, op. 72" (Dvorak). 5.0 p.m.: "Herald" news service. Stock Exchange information. 5.10 p.m.: Close down. During the afternoon results of the Apollo Bay and Ballarat Miners' races will be given as they come to hand.

EVENING SESSION.

Announcer: Maurice Dudley. 6.0 p.m.: Answers to letters and birthday greetings by "Billy Bunny." 6.25 p.m.: Musical interlude. 6.30 p.m.: Captain Donald MacLean. "Another Story of Adventure."

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Agnes Fortune. 6.50 p.m.: Madame Soward. "French Without Tears." 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Official report of the Newmarket stock sales. Fish market reports. Rabbit prices. River reports. Market reports. Poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions. Market reports of fruit. Retail prices. Wholesale prices of fruit. 7.30 p.m.: News session. 7.43 p.m.: Birthday greetings. 7.45 p.m.: Out of the Past. 7.46 p.m.: Under the auspices of the University of Melbourne Extension Board, Rev. W. Bottomley, lecturer in public speaking, will speak on "Sir Henry Irving." 8.0 p.m.: Programme announcements. 8.1 p.m.: H. K. Love will speak on "Technicalities." 8.10 p.m.: Collingwood Citizens' Band. March. "Twentieth Century." Intermezzo. "Rhodora." 8.20 p.m.: J. Alexander Browne (baritone). "I Will Await Thee" (Coningsby-Clarke). "My Heart's Desire" (Coningsby-Clarke). 8.27 p.m.: Collingwood Citizens' Band. "The Sanctuary of the Heart." Vocal obligato by Bert Cox. 8.34 p.m.: Myrtle Walscott (contralto). "Fair Spring is Returning" (Saint-Saens). "Tired Hands" (Sanderson). 8.41 p.m.: Collingwood Citizens' Band. Selection. "Pirates of Penzance." 8.48 p.m.: Captain Donald MacLean, "Under the Skull and Crossbones."

9.3 p.m.: Collingwood Citizens' Band. Concert number, "White Lilies." 9.10 p.m.: Lillian Colen-lingwood Citizens' Band. March, "Vigilante." so (soubrette). "I Might Learn to Love Him Later On." "A Lady in Society." 9.17 p.m.: Col-Trombone solo, "The Spirit Song" (Haydn). 9.27 p.m.: Keith Desmond (elocutionist). "Earthen-ware" (Weston and Lee). "Jemmy's Boats" (Martyn Herbert). 9.34 p.m.: Collingwood Citi-zens' Band. Cornet solo, "Alas Those Chimes," from "Maritana." 9.39 p.m.: Myrtle Walscott (contralto). "Beloved, It Is Morn" (Aylward). "Fiddle and I" (Goodeve). 9.46 p.m.: Eric Welch will speak on to-morrow's races at Ascendale Park. 9.56 p.m.: Collingwood Citizens' Band. Selection, "The Gondoliers." 10.6 p.m.: Lillian Colenso (soubrette). "Eat More Fruit." "Why Am I Always the Bridesmaid?" 10.13 p.m.: "Argus" News service. British official wireless news from Rugby. Meteorological information. Road notes supplied by the Royal Automobile Club of Victoria. Announcements. Weekly seasonable gardening reminder, supplied by Leslie Brunning. 10.23 p.m.: Collingwood Citizens' Band. Gavotte. "Cherry Time." March, "The Trooper." 10.30 p.m.: J. Alexander Browne (baritone). "To-morrow" (Keel). "Heart of the Rose" (David). 10.37 p.m.: Keith Desmond (elocutionist). "Tisn't Worth It" (Martyn Herbert). Selected. 10.42 p.m.: Col-lingwood Citizens' Band. Waltz. "Art of Fascina-tion." 10.52 p.m.: Our great thought. 10.53 p.m.: The Radi-o-Aces. "Ups and Downs" (Rose). "Mississippi Mud" (Harris). "Day Dreams" (Hal-lam). "Brainstorm" (Sanders). "Jeannine" (Gil-ber). "Dream House" (Foxe). "Tiger Rag" (Moore). "That's My Weakness Now" (Stept). "Get Out and Get Under the Moon" (Tobias). "Sleepy Baby" (Kahn). "The Prune Song" (Crumit). "Sincerely I Do" (Davis). "Sally Rose" (Friend). "Good-night Waltz" (Bibo). "Good-night Chorus." 11.40 p.m.: God Save the King.

3AR, MELBOURNE

MORNING NEWS SESSION.—10.0 a.m.: G.P.O. clock says "Ten." 10.1 a.m.: Stock Exchange re-ports. London metal market. 10.10 a.m.: Mar-ket reports, farm and station produce, fruit, fish, vegetables, etc. 10.25 a.m.: "Age" shipping re-ports. Ocean forecast. 10.30 a.m.: Mail notices, express train information. 10.35 a.m.: News ser-vice. 10.59 a.m.: Weather forecast. MORNING MUSICAL SESSION.—(Announcer: Maurice Dud-ley). 11.0 a.m.: Ned Tyrrell and his Radi-o-Aces. "Dream Kisses" (Yellen). "Without You, Sweetheart" (de Silva). "Lolita" (Stoneham). "After My Laughter Came Tears" (Tobias). "Beautiful" (Sharp). "Tell Me Again" (Clark). 11.20 a.m.: Bert Llewellyn (baritone). "Will o' the Wisp" (Cherry). "A Good Old-fashioned Chorus" (Henry). 11.27 a.m.: Ned Tyrrell and his Radi-o-Aces. "Together" (Brown). "The Dance of the Blue Danube" (Fisher). "The Riff Song" (Romberg). "Chinatown" (Yvain). "What Was I To Do" (Reid). 11.47 a.m.: "Roy Ryan (en-tertainer). "Kiss and Make Up." "Imitations." 11.54 a.m.: Ned Tyrrell and his Radi-o-Aces. "Next to You, I Like Me Next to You" (Bito). "Shake It Down" (Williams). "Lonely Acres" (Robinson). "Anything You Say" (Donaldson). "In a Bamboo Garden" (Donaldson). "Sweet Sue, Just You" (Tobias). "Too Busy" (Miller). "Tired Hands" (Woods). 12.20 p.m.: British offi-cial wireless. Announcements. 12.30 p.m.: Ned Tyrrell and his Radi-o-Aces. "Once Again" (Lums-daine). "Meet Me To-day" (Dean). "One Alone" (Romberg). "The Desert Song" (Romberg). 12.45 p.m.: Bert Llewellyn (baritone). "The Sexton and the Bell" (Hardy). "Little Grey Home in the West" (Lohr). 12.52 p.m.: "Ned Tyrrell and his Radi-o-Aces. "You Said Good-night, but You Meant Good-bye" (Kahn). "Mallika" (Reel). "Down Upon the Sands" (Hamy). "I Wanna Go Voon Voon Voo" (Brown). "A Little Change of Atmosphere" (Brown). 1.10 p.m.: Roy Ryan (en-tertainer). "Sunshine." Request item. 1.17 p.m.: Ned Tyrrell and his Radi-o-Aces. "I'm Sorry, Sally" (Kahn). "Rio Rita" (Tierney). "The Ki-kijou" (Tierney). "Sleepy Baby" (Kahn). "The Best Things in Life are Free" (Henderson). 1.30 p.m.: Close down. EVENING SESSION.—(An-nouncer: John O'Connor). 6.0 p.m.: Sweet solace from the Seraphina. 7.0 p.m.: "Herald" news service. 7.10 p.m.: S'more solace. NIGHT SES-SION.—(Announcer: John O'Connor). 8.15 p.m.: Eric E. Atkins. "To-morrow's events at the Motor-drome." 8.30 p.m.: Transmission from City Hall, Ballarat. Community singing. 10.30 p.m.: From the studio. News session. "Age" news service, ex-clusive to 3AR. Weather forecast. Results of cricket match. 10.40 p.m.: Our Australian good-night quotation. God Save the King.

4OG, BRISBANE

EARLY MORNING SESSION.—(Announcer: J. Tyson.) 7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Electric records. 8.15 a.m.: News ser-vice. 8.30 a.m.: Close down. MORNING SESSION.—(Announcer: Rita M'Auliffe). 11.0 a.m.: Music. 11.5 a.m.: Social news. 11.15 a.m.: A cookery and household talk by "The Etiquette Girl." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Music. 12.0 (noon): Close down. MIDDAY SESSION.—(Announcer: R. Wight). 1.0 p.m.: Mar-ket reports and weather information. 1.15 p.m.: Lecturette, "Christian Science," by Mr. W. Stuart Booth. 2 p.m.: Close down. AFTERNOON SESSION: 3.0 p.m.: Orchestral music by the Tivoli Operatic Orchestra, under the baton of Mr. C. Groves. 3.30 p.m.: Mail train running times. A programme of electrically reproduced records. 4.0 p.m.: Or-chestral music. 4.15 p.m.: This afternoon's news. 4.30 p.m.: Close down. EARLY EVENING SESSION. (Announcers: R. Wight and H. Humphreys). 6.0 p.m.: Mail train running times; haul information; shipping news. 6.5 p.m.: Dinner music. 6.25 p.m.: Commercial announcements. 6.30 p.m.: Bed-time stories, conducted by "The Sandman." 7.0

p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Mar-ket reports. 7.25 p.m.: Fenwick's stock report. 7.36 p.m.: Weather information. 7.40 p.m.: An-nouncements. 7.43 p.m.: Standard time signals. 7.45 p.m.: To-morrow's sporting fixtures reviewed. NIGHT SESSION.—8.0 p.m.: A programme arranged by Mr. Erich John. Group I: Grand opera—in-strumental quartette, "Valse" (from the ballet, "Naila"—Delibes); double quartette, "Open-ing Chorus" (from "William Tell"—Ros-sini); Mrs. Robert Bell (soprano) and George Williamson (tenor), vocal duet, "O Blessed Hour of Meeting" (from "Tannhauser"—Wagner); Mil-dred Bell (contralto). "Softly Awakes My Heart" (from "Samson and Delilah"—Saint Saens); double quartette, "Rataplan" (from "The Daughter of the Regiment"—Donizetti); instrumental quar-tette, "Humoreske" (Dvorak). 8.20 p.m.: Group II, Folk songs of Russia—Double quartette, "Cos-sack's Lullaby"; J. P. Cornwell (baritone), "Volga Boatmen's Song"; Mildred Bell and Audrey Bell (contraltos), "The Talisman"; double quartette, "Cossacks' Song," "The Three-in-hand is Slowly Rolling"; instrumental quartette, "Badinage" (Herbert). 8.40 p.m.: Group III, Sacred—Double quartette, "Blessed Are They That Do His Com-mandments" (Erich John); George Williamson and Jack Lord (tenors), vocal duet, "Acquaint Thy-self with God" (Richer); Muriel M'Hugh (soprano), "Grant Us, Mighty Lord" (Bach); instrumental quartette, "Eventide" (Middleton). 9.0 p.m.: Met-ropolitan weather forecast. 9.1 p.m.: Week-end road information for motorists, officially sup-plied by the Royal Automobile Club of Queens-land. 9.10 p.m.: Group IV, Classical—Double quartette, "The Spring is Returning" (Beethoven); George Williamson (tenor) and J. P. Cornwell (baritone), duet, "The Maybells and the Flowers" (Mendelssohn); Mrs. Robt. Bell (soprano), "Lia's Lament" (from "The Infant Prodigy"—De-bussy); instrumental quartette, "Hungarian Dance No. 2" (Brahms). 9.20 p.m.: Group V, Miscel-laneous—Double quartette, "Bright Little Star" (Erich John); Tom Ryan (bass), "In Cellar Cool"; George Williamson (tenor), "Three Songs of a Good Little Boy" (arranged by Erich John); "The Good Little Boy" (Pease), "When Mama Sings" (Beach), "Willie's Prayer" (Ashford). Instrumen-tal quartette, "Romance of a Rose" (O'Connor). 9.40 p.m.: Group VI, Light opera—Double quar-tette, "If You Come, Come to Tea" (from "The Geisha"—Jones); Mildred Bell (contralto) and J. P. Cornwell (baritone), vocal duet, "A Wilder-ness and Thou" (from "The Quaker Girl"—Monck-ton); double quartette, "Finale of the First Scene" (from "Chu Chin Chow"—Norton); instrumental quartette, "Merry Makers' Dance" (from "Nell Gwynne"—German). 10.0 p.m.: "The Daily Mail" news, "The Courier" news. Close down.

5CL, ADELAIDE

AFTERNOON SESSION.—12 noon: G.P.O. Chimes. 12.1 p.m.: General news service. 12.7 p.m.: British official wireless news. 12.10 p.m.: From Cheltenham Park Racecourse. Positions and riders for Alber-ton Hurdles. 12.20 p.m.: Description of the Alberton Hurdles by Mr. Arnold Treloar. 12.25 p.m.: Musical interlude. Columbia recordings. Paul Ash and his Orchestra. "You Don't Like It." Debroy Somer's Band, "Souvenirs." "Down South." "Bandy Ban-delero." "Lantern of Love." 12.45 p.m.: Positions and riders for Oakland Plate. 12.52 p.m.: Columbia recordings. H.M. Grenadier Guards Band. "Caval-ry of the Clouds." "Dawn of Freedom." 1.0 p.m.: G.P.O. Chimes. 1.1 p.m.: Description of the Oakland Plate by Mr. Arnold Treloar. 1.5 p.m.: International cricket scores. Third Test Match, at Melbourne. 1.7 p.m.: Chamber music. Columbia recordings. London Symphony Orchestra. "Prince Iger—Danse No. 17." Parts 1 and 2. Edna Thomas (soprano). "Swing Low, Sweet Chariot." "Carry Me Back to Old Virginny." 1.25 p.m.: Positions and riders for the Port Adelaide Cup. 1.32 p.m.: Musi-cal interlude. Denza Dance Band. "A Shady Tree." "Dear, on a Night Like This." "Moonlit Waters." 1.40 p.m.: A description of the Port Adelaide Cup, by Mr. Arnold Treloar. 1.45 p.m.: Dance programme. Columbia recordings. The Kit-Cat Band. "Side by Side." "My Regular Girl." "Lucky Day." Ted Lewis and his Band. "In My Gondola." "While We Danced Till Dawn." 2.4 p.m.: International cricket scores. Third Test Match, at Melbourne. 2.5 p.m.: Positions and riders for Steeplechasers Flat Race. 2.12 p.m.: Musical inter-lude. Columbia recordings. The Unity Quartet. "The Bells of St. Mary." "There's a Tramp, Tramp, upon the Highway." 2.20 p.m.: Description of the Steeplechasers Flat Race by Mr. Arnold Treloar. 2.25 p.m.: Instrumental concert. Hawaiian guitar duets. Columbia recordings. "Palakiki Blues." "Isle of Paradise." Minnie Daniel (pianist), "Butterfly Study." "La Castagnette." 2.45 p.m.: Positions and riders for Benson Quality Stakes. 2.52 p.m.: Wuriltzer Organ recital. Columbia re-cordings. Howard Peterson (organist), "Just a Cottage Small." Milton Charles (organist), "When Day is Done." 3.0 p.m.: Description of Benson Quality Stakes, by Mr. Arnold Treloar. 3.5 p.m.: International cricket scores. Third Test Match, at Melbourne. 3.6 p.m.: Symphonic Orchestral Se-lections, by Mr. W. R. Cade. 3.25 p.m.: Posi-tions and riders for Croydon Welter (First Division). 3.32 p.m.: Incidental music. 3.40 p.m.: Description of First Division of Croydon Welter. 3.45 p.m.: Musical attractions. 4.5 p.m.: International cricket scores. 4.16 p.m.: Positions and riders for Second Division of Croydon Welter. 4.11 p.m.: Sonora re-cital. Columbia recordings. Edgar Coyle (bari-tone), "Sea Fever." "The Arrow and the Song." 4.20 p.m.: Description of the Second Division of the Croydon Welter, by Mr. Arnold Treloar. 4.25 p.m.: International cricket scores. 4.25 p.m.: Symphonic interlude. 4.45 p.m.: Positions and riders for the Woodville Handicap. 4.50 p.m.: Resume of afternoon's sporting. 5.0 p.m.: Descrip-tion of the Woodville Handicap by Mr. Arnold Treloar. 5.7 p.m.: Close down. EVENING SESSION.—(Announcer: J. L. Norris. Accompanist, Jean Finlay). 6.0 p.m.: G.P.O. Chimes. 6.1 p.m.: Re-sume of late sporting. 6.10 p.m.: Birthday greet-

ings, correspondence, songs, and stories, by "Miss Wireless." 6.40 p.m.: Musical interlude. Dinner music on the Sonora. Columbia recordings. London String Quartet. "Quartette in D Minor" (Schubert). Second movement, Andante con moto. Ipama Troubadours. "In a Little Garden." "Let's Grow Old Together." Arthur Caterall, W. H. Squire, W. Murdock. Violin, cello, and piano trio. "Serenade." "Lilbesgarten" (Schumann). 7.10 p.m.: A review of Saturday's cricket, by "Willow." 7.25 p.m.: P. H. Nicholls. NIGHT SESSION.—(Announcer, J. L. Norris. Accompanist: Jean Finlay.) 8.0 p.m.: G.P.O. Chimes. 8.1 p.m.: Magill Vice-regal Band. Quickstep, "Holyrood." Scotch Overture, "The Fair Maid of Perth." 8.16 p.m.: Mona Nugent (vocalist). "Is the Moon Pale?" (Swinstone). "Butterfly Wings" (Phillips). 8.20 p.m.: Magill Vice-regal Band. "Take in the Sun, Hang Out the Moon." 8.26 p.m.: Diana Belmont (contralto). "Forethought" (Lambert). "Love, I Have Won You" (Rando). 8.32 p.m.: The Radio Duo. Instrumental Selections. 8.30 p.m.: Sydney Holister (humorist), in droll humor. 8.48 p.m.: Magill Vice-regal Band. Selection, "A Day on the Farm." 9.0 p.m.: G.P.O. Chimes. 9.1 p.m.: Meteorological information. 9.2 p.m.: A review of the Third Test Match, by "Willow." 9.12 p.m.: Gertrude Gray (mezzo). "Negro Spirituals." "Steal Away." "Were You There?" 9.18 p.m.: Magill Vice-regal Band. "Cornet duet, 'Ida and Dot.'" 9.26 p.m.: Diana Belmont (contralto). "The Enchantress" (Hullah). "Before the Dawn." 9.31 p.m.: Mona Nugent (pianiste). "Grillers" (Schumann). "Novellito D Minor" (Selman). 9.28 p.m.: James Riley (tenor). "A Sprig of Boronia" (Hull). "Because Your Love is Mine" (Doral). 9.44 p.m.: Magill Vice-regal Band. Waltz, "Jeannie, I Dream of Lilac Time." 9.50 p.m.: The Radio Duo, in selected numbers. 9.56 p.m.: Magill Vice-regal Band. "The Warbler's Serenade." 10.2 p.m.: James Riley (tenor). "Ave Maria" (Kahn). "Jeunesse" (Barry). 10.8 p.m.: Magill Vice-regal Band. "Cavalry of the Clouds." 10.15 p.m.: "Advertiser" general news service. 10.20 p.m.: British official wireless news. 10.23 p.m.: 5CL's sporting service, by "Silvius." 10.28 p.m.: Meteorological information. 10.29 p.m.: Our good-night thought. 10.30 p.m.: By courtesy of 3LO, Melbourne, music by the famous Radi-o-Aces. 11.10 p.m.: God Save the King.

6WF, PERTH

12.30 p.m.: Tune in. 12.35 p.m.: Markets, news, and cables. 1 p.m.: Time signal. 1.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements. 1.2 p.m.: The studio quintet, conducted by Mr. Val Smith, will play selections from their repertoire, with vocal interludes. 2 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Afternoon tea concert relayed from the Rosebud Cafe, Perth; vocal and instrumental interludes from the studio. 4.30 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: Musical session for the kiddies by Uncles Henry, Percy, and Duffy, and Aunties Amy and Audrey. 7.5 p.m.: Items by the Studio Trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Racing talk by the sporting editor of "Truth" Newspaper Co. 8.0 p.m.: Time signal. 8.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements, such as alterations to programmes, etc. 8.3 p.m.: Musical programme from the studio, including vocal and instrumental artists; items by the Instrumental Duo, of the S.S. Karoola. 9 p.m.: Late news items by courtesy of "The Daily News" Newspaper Co.; ships within range announcement; weather report and forecast; station announcements. 10.30 p.m.: Close down. 104.5-Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

EARLY EVENING SESSION.—(Announcer: Jack Broadbent.) 6.15 p.m.: Answers to letters and birthday greetings by "Uncle David." 6.20 p.m.: Selections by the Melody Masters. 6.30 p.m.: "The Story Lady" will tell a story to the children. 6.45 p.m.: Selections by the Melody Masters. 7 p.m.: Request numbers for the children. EVENING SESSION.—7.15 p.m.: A. M. O'Leary will speak on "Cricket." 7.30 p.m.: Paul Whiteman and his orchestra, "The Merry Widow" (Lehar). "My Hero" (Strauss). 7.37 p.m.: Rene Dyer (contralto). "Meadowsweet" (Brahe). "That's All" (Brahe). 7.44 p.m.: International concert orchestra, "Spring, Beautiful Spring." 7.48 p.m.: Jack Broadbent (baritone). "Because" (Hardelot). "The Banjo Song" (Homer). 7.55 p.m.: Leila Read (piano solo), selected. EVENING SESSION.—8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Pearl Barron (soprano). "Waiata Poi" (Hill). "O Flower of All the World" (Finden). 8.8 p.m.: Cherniavsky Trio (violin, cello, piano). "Spring Song" (Mendelssohn). 8.11 p.m.: Rene Dyer (contralto). "An Old-world Serenade" (Helmund). "Creole Cradle Song" (Clutsam). 8.18 p.m.: International Concert Orchestra, "Sweetheart" (Strauss). 8.21 p.m.: Jack Broadbent (baritone). "Salaam" (Lang). "The Blind Ploughman" (Clarke). 8.28 p.m.: Paul Whiteman and his orchestra, "Just Like a Melody Out of the Sky" (Donaldson). 8.31 p.m.: Pearl Barron (soprano). "The Everlasting Love" (Brahe). "Song of India" (Rimsky-Korsakoy). 8.38 p.m.: Australian Commonwealth Band, conducted by Albert Baillie, "Australia for Ever" (Betteridge). "Entente Cordiale March." 8.45 p.m.: J. M. Counsel, "A Musical Hour with the Old Masters." "The History and Development of Music." 9.45 p.m.: The Royal Autocar Club of Tasmania safety message. 9.50 p.m.: News session. British official wireless news. Readings from the "Weekly Courier." "Mercury" special Tasmanian news service. Railway auction produce sales held at railway. Weather information. Hobart Stock Exchange quotations. Royal Autocar Club of Tasmania road guide for the week-end. Notes by the Amateur Athletic Association. Cycling notes by the Hobart Cycling Association. Market reports from Messrs. Roberts and Co., Messrs. Wise and Stirling. 10.0 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: Our Tasmanian good-night thought. 10.2 p.m.: God Save the King. Close down.

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The new H4 (Height, 10 inches)

Local Programmes for Saturday, December 29

2FC

EARLY MORNING SESSION

Announcer: Laurence Halbert.

- 7.0 a.m.: "Big Ben" and announcements.
- 7.2 a.m.: Official weather forecast; rainfall; river reports; temperatures; astronomical memoranda.
- 7.7 a.m.: "Sydney Morning Herald" summary.
- 7.12 a.m.: Shipping intelligence; mail services.
- 7.15 a.m.: Studio music.
- 7.25 a.m.: Investment market; mining share markets; metal quotations; wool sales; breadstuffs markets; inter-State markets; produce markets.
- 7.40 a.m.: Studio music.
- 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION

Announcer: Laurence Halbert.

- 10.0 a.m.: "Big Ben" and announcements.
- 10.2 a.m.: Pianoforte reproduction.
- 10.10 a.m.: "Sydney Morning Herald" news service.
- 10.25 a.m.: Studio music.
- 10.30 a.m.: Last-minute sporting information, by the 2FC Racing Commissioner.
- 10.40 a.m.: Studio music.
- 10.45 a.m.: A talk on "Gardening," by J. G. Lockley ("Redgum").
- 11.0 a.m.: "Big Ben"; A.P.A. and Reuter's cable services.
- 11.5 a.m.: Close down.

MID-DAY AND AFTERNOON SESSIONS

- 12.0 Noon: "Big Ben" and announcements.
- 12.2 p.m.: Stock Exchange information.
- 12.4 p.m.: Studio music.
- 12.10 p.m.: "Sydney Morning Herald" news service.
- 12.15 p.m.: Rugby wireless news.
- 12.20 p.m.: Studio music.
- 12.45 p.m.: Cricket scores, third Test match. England v. Australia, played at Melbourne.
- 1.0 p.m.: "Big Ben"; weather intelligence.
- 1.5 p.m.: "Evening News" mid-day news service.
- 1.20 p.m.: Studio music.
- During the afternoon a description of the yachting and motor boating regatta, broadcast from Pittwater.
- From the Studio: The Tuneful Three and Cliff Arnold.
- 4.45 p.m.: From the Studio—Complete sporting resume.
- 5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

- 5.40 p.m.: The chimes of 2FC.
- 5.45 p.m.: The children's session, conducted by the Hello Man; letters and stories.
- 6.30 p.m.: Music and entertainment.
- 6.40 p.m.: Weather intelligence; shipping; Stock Exchange.
- 6.45 p.m.: Rugby wireless news.
- 6.50 p.m.: Sporting news; late news, and studio music.
- 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats.
 - (a) "Russian Peasant Dance" (Lehar)
 - (b) "Moonlight" (Finck).
 - (c) "Get Out and Get Under the Moon" (Shay).
 - (d) "Wildflower" (Youmans)
 - (e) "Lied ohne worte" (Mendelssohn).

EVENING SESSION

Announcer: A. S. Cochrane.

Accompanist: Ewart Chapple.

- 7.40 p.m.: Programme announcements.
- 7.45 p.m.: Pianoforte reproduction.
- 7.52 p.m.: Cricket scores, third Test match. England v. Australia, played at Melbourne.
- 8.0 p.m.: "Big Ben"; the Charles Lawrence Revue Company have arranged a sparkling entertainment this evening, in which the following artists will participate:—

Wendling and Molloy, Radio Melody Makers; Rene Rich, violinist; "The Two Old Cronies."

During the evening a description of the events in progress will be taken from the Speedway Royal. Between 10.30 p.m. and 11.30 p.m. dance music from the Wentworth, interspersed with the newest song hits, by Len Maurice. 11.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 8.0 a.m.: G.P.O. clock and chimes. Metropolitan weather report.
- 8.1 a.m.: State weather report.
- 8.2 a.m.: Studio music.
- 8.15 a.m.: G.P.O. chimes. News from the "Daily Telegraph Pictorial."
- 8.25 a.m.: Studio music.
- 8.30 a.m.: G.P.O. chimes. Studio music.
- 8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings.
- 8.38 a.m.: News from the "Daily Telegraph Pictorial."
- 8.45 a.m.: G.P.O. chimes. Studio music.
- 9 a.m.: G.P.O. clock and chimes. Studio music.
- 9.30 a.m.: Half an hour with silent friends.
- 10.0 a.m.: G.P.O. clock and chimes. Close down.

MIDDAY AND AFTERNOON SESSIONS.

Announcers: A. C. C. Stevens, Basil Kirke.

- 11.0 a.m.: G.P.O. clock and chimes. Women's session, conducted by Mrs. Cranfield. What's on at the pictures and theatres. Novel suggestions to listeners. Week-end specials.
- 11.30 a.m.: Advertising hints.
- 12.0 Noon: G.P.O. clock and chimes. Special ocean forecast and weather report.
- 12.3 p.m.: Studio music.
- 12.30 p.m.: "Sun" news service.

During the afternoon description of the races in the running will be broadcast from Tattersall's Club meeting at Randwick. Items from the studio by the "Happy Trio, and Olga le Gray. Olga le Gray, in popular numbers, (a) "Charmaine" (Pollack), (b) "Consolation" (Bories), (c) "I'm Tired of Making Believe" (Teschmacher), (d) "I Know a Lovely Garden" (d'Hardelot). The Happy Trio, instrumentalists, (a) "I Just Roll Along" (Berlin), (b) "Tin Pan Parade" (Whiting), (c) "Selection from Wildflower" (Stothart), (d) "Dream House" (Cowan), (e) "I Can't Do Without You" (Berlin), (f) "In a Sing Song Sycamore Tree" (Woods), (g) "Querida" (Simon).

EARLY EVENING SESSION.

Announcers: Basil Kirke, J. Knight Barnett.

- 5.40 p.m.: Children's session. Music and entertainment.
- 6.0 p.m.: Letters and stories.
- 6.30 p.m.: "Sun" news service.
- 6.40 p.m.: 2BL Dinner Quartette, (a) "Prelude in G Minor" (Rachmaninoff), (b) "Lotus Blossoms" (Ohlsen), (c) "The Mikado" (Sullivan), (d) "A Little Love Story" (Lotter), (e) "Tales of the Vienna Woods" (Strauss).
- 7.10 p.m.: Cricket scores.
- 7.12 p.m.: Complete sporting resume.
- 7.30 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8.0 p.m.: G.P.O. clock and chimes.

RADIO EISTEDDFOD.

Listeners will have an opportunity of hearing several of the successful competitors in

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A POPULAR STUDIO PROGRAMME.

Solos by Rowell Bryden, baritone, and dance music from Bennie Abrahams's Orchestra, interspersed with news, by courtesy of "Sun" Newspapers, Ltd. 11.30 p.m.: National Anthem. Close down.

2UW

5.30 p.m.: Children's Hour, conducted by Uncle Jack.

- 6.30 p.m.: Close down.
- 7.0 to 9.59 p.m.: Musical programme.
- 10.0 p.m.: Close down.

2GB

5.30 p.m.: Children's session by "Uncle George."

- 7.15 p.m.: Music.
- 7.20 p.m.: Dance programme.
- 8.0 p.m.: Request evening.
- 9.0 p.m.: Grown-up Bedtime Stories.
- 10.0 p.m.: Close down.

2GB and 2UW

Friday, December 28.

2UW

MIDDAY SESSION

- 12.30 p.m.: To-day's anniversary.
- 12.32 p.m.: Music.
- 1.0 p.m.: G.P.O. clock and chimes.
- 1.0 p.m.: Music.
- 2.15 p.m.: Music.
- 2.30 p.m.: Close down.
- 4.30 p.m.: Musical programme.

EVENING SESSION

- 5.30 p.m.: Children's session, conducted by Uncle Jack.
- 6.30 p.m.: Close down.
- 7.0 p.m.: G.P.O. clock and chimes. Music.
- 7.10 p.m.: News items.
- 7.30 p.m.: Musical interlude.
- 8.0 p.m.: G.P.O. clock and chimes. Music.
- 9.0 p.m.: G.P.O. clock and chimes, and music.
- 9.10 p.m.: Music and request numbers.
- 10.0 p.m.: Close down.

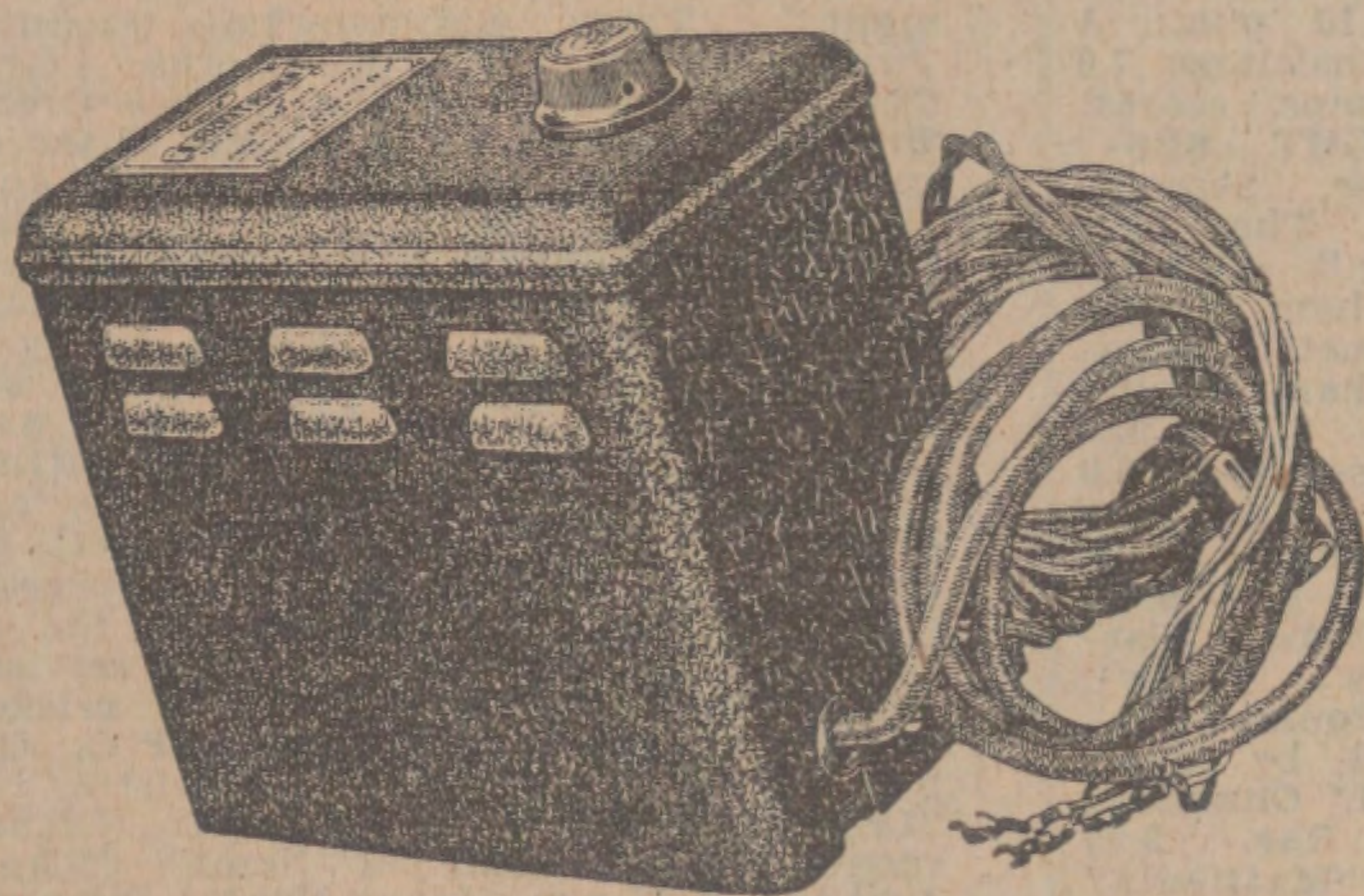
2GB

- 10.0 a.m.: Music.
- 10.10 a.m.: Happiness Talk by A. E. Bennett.
- 10.20 a.m.: Music.
- 10.30 a.m.: Women's session by Miss Helen J. Beegling.
- 11.30 a.m.: Close down.
- 2.0 p.m.: Music.
- 2.5 p.m.: Women's Radio Service by Mrs. Dorthy Jordan.
- 2.50 p.m.: Music.
- 3.0 p.m.: Talk.
- 3.15 p.m.: Close down.
- 5.30 p.m.: Children's session by "Uncle George."
- 7.0 p.m.: Stock and market reports by New Zealand Loan and Mercantile Agency, Limited.
- 7.15 p.m.: Music.
- 8.0 p.m.: 2GB Instrumental Trio—Miss Ada Brook, Mr. Cecil Berry, Mr. Cedric Ashton.
- 8.20 p.m.: Songs by Mr. Leslie Herford.
- 8.30 p.m.: Frank Lua and his steel guitar.
- 8.40 p.m.: Songs by Madame Bennett North.
- 8.50 p.m.: Cello solos by Mr. Cedric Ashton.
- 9.0 p.m.: Weather report.
- 9.15 p.m.: Violin solos by Mr. Cecil Berry.
- 9.30 p.m.: Songs by Mr. Leslie Herford.
- 9.40 p.m.: Frank Lua and his steel guitar.
- 9.50 p.m.: Songs by Madame Bennett North.
- 10.0 p.m.: 2GB Instrumental Trio.
- 10.20 p.m.: Orchestral items.
- 10.30 p.m.: Close down.

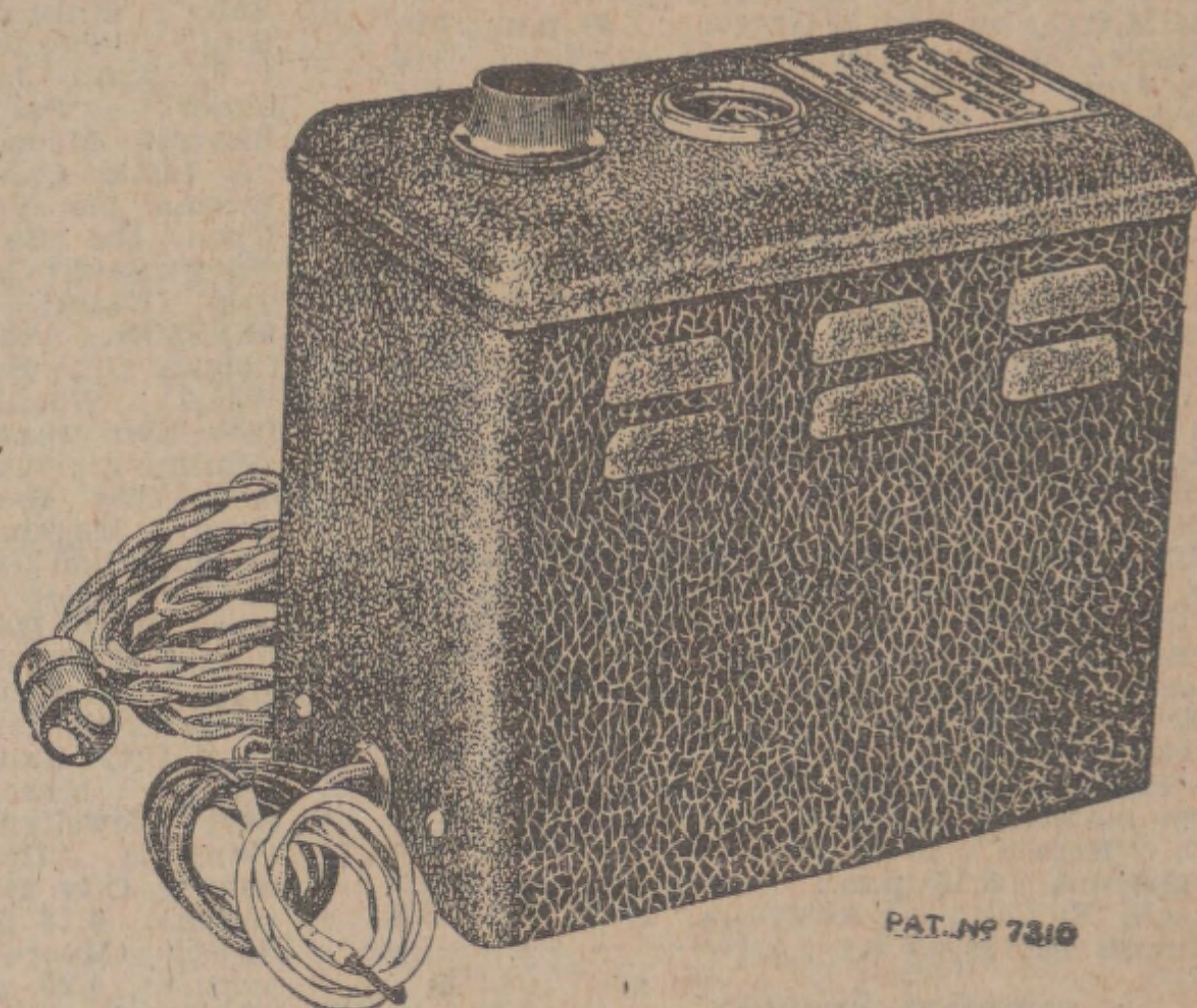
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MELBOURNE

Interstate Programmes, Saturday, December 29

3LO, MELBOURNE

EARLY MORNING SESSION.

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports, market reports, general news, shipping, and sporting information. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 p.m.: Close down.

MORNING SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 11.0 a.m.: Eric Welch will speak on today's races at Ascendale Park. 11.10 a.m.: The Strad Trio. "Trio, op. 96" (Hummel). Allegro con spirito. Andante. Rondo alla russa. 11.28 a.m.: Adelaide Meuleman (soprano). "Two Roses" (Hallett-Gilberts). "To a Messenger" (La Forge). 11.35 a.m.: Cecil Parkes and May Broderick (violin and piano). "Sonata for Violin and Piano in F Major" (Mozart). Theme and variations. Menuetto. Allegro con brio. 11.48 a.m.: Senia Chostakoff (tenor). "A Russian Folk Song." Selected. 11.55 a.m.: The Strad Trio. "Adagio" (Schubert).

MID-DAY SESSION.

12.0 noon: Melbourne Observatory time signal. Express train information. 12.1 p.m.: Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. 12.20 p.m.: Description of Third Test match, England v. Australia, at M.C.C., by Rod M'Gregor. 1.30 p.m.: Mr. M. A. Noble, former international cricketer, will comment from the M.C.C. on the play in the third Test match. 1.40 p.m.: Close down.

AFTERNOON SESSION.

2.15 p.m.: Description of Hurdle Race, 2 miles, Ascendale Park Races, by Eric Welch. 2.20 p.m.: Description of third Test match, England v. Australia, at M.C.C., by Rod M'Gregor. 2.43 p.m.: Description of Maiden Plate, 5 furlongs, Ascendale Park races. 2.50 p.m.: Description of third Test match, England v. Australia, at M.C.C. 3.13 p.m.: Description of Ascendale Plate, 6 furlongs, Ascendale Park races. 3.20 p.m.: Description of third Test match, England v. Australia, at M.C.C. 4.0 p.m.: Mr. M. A. Noble, former international cricketer, will comment from the M.C.C. on the play in the third Test match. 4.10 p.m.: Description of Ascendale Purse, 6 furlongs, at Ascendale Park races. 4.20 p.m.: Description of third Test match, England v. Australia, at M.C.C. 4.43 p.m.: Description of Jumpers' Flat Race, 1 1/4 mile, Ascendale Park races. 4.50 p.m.: Description of third Test match, England v. Australia, at M.C.C. 5.0 p.m.: "Herald" news service. From the Cricket Ground. 5.10 p.m.: Description of third Test match, England v. Australia, at M.C.C. 6.0 p.m.: Stumps scores.

EVENING SESSION.

Announcer: Maurice Dudley. 6.5 p.m.: Sporting results. 6.10 p.m.: Answers to letters and birthday greetings by "Little Miss Kookaburra." 6.25 p.m.: Musical interlude. 6.30 p.m.: "Little Miss Kookaburra" will tell you a delightful holiday story.

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Agnes Fortune. 7.0 p.m.: Stock Exchange information. 7.10 p.m.: River reports. Market reports by the Victorian Producers' Co-operative Company, Ltd. Poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions. Market reports of fruit by the Victorian Fruitgrowers' Association. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.25 p.m.: News session. Stumps scores. Third Test match, England v. Australia, at M.C.C. 7.38 p.m.: Birthday greetings. 7.40 p.m.: Mr. M. A. Noble, former international cricketer, will speak on "The Play of the Third Test Match." 7.45 p.m.: Out of the Past. 7.50 p.m.: Dr. J. A. Leach. "Whistlers." 8.5 p.m.: A Maker of History. Programme announcements. Tasmanian letter to 3LO from the "Courier." Launceston. 8.6 p.m.: Station orchestra. Selected. 8.10 p.m.: Dawn Harding (mezzo-soprano). "The Indian Maid" (Coleridge Taylor). "The Rainbow Child" (Coleridge-Taylor). 8.17 p.m.: The station orchestra. "Mosaïque" (Mendelssohn). 8.27 p.m.: Clifford Creighton (baritone). "The Wanderer" (Schubert). "Loving Smile of Sister Kind" (Gounod). 8.34 p.m.: The station orchestra. Fantasie, "Dem Anderken" (Beethoven). 8.44 p.m.: Senia Chostakoff (tenor). "When the Night with Stilly Silence" (Robertson). "I Pitch My Lonely Caravan at Night" (Coates). 8.51 p.m.: The record feature of the week. 8.55 p.m.: Viva Holgate Clarke. "Fantasie Impromptu" (Chopin). "Rococo and Refrain de Berceuse" (Palmgren). "Prelude Fugue and Variation" (Caesar Franck). 9.16 p.m.: Eric Welch will speak on to-night's events at the Stadium. 9.30 p.m.: The station orchestra. "Dance of the Hours" (Ponchenelli). 9.37 p.m.: Keith Desmond (elocutionist). "Life" (from the "Detroit Free Press"). Request number. 9.44 p.m.: The station quartette. "Maori Quartet" (Alfred Hill). 9.51 p.m.: Dawn Harding (mezzo-soprano). "Maria Wiegand" (Reger). "Vespers" (Fraser Simpson). 9.58 p.m.: Eric Welch will again speak on to-night's events at the Stadium. 10.10 p.m.: The station orchestra. "Fantasie." "Wunderklänge" (Bizet). 10.30 p.m.: Roy Fran (entertainer) will whistle, "Just a Memory." "Just Like a Melody Out of the Sky." 10.25 p.m.: Clifford Creighton (baritone). "The Fishermen of England" (Phillips). "Till I Wake" (Woodford-Pind). 10.32 p.m.: The station orchestra. "Scenes Poétiques" (Godard). 10.42 p.m.: Late sporting results. Stumps scores, third Test match,

England v. Australia, at M.C.C. 10.47 p.m.: Our Great Thought. 10.48 p.m.: The Radi-o-Aces. "Loreliness" (Pollack). "Clarinet Marmalade" (Fergus). "Ramona" (Wayne). "Rain" (Ruby). "I Love to Dunk a Hunk of Sponge Cake" (Castell). "Because My Baby Don't Mean Maybe Now" (Donaldson). "Beloved" (Kahn). "Just Like a Melody Out of the Sky" (Donaldson). "Chips." piano solo (Masman). "That's What You Mean to Me" (Davis). "Chloe" (Kahn). "Lenora" (Gilbert). "That Stolen Melody" (Fisher). "Adoree" (West). "Googily-goo" (Davis). "Good-night Waltz" (Bibo). 11.40 p.m.: God Save the King.

3AR, MELBOURNE

MORNING NEWS SESSION.—10.0 a.m.: G.P.O. clock "Ten." 10.1 a.m.: "Age" Stock Exchange reports. London metal market. 10.10 a.m.: "Age" market reports, farm and station produce, fruit, fish, vegetables, etc. 10.25 a.m.: "Age" shipping reports, ocean forecast. 10.30 a.m.: Mail notices. Express train information. 10.35 a.m.: "Age" news service, exclusive to 3AR. 10.59 a.m.: Weather forecast. MORNING MUSICAL SESSION.—(Announcer: Maurice Dudley.) 11.0 a.m.: The Radi-o-Aces. "I'm Gonna Settle Up" (Frich). "Take You To-morrow" (Razay). "Lucky in Love" (Henderson). "The Best Things in Life are Free" (Henderson). 11.15 a.m.: Jack Hocking. "The Sighing Serenader." "Linger Longer Lane." "Mellow Mersey Moon." 11.22 a.m.: The Radi-o-Aces. "Sleepy Baby" (Kahn). "The Kikijou" (Tierney). "Rio Rita" (Tierney). "I'm Sorry, Sally" (Kahn). 11.37 a.m.: Jack Hocking. "The Sighing Serenader." "Pal of My Baby Days." "Shine on, Harvest Moon." 11.44 a.m.: The Radi-o-Aces. "A Little Change of Atmosphere" (Brown). "I Wanna Go Voon Voon Voo" (Brown). "Down Upon the Sands" (Hamy). "Mallika" (Reel). "You Said Good-night, but You Meant Good-bye" (Kahn). 12 noon: Close down. AFTERNOON SESSION.—(Announcer: Maurice Dudley.) 3.0 p.m.: Coburg City Band. March, "Albanico" (Jaceloy). Waltz, "Woodland Blossoms." 3.15 p.m.: Bert Llewellyn (baritone). "A Son of the Desert" (Phillips). "Once More" (Tosti). 3.22 p.m.: Coburg City Band. Overture, "Vernica" (Greenwood). March, "Fordsburgh" (Moore). 3.32 p.m.: Alice Mallon (soprano). "Ave Maria" (Bach-Gounod). "What Will You Do, Love?" (Moore). 3.39 p.m.: Viva Holgate Clarke (piano). Waltzes in B and E (Brahms). "Danse d'Olaf" (Pick Mangiagalli). 3.49 p.m.: Jean Brunton (contralto). "Two Little Irish Songs" (Lohn). 3.56 p.m.: Coburg City Band. Intermezzo, "Southern Smiles" (Kelly). March, "On Tour" (White). 4.6 p.m.: Bert Llewellyn (baritone). "I Fear No Foe" (Pinsuti). "Dear Friends" (Meredit). 4.13 p.m.: Coburg City Band. Overture, "Diamond Cross" (Allen). 4.18 p.m.: Alice Mallon (soprano). "Molly Bawn" (Moore). "I'm Alongin' for You" (Frik-mann). 4.25 p.m.: Viva Holgate Clarke (piano). "Pastorale and Capriccio" (Scarletti). 4.34 p.m.: Jean Brunton (contralto). "Two Eastern Songs" (Agnes Lang). 4.41 p.m.: Coburg City Band. Fantasia, "Kenilworth" (Raynor). March, "Naworth Castle" (Hume). 5.0 p.m.: Third Test scores. Close down. EVENING SESSION.—6.10 p.m.: A recital of the works of the master musicians. 7.0 p.m.: "Herald" news service. Stumps scores. 7.10 p.m.: More masterpieces. NIGHT SESSION.—(Announcer: C. J. O'Connor. Accompanist: Reg. Brown.) 8.30 p.m.: The 59th Battalion Band. March, "Ivanhoe." Waltz, "Golden Sunbeams." 8.45 p.m.: Graham Burgin (baritone). Mrs. Graham Burgin (duet). "Summer is Gone" (Goring Thomas). Graham Burgin. "The Crown of the Year" (Martin). 8.52 p.m.: The 59th Battalion Band. Fox trot, selected. 9.0 p.m.: The Radio Merry-makers. "A Little Surprise." 9.25 p.m.: The 59th Battalion Band. March, "Caractacus." 9.30 p.m.: Mr. and Mrs. Graham Burgin. "The Spirit of the Wood" (Parker). Mrs. Graham Burgin. "Tip-toe" (Carew). 9.37 p.m.: One-act play, "The Twelve Pound Look" (Sir James Barrie). Play produced by Betty Rae. Caste: Sir Harry Sims, W. H. Chandler. Lady Sims, Ruby May; Kate, Betty Rae. 9.50 p.m.: Graham Burgin (baritone). "Mattinata" (Tosti). "A Sergeant of the Line" (Squire). 10.6 p.m.: The 59th Battalion Band. Selected. 10.10 p.m.: Mrs. Graham Burgin (contralto). "Buy My Strawberries" (Oliver). "Open Thy Blue Eyes" (Massenet). 10.17 p.m.: The 59th Battalion Band. March, "The Chieftain." 10.22 p.m.: News, announcements, sporting results. 10.28 p.m.: Our Australian good-night quotation. God Save the King.

4QG, BRISBANE

EARLY MORNING SESSION.—(Announcer: J. Tyson.) 7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.8 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down. AFTERNOON SESSION.—From Albion Park. B.A.T.C. races. 5.0 p.m.: close down. EARLY EVENING SESSION.—5.0 p.m.: Mail train running times. Special "Queenslander" bi-weekly news service for distant listeners-in. 6.30 p.m.: Bedtime stories, conducted by "Uncle Ben." 7.15 p.m.: To-day's race results in brief. 7.20 p.m.: General sporting notes. 7.30 p.m.: Sailing notes by Mr. Fred Smith. NIGHT SESSION.—(Announcer: H. Humphreys.) 8.0 p.m.: From the Studio—The Royalty Duo, twenty minutes' music and mirth, including: Ken West (tenor), "I Didn't Know," "Until I Lose You," "It'll Only Make You Love Me More"; Blanche Burns (contralto), selected; duets, selected. 8.20 p.m.: Bessie Manners (pianiste), "Mazurka" (Godard). 8.25 p.m.: Claude Walker, ten minutes with Henry Lawson. 8.35 p.m.: Mary L. Spanjer and Mrs. Debnam,

vocal duet, "I Would That My Love" (Mendelssohn). 8.40 p.m.: Max Aronsten (violinist), "Serenade Espagnole" (Chaminade-Kreisler). 8.45 p.m.: Jean Naylor (contralto), "O, That We Two Were Maying" (Nevin). 8.53 p.m.: Mary L. Spanjer and Mrs. Debnam, vocal duet, "Nocturne" (Denza). 8.57 p.m.: Bessie Manners (pianiste), "Russian Dance" (Engelman). 9.1 p.m.: Max Aronsten (baritone), "Ship of Golden Dreams" (Oliver). 9.10 p.m.: Dance music. From the Speedway! Motor cycle racing. 10.0 p.m.: "The Sunday Mail" news, weather news. Close down.

5CL, ADELAIDE

MORNING SESSION.—(Announcer: J. L. Norris.) 11.0 a.m.: G.P.O. Chimes. 11.1 a.m.: Late sporting selections for Ascendale Park meeting, by Mr. Eric Welch, 3LO's special commissioner. 11.3 a.m.: Popular Sonora interlude. Harry Reser's Orchestra. "That's my Weakness Now." "Happy Go Lucky Lane." Kalama's Quartet, "Hapa Haloa Hula Girl." "Lei Hula." 11.20 a.m.: 5CL's sporting calendar. Sonora interlude continued. Parlophone recordings. Sidney Burchall, baritone, "Neapolitan Nights." "I Think of You." Dajos Bela Orchestra, "O Sole Mio" (Di Capua). "Souvenir." R. Tauber (tenor). "The Linden Tree." "The Raven." David and Queenie Kaili. Steel guitar and ukulele with piano, "Down Home Medley." "Hawaiian Hotel." 11.40 a.m.: General news service. 11.55 a.m.: British official wireless news. 12 noon: Close down. AFTERNOON SESSION.—(Announcer: J. L. Norris.) 2.30 p.m.: G.P.O. Chimes. 2.31 p.m.: International cricket scores. 2.32 p.m.: Ascendale Park race results. 2.33 p.m.: Sonora recital. Arnold Frank and his Orchestra. "How Could Anything So Good be Bad." Sam Lanin's Orchestra. "Get Out and Get Under the Moon." Joe Venuti's Blue Four, "The Man from the South." Noel Taylor, with Orchestra, "Think of Me Thinking of You." "Log Cabin of Dreams." Victor Staub (pianist). "Goliwog's Cake Walk." "Minstrels." Dorsey Bros. and their Orchestra. "Evening Star." "Forgetting You." 3.0 p.m.: G.P.O. Chimes. 3.1 p.m.: International cricket scores. 3.2 p.m.: Ascendale race results. 3.4 p.m.: Ballad and instrumental interlude. W. Fassbender (baritone), "The Two Grenadiers"; Edith Lorand (violiniste), "Danse Espagnole." "Old Folks at Home"; Organ solo with vocal chorus by Eddie Horton, "The Adorable Outcast"; Grand Symphony Orchestra, "Zampa" (overture), (Herold). 3.30 p.m.: International cricket scores. Third Test Match, at Melbourne. Ascendale race results. 3.33 p.m.: Dance numbers on the Sonora. Seger Ellis, with Orchestra, "Chloe." "If I Can't Have You." Lillian Morton (vocalist, with piano accompaniment), "After My Laughter Comes Tears." Dorsey Bros. and their Orchestra, "That's My Mammy." Russ Johnson (vocalist, with piano accompaniment), "Nothin'." "Humoreskimo." The Parlophone Melodians, with vocal chorus, "So Dear." Sophie Tucker, (contralto), "After You've Gone." Dorsey Bros. and their Orchestra. "Was It a Dream." Part 1. "Was It a Dream." Part 2. 4.0 p.m.: G.P.O. Chimes. 4.1 p.m.: International cricket scores. 4.2 p.m.: Ascendale race results. 4.3 p.m.: Sonora Cocal and instrumental interlude. Noel Taylor (tenor), "When You Say Good-night." Tossy Spiwakowski (violinist), "The Turkish March." "Dervish Chorus." Grand Irmier Choir, "Silent Night." Dajos Bela Orchestra, "La Traviata." 4.25 p.m.: A resume of the afternoon's sporting results, including Ascendale and International cricket scores. 4.30 p.m.: Close down. EVENING SESSION.—(Announcer: Athol Lykke.) 6.0 p.m.: G.P.O. Chimes. 6.1 p.m.: Resume of late sporting. 6.10 p.m.: Children's happy moments. Birthday greetings, correspondence, songs, and stories by "The Wattle Lady." 6.40 p.m.: Dinner Music on the Sonora. 7.8 p.m.: Sporting Service, by "Silvius," including acceptances for S.A.J.C. New Year's Day meeting. 7.20 p.m.: Rev. G. E. Hale, B.A. Talk on "The Art of Forgetting." 7.35 p.m.: "Willow." A resume on the afternoon's cricket. 7.45 p.m.: 5CL's sporting service, by "Silvius," including International cricket scores. NIGHT SESSION.—8.0 p.m.: G.P.O. Chimes. 8.1 p.m.: Lewis Jones (violinist), "Ariette" (Pergolesi). "Legende" (Wienawski). 8.6 p.m.: Diana Belmont, (contralto), "A Summer Night." "The Ships of Arcady." 8.12 p.m.: Mona Nugent (pianist), "Eroica Sonata," 1st and 4th movements. 8.18 p.m.: Sydney Hollister (humorist), in droll humor. 8.28 p.m.: Gertrude Gray (mezzo), "I Sometimes Think." "Still as the Night" (Bohm). 8.34 p.m.: Lewis Jones (violinist), "Romance" (Bruch), "Berceuse" (Faure).

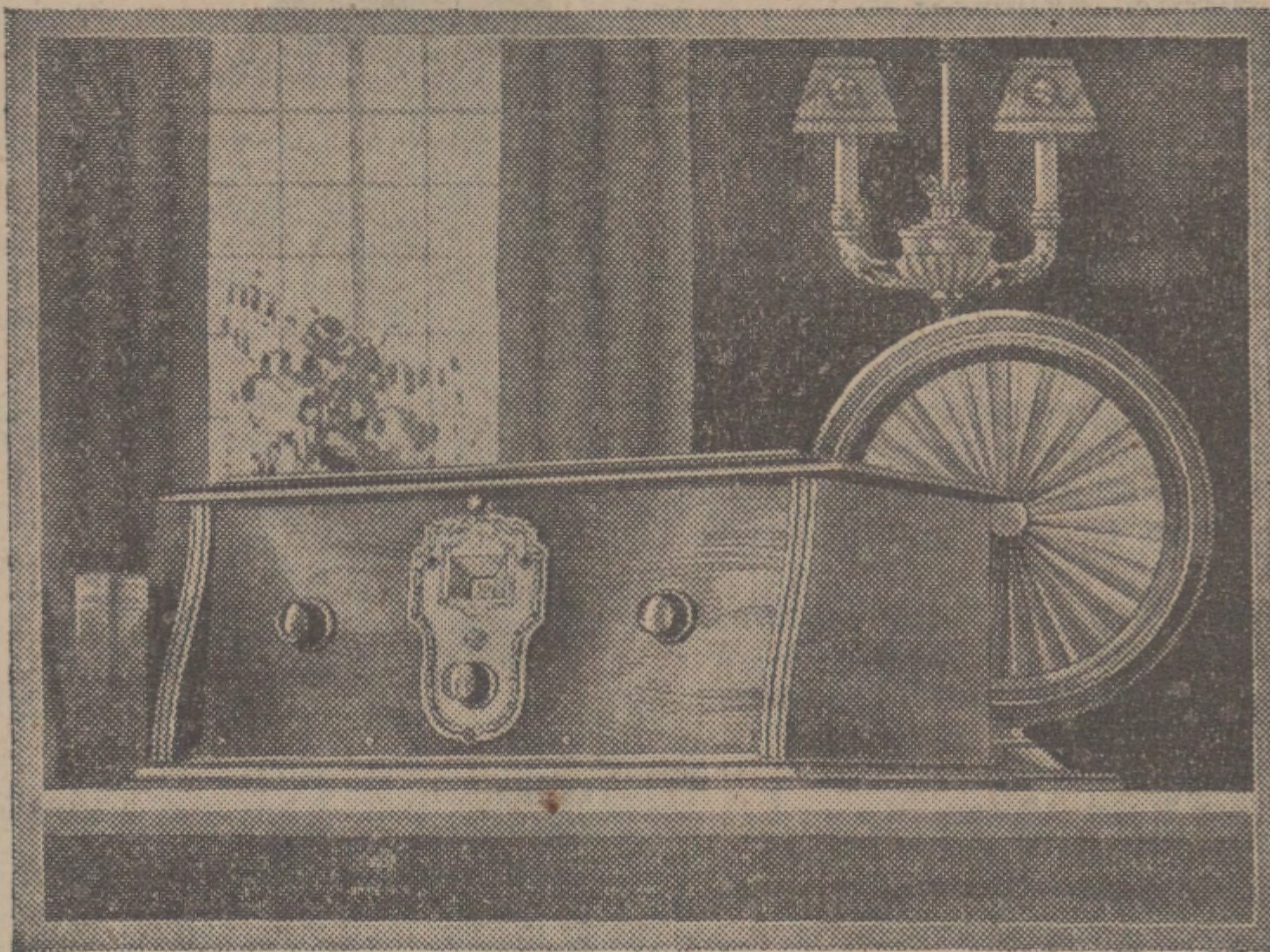
6WF, PERTH

Commencing from noon, progress results of the third Test Match between the English eleven and Australian eleven will be broadcast every half-hour. 12 noon: Tune in. 12.5 p.m.: Musical programme, including pianoforte selections by Miss Audrey Dean. 12.47 p.m.: Markets, news and cables, and cricket results. 1 p.m.: Time signal. 1.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements. 1.2 p.m.: Close down. 3 p.m.: Further results of the third Test Match. 2 p.m.: A running commentary will be given of the racing events relayed from the Perth racecourse. 3.30 p.m.: Musical programme from the studio, including vocal and instrumental numbers; general sporting news. 5 p.m.: Final results of the third Test Match. 5.5 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: Stories for the kiddies by Uncle Duffy and the Radio Bird; fairy stories for the tiny tots by Auntie Amy. 7.5 p.m.: Sports results. 7.30 p.m.: Markets, news, and cables. 7.45 p.m.: Talk. 8 p.m.: Time signal. 8.1 p.m.: Weather notes supplied by the Meteorological Bu-

reau of West Australia; station announcements, such as alterations to programmes, etc. 8.3 p.m.: Musical programme from the studio, including vocal and instrumental artists. A detailed description will be given of the trotting events, including the W.A. Trotting Cup, from the W.A. Trotting Grounds. 9 p.m.: Late news items by courtesy of "The Daily News" Newspaper Co.; ships within range announcement; weather report and forecast; station announcements. 10.30 p.m.: Close down. 104.5-Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

MID-DAY SESSION.—(Announcer: Jack Broadbent.) 11.30 a.m.: His Master's Voice in moments merry and musical. 11.34 a.m.: Special Midlands weather forecast. 11.35 a.m.: His Master's Voice in moments merry and musical. 11.55 a.m.: Tasmanian station's 9 a.m. weather report. 12.0 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information. Ships within wireless range. Mail notices. Commercial news. Housewives' Guide. 12.8 p.m.: His Master's Voice in moments merry and musical. 12.11 p.m.: British official wireless news. 12.20 p.m.: His Master's Voice in moments merry and musical. 12.29 p.m.: Announcements. 12.30 p.m.: Anticipations. 3LO Melbourne Sporting Commissioner last-minute selections for Melbourne races, also selections for Sydney races by our special representative. 12.33 p.m.: His Master's Voice in moments merry and musical. 12.55 p.m.: "Mercury" news service. 1.10 p.m.: His Master's Voice in moments merry and musical. 1.30 p.m.: Close down. 2.15 p.m.: Running description of Hurdle Race, two miles, run at Aspendale Park Racecourse, Aspendale, Victoria. 2.20 p.m.: Close down. 2.45 p.m.: Running description of Maiden Plate, 5 furlongs, run at Aspendale Racecourse, Aspendale, Victoria. 2.50 p.m.: Close down. During the afternoon progress results will be given of the third Test match, held at Melbourne, Victoria. **AFTER-NOON SESSION.**—(Announcer: Jack Broadbent.) 3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Transmission from the T.C.A. Ground, cricket match, Sandy Bay v. New Town, described by A. M. O'Leary. 3.45 p.m.: Running description of Aspendale Plate, six furlongs, run at Aspendale Racecourse, Aspendale, Victoria. 3.20 p.m.: Transmission from the T.C.A. Ground, cricket match, Sandy Bay v. New Town, described by A. M. O'Leary. 3.45 p.m.: Running description of Aspendale Park Handicap, one mile, run at Aspendale Racecourse, Aspendale, Victoria. 3.50 p.m.: Transmission from the T.C.A. Ground, cricket match, Sandy Bay v. New Town, described by A. M. O'Leary. 4.15 p.m.: Running description of the Aspendale Purse, six furlongs, run at Aspendale Racecourse, Aspendale, Victoria. 4.20 p.m.: Transmission from the T.C.A. Ground, cricket match, Sandy Bay v. New Town, described by A. M. O'Leary. 4.45 p.m.: Running description of Jumpers' Flat Race, 1¼ mile, run at Aspendale Park Racecourse, Aspendale, Victoria. 4.50 p.m.: All sporting results to hand. 5.0 p.m.: Close down. During the afternoon progress results will be given of the Tasmanian Turf Club races, Northall Park Races, and Scottsdale Trotting Club races. 6.0 p.m.: All sporting results to hand. **EARLY EVENING SESSION.**—6.15 p.m.: His Master's Voice in moments merry and musical. 6.45 p.m.: "Uncle David" will entertain the wee folk. 7.0 p.m.: Answers to letters and birthday greetings by "Uncle David." 7.5 p.m.: His Master's Voice in moments merry and musical. 7.15 p.m.: News session. "Mercury" special information. Hobart Stock Exchange quotations. To-day's golf, athletics, racing, cricket; "Mercury" late sporting news. Results of the New Town egg-laying competition, homing, and bowling. **EVENING SESSION.**—7.30 p.m.: First instalment. A story of old Jim Corbett, one-time world's champion boxer. "Dramatic Exit from the Ring." 7.45 p.m.: Trevor Watkins will speak under the auspices of the Radio Research Club of Tasmania on "Aerials." 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty Years Ago To-day. 8.6 p.m.: His Master's Voice in moments merry and musical. 8.30 p.m.: Transmission from the Continental, Macquarie Street, Hobart. Theo Pipkin and his Continental orchestra. 10.20 p.m.: From the studio. News session. To-day's sporting news to hand. "Mercury" news service. Tasmanian district weather report. Ships within wireless range. 10.22 p.m.: Our Tasmanian good-night thought. God Save the King. Close down.



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FARMER'S

PITT, MARKET AND GEORGE STREETS.

Local Programmes for Sunday, December 30

2FC

MORNING SESSION.

Announcer: Laurence Halbert.

- 10.0 a.m.: "Big Ben" and announcements.
 10.2 a.m.: Studio music.
 10.15 a.m.: News service.
 10.30 a.m.: Studio music.
 11.0 a.m.: Morning service, broadcast from Christ Church, St. Laurence, conducted by Father John Matthews.
 12.15 p.m.: Approx. Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

- 2.30 p.m.: Programme announcements.
 2.32 p.m.: Cheer-up Society, conducted by Frank Grose.
 3.0 p.m.: From Petersham Congregational Church, organ recital; organist, A. F. Gibbs, L.L.C.M.; vocalist, Florence Yates. Organ, "Grand Offertoire" (Batiste). Vocal, Florence Yates. Monologue, Miss Ruby Allison. Organ, "Egyptian Tone Poems" (Hall). Seasonal talk, "Retrospection and Expectation."
 Violin solo, Mr. Donald Macdonald. Organ, "Marche Militaire" (Gounod). Recitation, Miss Ruby Allison. Vocal, Miss Yates. Organ, "Egmont Overture" (Beethoven). Carols, by Girls' Choir. Cathedral chimes.
 4.30 p.m.: From the Studio: Mr. and Mrs. T. F. Faulkner, organ and contralto—
 (a) "Eloquence" (Smith).
 (b) "Sun of My Soul" (Lewis Carey).
 (c) "Mother Machree" (Ernest Ball).
 4.45 p.m.: Studio music.
 5.0 p.m.: Close down.

EVENING SESSION.

Announcer: Laurence Halbert.

- 6.0 p.m.: "Big Ben"; programme announcements.
 6.5 p.m.: C. R. Hall, "Out and About Iraq and Persia"—"The Venice of the East."
 6.30 p.m.: From Petersham Congregational Church: Organ recital, by Ambrose Gibbs. "Romance" (Tschaikowsky). "Poeme Erotique" (Varnier). "Guillaume Tell" (Rossini). "Souvenir D'Artan" (Baron). "Hymn Tunes, with Variations" (arr. A. F.



Mr. A. F. Gibbs, L.L.C.M., the organist at this afternoon's service broadcast from the Petersham Congregational Church.

Gibbs).

Cathedral chimes.

Vocal item, by Mr. John Pryor, baritone.

7.15 p.m.: Evening service, from Petersham Congregational Church, conducted by Rev. A. P. Doran.

8.35 p.m.: From the Studio: Instrumental and vocal programme, arranged by Madame Emily Marks.

10.0 p.m.: Selected record recital of world-famous artists.

10.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

11.0 a.m.: G.P.O. clock and chimes. Morning service, broadcast from Central Baptist Church, Bathurst Street, Sydney. Minister, Rev. J. Complin.

12.15 p.m.: Approx. From the Studio: "Sun" news service.

12.30 p.m.: Studio music.

2.0 p.m.: G.P.O. clock and chimes. Close down.

AFTERNOON SESSION

Announcer: J. Knight Barnett.

3.0 p.m.: G.P.O. clock and chimes. Record recital.

- 3.30 p.m.: From the Band Rotunda, Manly Beach: The Manly Municipal Military Band, conducted by Mr. James Pheloung.
 5.0 p.m.: G.P.O. clock and chimes. Close down.

EVENING SESSION

Announcer: J. Knight Barnett.

- 6.0 p.m.: G.P.O. clock and chimes. Children's session.
 6.20 p.m.: Letters and stories, conducted by Uncle Peter.
 7.0 p.m.: From St. Jude's Church, Randwick. The Evening Service, conducted by Canon W. Cakebread.
 8.30 p.m.: From the Band Rotunda, Manly Beach: The Manly Municipal Military Band, conducted by Mr. James Pheloung.
 9.30 p.m.: From the Studio: Haagen Holenbergh, pianoforte solos:
 (a) "Elegy" (Rachmaninoff).
 (b) "Impromptu in A Flat" (Schubert).
 9.37 p.m.: Stanley Catlett, tenor.
 9.44 p.m.: Haagen Holenbergh, pianoforte solos:—
 (a) "Erotikon" (Sjoegren).
 (b) "Two Caprices" (Sinding).
 9.51 p.m.: Stanley Catlett, tenor.
 9.58 p.m.: Resume of following day's programme.
 10.0 p.m.: G.P.O. clock and chimes. National Anthem. Close down.

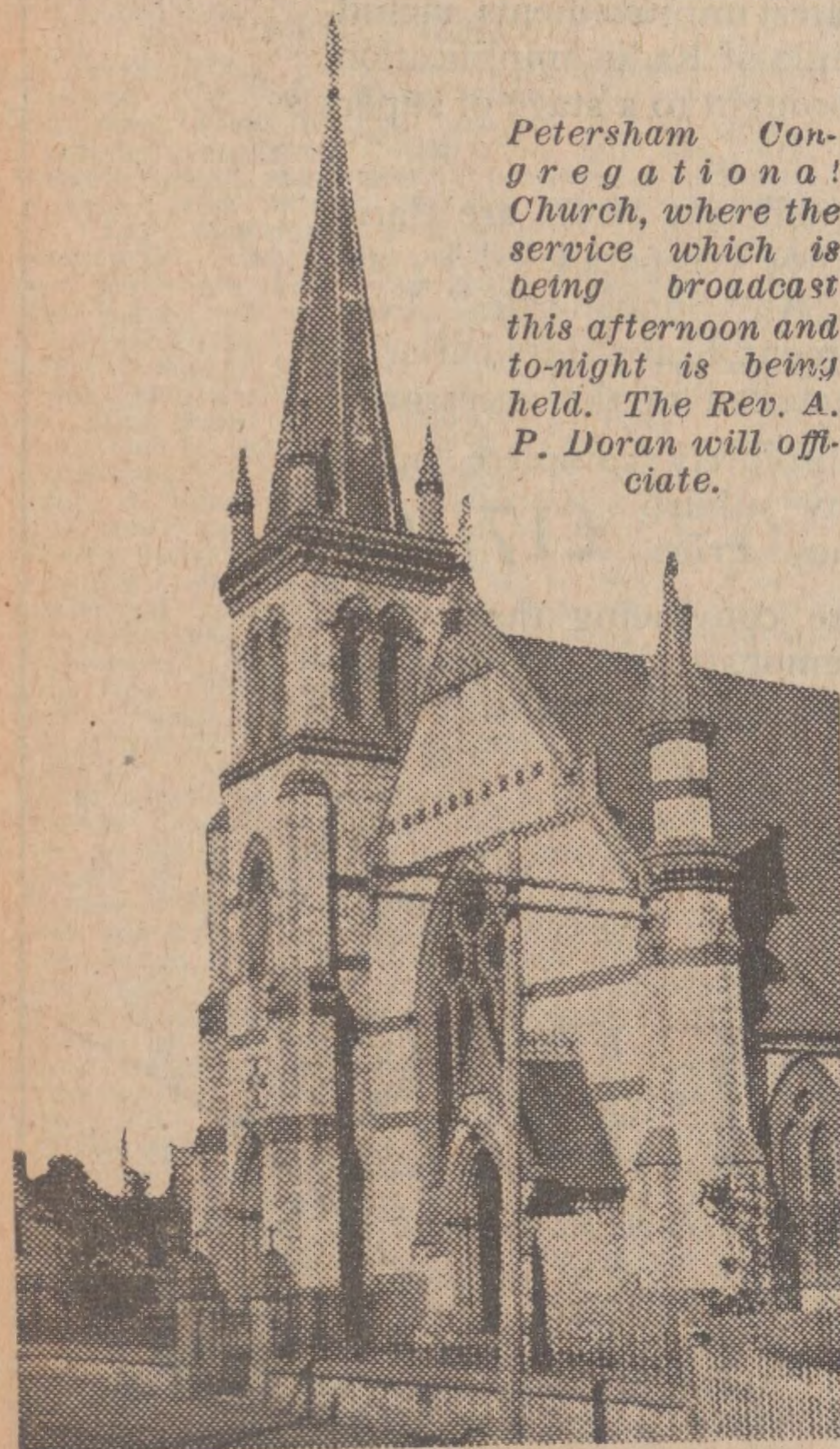
2UW

- 10.30 a.m.: Music.
 1 p.m.: Close down.
 5.30 p.m.: Children's Hour, conducted by Uncle Jack.
 6.30 p.m.: Close down.
 7.0 p.m.: Musical programme.
 10.0 p.m.: Close down.

2GB

- 10.15 a.m.: Organ music from St. Alban's Church, Redfern.
 10.30 a.m.: Morning service.
 12 (noon): Close down.
 5.30 p.m.: Children's session.
 7.0 p.m.: Lecture from Adyar Hall.
 8.0 p.m.: Sacred concert from Adyar Hall.
 10.0 p.m.: Close down.

Petersham Congregational Church, where the service which is being broadcast this afternoon and to-night is being held. The Rev. A. P. Doran will officiate.



COMING FEATURES OF THE WEEK

2FC

Fri., 4th Jan.

Sat., 5th Jan.

Sun., 6th Jan.

Tues., 8th Jan.

Wed., 9th Jan.

Thurs., 10th Jan.

Fri., 11th Jan.

Sat., 12th Jan.

TALKS

10.30: "Redgum," Gardening.

2.30: "Hello Man" talks to the children.

9.0: C. R. Hall, "The Toilers."

9.0: The Bush Parson, "Chronicles of Creamy Creek."

10.30: "Redgum," Gardening.

2BL

4.7: Captain Fred Aarons, "Peg Woffington."

11.0: G. Cooper, Gardening.

9.0: "Bringa," the Aborigines.

4.7: Captain Fred Aarons, mystery stories, "The Black Out."

9.0: C. R. Dexter, Racing.

11.0: G. Cooper, Gardening.

MUSIC — COMEDY — DRAMA

Fri., 4th Jan.

Sat., 5th Jan.

Sun., 6th Jan.

Mon., 7th Jan.

Tues., 8th Jan.

Wed., 9th Jan.

Thurs., 10th Jan.

Fri., 11th Jan.

Sat., 12th Jan.

9.10: Len Maurice and Franc Rousel.

8.0: Liverpool State Home, Hospital concert party.

9.30: Leo Darnton, tenor.

8.15: Clarice Coles, contralto.

8.12: Scott Alexander, sketches.

8.0: Classical Night, prog. arranged by Oliver King.

8.20: Eileen Boyd, contralto.

9.0: "Two Old Cronies," entertainers.

8.0: Organ Recital, Town Hall.

8.30: "The Five Bright Spirits."

8.0: King's Mandoline Orchestra.

8.30: The Empire Trio, assisted by Miss le Brun Brown.

8.15: Charles Lawrence, entertainer.

8.0: Concert Programme, Dee Why and District Choral Society.

8.30: Jack Barnett and Dorothy Dewar.

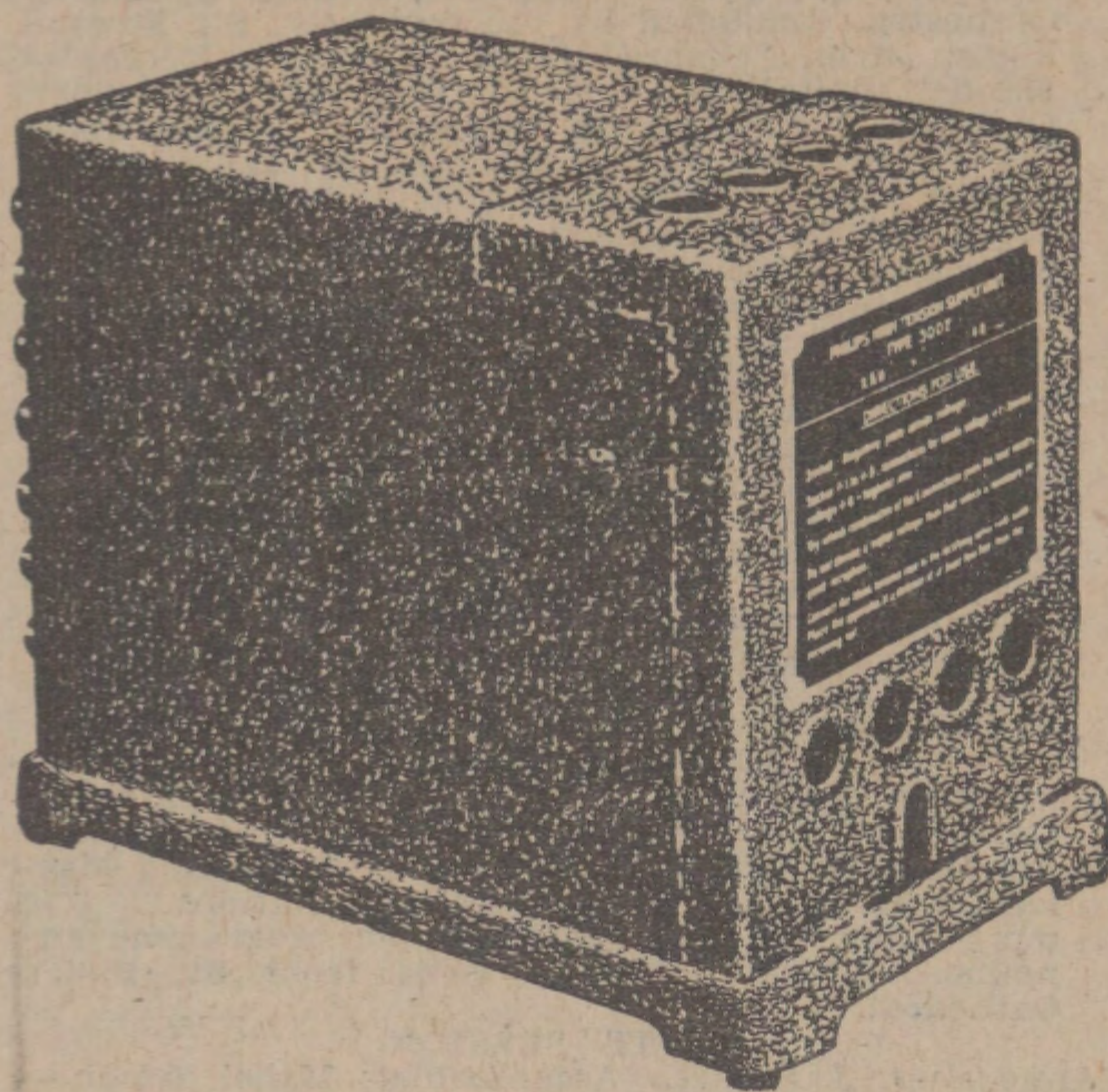
8.30: North Sydney Tramway Band.

8.30: Margaret Madden and Frances Lea, in popular melodies.

8.0: "The Merry-makers," radio revue.

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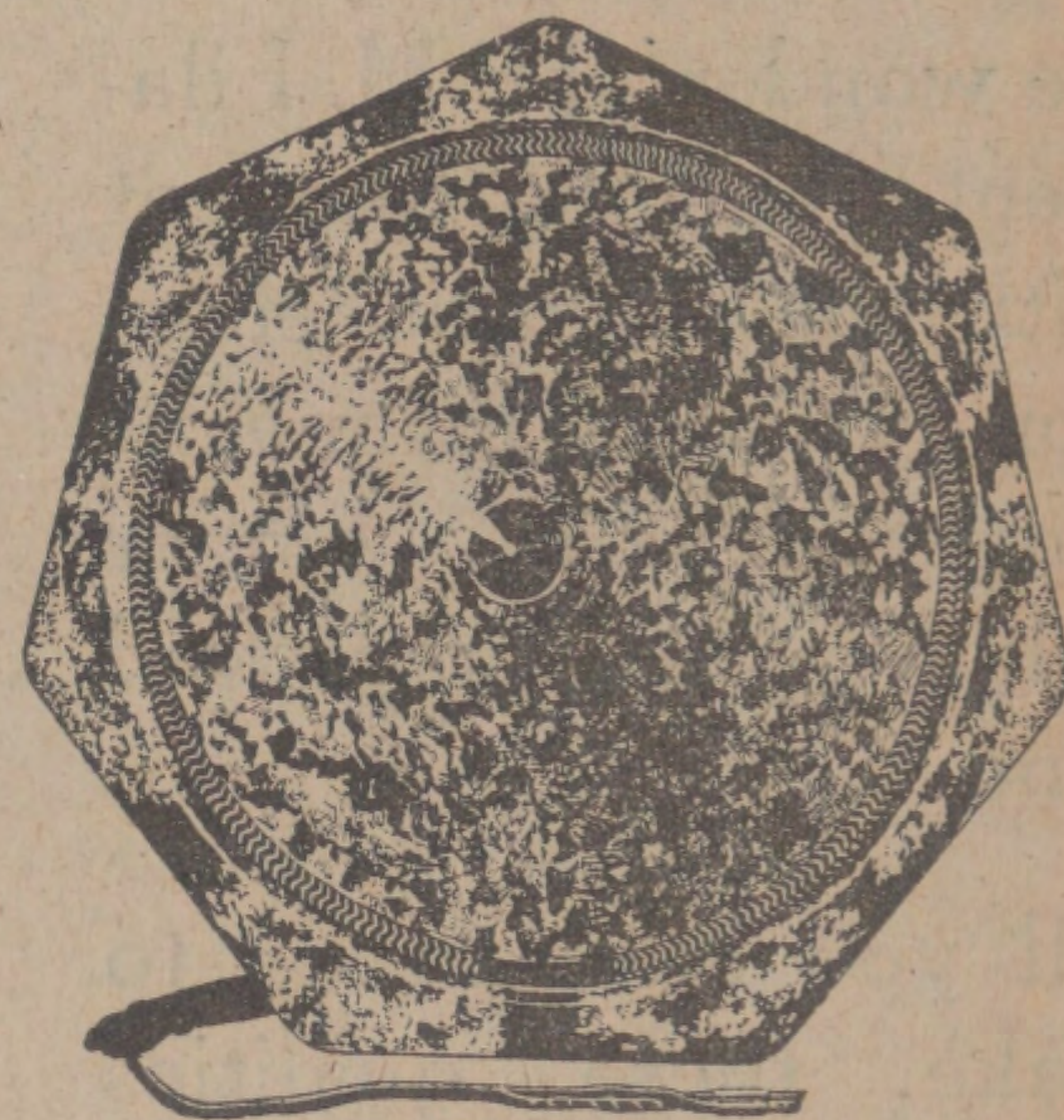
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Interstate Programmes, Sunday, December 30

3LO, MELBOURNE

MORNING SESSION.

Announcer, J. Stuart.—10.30 a.m.: Express train information. 10.31 a.m.: Bells from St. Paul's Cathedral. 10.45: Morning service from St. Paul's Cathedral, Melbourne—Matins (choral), Sentence, Exhortation, General Confession, Absolution, The Lord's Prayer, Versicles and Responses (festal), Venite, Psalms 2 and 8, First Lesson, Te Deum (Stanford in C), Second Lesson, Benedictus (Stanford in C), The Apostles' Creed, Versicles and Responses, The Collects, Carols, Prayers, Hymn (A. and M.), "Hark, the Herald Angels Sing"; Sermon—Arch-deacon Hancock; Hymn, 165, "O God, Our Help," Benediction. 12.15 p.m.: From the Studio—British Official Wireless News from Rugby; news from yesterday's papers. 12.25 p.m.: Close down.

AFTERNOON SESSION.

Announcer: J. Stuart.—Sonora recital of the world's most famous records—Orchestral: "Symphony No. 2, in A Flat, Op. 63" (Elgar), London Symphony Orchestra, conducted by the composer, Sir Edward Elgar. Aria, "Ombra Mai Fu," largo ("Xerxes"—Handel, in Italian), Enrico Caruso (the late tenor). Orchestral: "Hungarian Rhapsody," Philadelphia Symphony Orchestra, conducted by Leopold Stokowski. Song, "Notturmo d'Amore" (Love's Nocturne, Drigo, in Italian), Beniamino Gigli, tenor. Orchestral: "Lohengrin," Prelude (parts 1 and 2) (Wagner), London Symphony Orchestra, conducted by Siegfried Wagner. Pianoforte solo, "Paraphrase de Concert" ("Ugoleto," Verdi-Liszt), Alfred Cortot. 3.0 p.m.: Pleasant Sunday Afternoon, Wesley Church Central Mission, Lonsdale Street, Melbourne. Chairman, Rev. J. H. Cain. Hymn No. 34, "Jesus, Lover of My Soul"; prayer, Rev. C. Irving Benson; orchestral selection; Hymn No. 37, "Jesus, Keep Me Near the Cross"; solo, Mr. J. Alexander Browne; Orchestra; solo, Mr. J. Alexander Browne; notices, offering, Orchestra; address, Dr. A. E. Ellis, "The World Outlook"; National Anthem; Benediction; Orchestra. 4.30 p.m.: Close down.

EVENING SESSION.

Announcer: J. Stuart.—5.45 p.m.: Shipping information. 5.47 p.m.: Answers to letters and birthday greetings by "Plain Peter." 6.25 p.m.: Donald Maclean will tell you about "Good Intentions." 6.45 p.m.: Adult birthday greetings and programme announcements. 6.47 p.m.: Bells from St. Paul's Cathedral.

NIGHT SESSION.

Announcer: J. Stuart. Accompanist: Mabel Nelson.—7.0 p.m.: Evening Service from St. Paul's Cathedral, Melbourne—Evensong (choral); Hymn 62, "While Shepherds Watched"; Sentence; Exhortation; General Confession; Absolution; The Lord's Prayer; Versicles and Responses (Festal); Psalm, 90; First Lesson; Magnificat, Bridge in C; Second Lesson; Nunt Dimittis, Bridge in C; The Apostles' Creed; Versicles and Responses; The Collects and Prayers; Hymn 73, "For Try Mercy and Thy Grace"; the Sermon, The Archbishop; Hymn, 482, "Angels from the Realms of Glory"; a selection of Carols; Benedictus. 8.30 p.m.: Collingwood Citizens' Band—"Marche Brillante"; Overture, "Barber of Seville. 8.40 p.m.: Lance Fairfax, baritone (by permission of J. C. Williamson, Ltd.), will give a short recital from his repertoire. 8.47 p.m.: Collingwood Citizens' Band—Cornet Solo, "Zelda," by request; soloist, J. Robinson. 8.54 p.m.: Violet Jackson, contralto—"The Star" (Rogers), "Morning" (Speals). 9.1 p.m.: Stephanie Deste (by permission J. C. Williamson, Ltd.) will give a recital—"A Messenger to Pilate," "Rubaiyat of Omar Khayyam." 9.16 p.m.: Collingwood Citizens' Band—Selected, "Sacred Souvenir." 9.26 p.m.: Lance Fairfax, baritone, will continue his recital. 9.3 p.m.: Collingwood Citizens' Band—"Gloria, from 12th Mass" (Mozart), "Hallelujah" (Handel). 9.40 p.m.: Violet Jackson, contralto—"Life's Epitome," "The Arrow and the Song." 9.47 p.m.: Collingwood Citizens' Band—March, "Gladiator's Farewell"; hymn, "Nearer My God to Thee." 9.54 p.m.: "Argus" news session. Announcements. 9.59 p.m.: Our Great Thought for to-day is: "The greatest friend of truth is time, her greatest enemy is prejudice, and her constant companion is humility" (Colton). 10.0 p.m.: God Save the King.

3AR, MELBOURNE

Announcer: C. J. O'Connor. **MORNING SESSION.**—11.0 a.m.: Morning service from Scots Church, Collins Street, Melbourne—Hymn 477, "O God, Our Help in Ages Past"; prayer; Prose Psalm 90, "Lord, Thou Hast Been One Dwelling Place"; Old Testament Lesson; Psalm 121; Hymn 307, "For Ever with the Lord"; Prayer of Intercession; New Testament Lesson, St. Matthew 24-35-51; Anthem, "Cradled All Lowly" (Gounod); the Lord's Prayer (the congregation standing will unite); sermon, "The Threshold Tryst," Psalm 12-18; prayer, intimations, offering; Hymn 219, "The King of Love." 12.15 p.m.: Close down. **AFTERNOON SESSION.**—Announcer: C. J. O'Connor. 3.0 p.m.: Superphonic Harmonics. 4.30 p.m.: Close down. **EVENING SESSION.**—5.0 p.m.: "Brer Rabbit," a tale for the children. 5.30 p.m.: Close down. **NIGHT SESSION.**—Announcer, Frank Hatherley. Accompanist, Vera Howe. 7.0 p.m.: Superphonic Harmonics. 8.0 p.m.: Johnston's Studio Boys—March, "Elbanico," overture, "Lustpiel," march, "Anglo Oriental." 8.15 p.m.: Herbert Brown, Tenor, by permission J. C. Williamson, Ltd., "Selected." 8.22 p.m.: Johnston's Studio Boys—Selection, "Lilac Time." 8.32 p.m.: Alma Pike, Soprano—"I Will Extol Thee," Eli (Coates), "The Piper of Love" (Carew). 8.39 p.m.: Norman Farmer, Flautist—

Selected. 8.46 p.m.: A. S. Kenyon, "The Ethnology of the Australian Aboriginal." 9.1 p.m.: Johnston's Studio Boys—March, "Down Main Street," cornet solo, "Hailstorm." 9.11 p.m.: Herbert Brown, Tenor, "Selected." 9.18 p.m.: Norman Farmer, Flautist, selected. 9.25 p.m.: Alma Pike, Soprano—"At Night" (Rachmaninoff), "Sempere li bera deggio," Traviata (Verdi). 9.32 p.m.: Johnston's Studio Boys—March, sacred, "Hail the Lord King!"; euphonium solo, "Simple Aveu" (Beethoven), "Minuet in G." **NEWS SESSION.**—9.47 hoven), "Minuet in G." 9.47 p.m.: News session—"Age" news; announcements. 9.58 p.m.: Our Australian Good Night Quotation. 10.0 p.m.: God Save the King.

4QG, BRISBANE

MORNING SESSION.—11 a.m.: Morning service from St. Stephen's. 12.15 p.m.: Close down. **AFTERNOON SESSION.**—3.15 p.m.: Band concert. 4.30 p.m.: Close down. **EARLY EVENING SESSION.**—6.30 p.m.: A session for little listeners. Greetings and replies to letters. **NIGHT SESSION.**—7.30 p.m.: Evening service from St. Stephen's Cathedral. At the conclusion of the church service the concert by the Brisbane Municipal Concert Band will be relayed from Wickham Park. 9.30 p.m.: Close down.

6WF, PERTH

10.25 a.m.: Tune in. 10.30 a.m.: Special half-hour for the enthusiastic listener. 11 a.m.: Morning service relayed from St. George's Cathedral, Perth. 12.15 p.m.: Close down. 3.30 p.m.: Tune in. 3.35 p.m.: Musical programme from the studio, including vocal and instrumental artists. 4.30 p.m.: Close down. 7 p.m.: Tune in. 7.5 p.m.: Children's bedtime stories by Mr. Robert Edmondson. 7.30 p.m.: Evening service relayed from Museum Street Baptist Church, Perth. 8.45 p.m.: Concert by the Perth City Band, conducted by Mr. L. M. Price, and items by vocal assisting artists, relayed from Government Gardens, Perth. 10.5 p.m.: Close down. 104.5-Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 7 p.m.

7ZL, HOBART

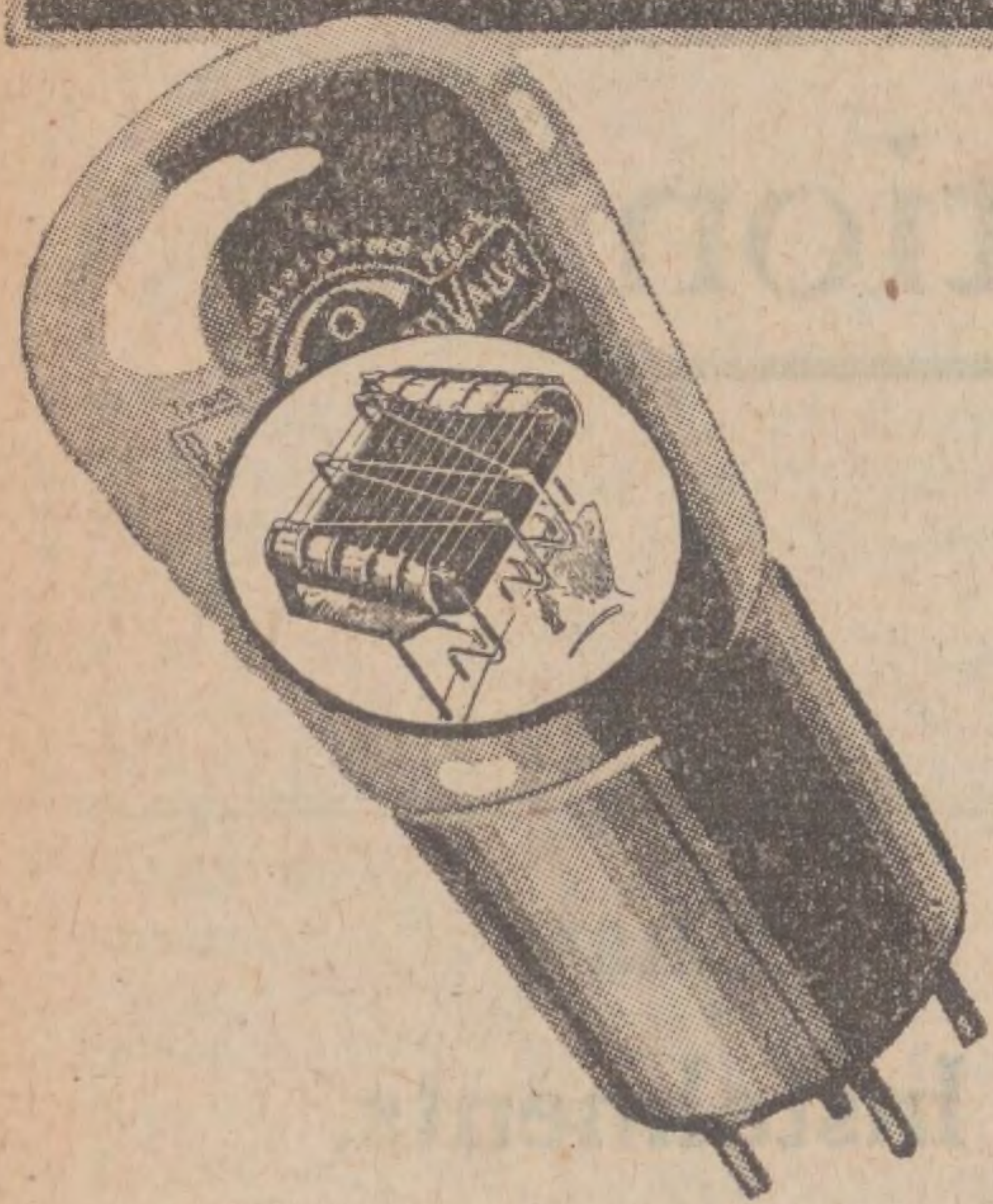
Sunday, December 30.

MORNING SESSION.—10.45 a.m.: Bells from Trinity Church, Hobart. 11.0 a.m.: Transmission from Memorial Congregational Church, Brisbane Street, Hobart. 12.30 p.m.: Close down. **AFTERNOON SESSION.**—(Announcer: J. M. Counsel.) 3.30 p.m.: G.P.O. chimes the hour. 3.31 p.m.: Transmission from the Beaumaris Zoo, Hobart. A Band concert by the Municipal Band. (Conductor, L. M. Barnett). 4.30 p.m.: Close down. **EARLY EVENING SESSION.**—6.15 p.m.: Chorus singing (Conductor, Trevor M. Morris, of Children's Special Service Mission). 6.45 p.m.: Bertha Southey Brammall, will read poems to the children. 6.55 p.m.: Mlle. Columbia broadcasts. **EVENING SESSION.**—(Announcer: J. M. Counsel.) 7.0 p.m.: Transmission from Chalmers Methodist Church, Bathurst Street, Hobart. 8.27 p.m.: Transmission from St. David's Park, Davey Street, Hobart. A Band concert. 9.40 p.m.: From the Studio: News session. "Mercury" special news service; Ships within wireless range; weather information; British official wireless news; English affairs and news. 9.50 p.m.: Our Tasmanian good-night thought. God Save the King. Close down.

2GB, MONDAY.

10.0 a.m.: Music.
10.10 a.m.: Happiness talk by A. E. Bennett.
10.20 a.m.: Music.
10.30 a.m.: Women's session by Miss Helen J. Beegling.
11.30 a.m.: Close down.
2.0 p.m. Music.
2.5 p.m.: Women's Radio Service by Mrs. Dorothy Jordan.
2.50 p.m.: Music.
3.0 p.m.: Talk.
3.15 p.m.: Close down.
5.30 p.m.: Children's session by "Uncle George."
7.0 p.m.: Stock and market reports by New Zealand Loan and Mercantile Agency, Limited.
7.15 p.m.: Music.
8.0 p.m.: Sid and Molly Owen and Joyce Slatyer, instrumentalists.
8.15 p.m.: Songs by Mr. Robert Scott.
8.25 p.m.: Items by the Newtown Band (conductor, Mr. C. Bignall).
8.0 p.m.: Weather report and address.
9.15 p.m.: Sid and Molly Owen and Joyce Slatyer.
9.30 p.m.: Songs by Mr. Robert Scott.
9.40 p.m.: Items by the Newtown Band.
10.10 p.m.: Orchestral items.
10.30 p.m.: Close down.

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Local Programmes for Monday, December 31

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

- 7.0 a.m.: "Big Ben" and announcements.
- 7.2 a.m.: Official weather forecast; rainfall, river reports; temperatures; astronomical memoranda.
- 7.7 a.m.: "Sydney Morning Herald" summary.
- 7.12 a.m.: Shipping intelligence; mail services.
- 7.15 a.m.: Studio music.
- 7.25 a.m.: Investment market; mining share markets; metal quotations; wool sales; breadstuffs markets; inter-State markets; produce markets.
- 7.40 a.m.: Studio music.
- 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0 a.m.: "Big Ben" and announcements.
- 10.2 a.m.: Pianoforte selection.
- 10.10 a.m.: "Sydney Morning Herald" news service.
- 10.25 a.m.: Studio music.
- 10.30 a.m.: A talk by the 2FC Racing Commissioner.
- 10.45 a.m.: A talk on Home Cooking, and recipes by Miss Ruth Furst.
- 11.0 a.m.: "Big Ben"; A.P.A. and Reuter's cable services.
- 11.0 a.m.: Close down.

MID-DAY SESSION.

Announcer: A. S. Cochrane.

- 12.0 Noon: "Big Ben" and announcements.
- 12.1 p.m.: Stock Exchange, first call.
- 12.3 p.m.: Official weather forecast; rainfall.
- 12.5 p.m.: Studio music.
- 12.10 p.m.: Summary of news, "Sydney Morning Herald."
- 12.15 p.m.: Rugby wireless news.
- 12.18 p.m.: Lunch-time chatter, by "Pandora."
- 12.30 p.m.: Studio music.
- 12.45 p.m.: Cricket scores, third Test match, at Melbourne.
- 1.0 p.m.: "Big Ben"; weather intelligence.
- 1.3 p.m.: "Evening News" mid-day news service.
- Producers' Distributing Society's report.
- 1.20 p.m.: Studio music.
- 1.28 p.m.: Stock Exchange, second call.
- 1.35 p.m.: Popular studio music.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

- 2.30 p.m.: Programme announcements.
- 2.32 p.m.: Recital of selected records of world-famous artists.
- 2.35 p.m.: Miss B. Macaulay will continue her series of talks—"Your Son."
- 3.0 p.m.: "Big Ben." From Christ Church St. Laurence: Organ recital, by Christian Hellemann.
- 3.20 p.m.: From the Studio: Anne Luciano, soprano.
- 3.26 p.m.: Ewart Chapple, piano solos.
- 3.32 p.m.: From the Wentworth—The Wentworth Cafe Dance Orchestra, conducted by Jimmy Elkins.
- 3.46 p.m.: From the Studio: Cricket scores.
- 3.41 p.m.: From Christ Church St. Laurence: Organ recital, by Christian Hellemann.
- 4.0 p.m.: "Big Ben." Anne Luciano, soprano.
- 4.6 p.m.: Ewart Chapple, piano solos.
- 4.13 p.m.: Popular studio music.
- 4.20 p.m.: From Christ Church St. Laurence: Organ recital, by Christian Hellemann.
- 4.40 p.m.: From the Studio: Cricket scores.
- 4.41 p.m.: Studio music.
- 4.45 p.m.: Third call, Stock Exchange.
- 4.47 p.m.: Popular studio music.
- 5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

- 5.46 p.m.: The Chimes of 2FC.

- 5.45 p.m.: The children's session, conducted by the Hello Man—
Letters and stories.
Music and entertainment.
- 6.30 p.m.: Dalgety's market reports (wool, wheat, and stock).
- 6.40 p.m.: Fruit and vegetable market report.
- 6.43 p.m.: Stock Exchange information.
- 6.45 p.m.: Weather and shipping news.
- 6.48 p.m.: Rugby wireless news.
- 6.50 p.m.: Late sporting news.
- 7.0 p.m.: "Big Ben." Late news service.
- 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats—
(a) "Cafe Chantant" (Fletcher).
(b) Suite, "Intermezzi" (Rosse).
(c) "Vision Orientale" (Becce).
(d) "The Daughter of the Regiment" (Donizetti).
(e) "An Eastern Romance" (Haines).

EVENING SESSION.

Announcer: Laurence Halbert.

- 7.40 p.m.: Programme announcements.
- 7.47 p.m.: Pianoforte reproduction.
- 7.52 p.m.: Cricket results for country listeners. Popular music.
- 8.0 p.m.: "Big Ben." New Year's Eve. Studio Re-union.
On this evening the artists of 2FC foregather at the Studio to renew old and pleasant associations. Each artist contributes an item to the programme, and after the Watchnight Service, broadcast from the Lyceum, the bells of the War Memorial Carillon, at the University, Sydney, will ring out at midnight a glad message of goodwill to our listeners.

2BL

MORNING SESSION

Announcer: Basil Kirke.

- 8.0 a.m.: G.P.O. clock and chimes.
Metropolitan weather report.
- 8.1 a.m.: State weather report.
- 8.2 a.m.: Studio music.
- 8.15 a.m.: G.P.O. clock and chimes.
News service from the "Daily Telegraph Pictorial."
- 8.25 a.m.: Studio music.
- 8.35 a.m.: Information; mails; shipping arrivals, departures, and sailings.
- 8.38 a.m.: News from the "Daily Telegraph Pictorial."
- 8.45 a.m.: G.P.O. chimes.
Studio music.
- 9.0 a.m.: G.P.O. clock and chimes.
- 9.30 a.m.: Half an hour with silent friends.
- 10.0 a.m.: G.P.O. clock and chimes.
Close down.

MID-DAY SESSION

Announcer: Basil Kirke.

- 11.0 a.m.: G.P.O. clock and chimes.
2BL Women's Sports Association session, conducted by Miss Gwen Varley.
- 11.30 a.m.: Advertising hints.
- 11.40 a.m.: Women's session, conducted by Mrs. Cranfield.
- 12.0 Noon: G.P.O. clock and chimes.
Special ocean forecast and weather report.
- 12.3 p.m.: Studio music.
- 12.30 p.m.: Shipping and mails.
- 12.35 p.m.: Market reports.
- 12.45 p.m.: Cricket scores, Third Test, at Melbourne.
- 12.48 p.m.: "Sun" mid-day news service.
- 1.0 p.m.: Studio music.
- 1.30 p.m.: Talk to children, and special entertainment for children in hospital.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: G.P.O. clock and chimes.
Close down.

AFTERNOON SESSION

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

- 3.45 p.m.: G.P.O. chimes. Cricket scores.
- 3.47 p.m.: Popular music.
- 3.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.0 p.m.: From the Studio—
G.P.O. clock and chimes.
Molly Long, contralto—
(a) "The Curtain Falls" (D'Hardelot).
(b) "A Little Coon's Prayer" (Hope).
- 4.7 p.m.: Captain Fred Aarons—
Women of other days—"Catherine di Medici."
- 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30 p.m.: From the Studio—Cricket scores.
- 4.32 p.m.: Millie Hansen, soprano.
- 4.39 p.m.: Zilata Kalmikoff, 'Cellist—
(a) "Berceuse" (Godard).
(b) "Le Cygne" (Saint Saens).
- 4.46 p.m.: "Sun" news service.
- 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 5.0 p.m.: G.P.O. clock and chimes.
From the Studio: Millie Hansen, soprano.
- 5.7 p.m.: Zilata Kalmikoff, 'Cellist—
(a) "Solveig's Song" (Grieg).
(b) "Romance" (Wagner).
- 5.14 p.m.: "Sun" news service.
- 5.20 p.m.: Pianoforte reproduction.
- 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION

Announcer: J. Knight Barnett.

- 5.40 p.m.: Children's session.
Music and entertainment.
- 6.0 p.m.: Letters and stories.
- 6.30 p.m.: "Sun" news and late sporting.
- 6.40 p.m.: 2BL Dinner Quartette—
(a) "The Prince of Pilsen" (Luders).
(b) "Andalusian Serenade" (Ellenberg).
(c) "Dreams" (Wagner).
(d) "Valse Lyrique" (Sibelius).
(e) "Wonder Eyes" (Clarke).
- 7.10 p.m.: Cricket scores.
- 7.12 p.m.: Australian Mercantile Land and Finance Co.'s report.
Weather report and forecast, by courtesy of Government Meteorologist.
Producers' Distributing Society's fruit and vegetable market report.
Grain and fodder report ("Sun").
Dairy produce report ("Sun").
- 7.25 p.m.: Mr. Pim and Miss Pam, in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.

EVENING SESSION

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8.0 p.m.: G.P.O. clock and chimes.
From King's Cross Theatre: The King's Cross Orchestra, under the direction of E. J. Roberts. At the Wurlitzer organ, M. Joseph Wayne.
- 8.20 p.m.: From the Studio—
A Scottish Hour—The story of Scottish tradition, and the famous "Heart of Midlothian," told by W. S. Reya.
A skirl of the pipes, from Piper M'Kay.
A breath o' the heather in solos by—
Camille Alder, soprano.
Amy Ostinga, contralto—
(a) "Hail Caledonia" (Stroud).
(b) "The Wee Hoose 'Mang the Heather" (Lauder).
(c) "Where Hath Scotland Found Her Fame" (Murdoch).
(d) "Ring Out, Wild Bells."
- 9.19 p.m.: Weather report and forecast.
- 9.20 p.m.: The Savoyans Dance Band.
- 9.35 p.m.: Graham and Manning, entertainers—
(a) "Won't I Do?" (Russell).
(b) "Hello, Springtime" (Stamper).
Dorothy Manning.

(Continued on Page 35.)

Interstate Programmes, Monday, December 31

3LO, MELBOURNE

EARLY MORNING SESSION.

7.15 a.m.: Express train information. 7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports. Market reports. General news. Shipping. Sporting information. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

10.50 a.m.: Eric Welch will speak on to-morrow's races at Flemington. 11.0 a.m.: Sonora Recital of the world's most famous records. 12 noon: Description of Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 1.30 p.m.: Mr. M. A. Noble, former international cricketer, will comment from the M.C.C. on the play in the Third Test Match. 1.40 p.m.: Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecasts. River reports. Stock Exchange information. Newmarket stock sales. Special report by John M'Namara and Co. 1.55 p.m.: Close down.

AFTERNOON SESSION.

2.15 p.m.: Description of Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 4.0 p.m.: Mr. M. A. Noble, former international cricketer, will comment from the M.C.C. on the play in the Third Test Match. 4.10 p.m.: Sonora recital. 5.0 p.m.: "Herald" News Service. Stock Exchange information. 5.10 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 6.0 p.m.: Stumps scores.

EVENING SESSION.

Announcer: Frank Hatherley.—6.5 p.m.: Answers to letters and birthday greetings by "Bobby Blue-gum." 6.30 p.m.: Musical interlude. 6.35 p.m.: Capt. Donald MacLean will tell you another of his thrilling pirate stories. 6.50 p.m.: "Bobby Blue-gum" has a New Year's Eve Story for you.

NIGHT SESSION.

7.5 p.m.: Stock Exchange information. 7.15 p.m.: Special report of John M'Namara and Co. Official report of the Newmarket Stock Sales by the Associated Stock and Station Agents, Bourke Street, Melbourne. Fish market reports by J. R. Borrett, Ltd. Rabbit prices. River reports. Market reports by the Victorian Producers' Co-operative Co., Ltd. Poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions. Market reports of fruit by the Victorian Fruitellers' Association. Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.30 p.m.: News session. Stumps scores. Third Test Match, England v. Australia, at M.C.C., also Sheffield Shield Match, New South Wales v. Queensland, at Sydney. 7.45 p.m.: Birthday greetings. 7.48 a.m.: Programme announcements. 7.50 p.m.: Mr. M. A. Noble, former international cricketer, will comment on the play in the Third Test Match. New Year's Eve Dance. 8.1 p.m.: The Radi-o-aces—"The Loyal Legion" (Sousa), "Ready for the River" (Moret), "That's My Mammy" (Donaldson). 8.10 p.m.: Syd. Hollister, comedian—"New Year Resolutions." 8.13 p.m.: The Radi-o-aces—"In a Honeymoon Cottage" (Lumsdaine), "Do You" (Plantadosi), "High Up on a Hilltop" (Baer). 8.22 p.m.: Violet Jackson, contralto—"Hatfield Bells" (Easthope Martin). 8.25 p.m.: The Radi-o-aces—"Why Can't You Care?" (Gilbert), "How Long Has This Been Going On?" (Welding), "It Don't Do Nothin' But Rain" (Cook). 8.34 p.m.: Keith Desmond, elocutionist, will give a short recital. 8.37 p.m.: The Radi-o-aces—"You're a Real Good Sweetheart" (Friend), "Dusky Stevedore" (Raz-alf), "Beside a Lazy Stream" (Stout). 8.46 p.m.: J. Alexander Browne, baritone—"For You Alone" (Goehl). 8.49 p.m.: The Radi-o-aces—"Cinnamon Cake" (Bernard), "Paradise" (Zamienek), "Afraid" (Barnie). 8.58 p.m.: Syd. Hollister, comedian. 9.1 p.m.: The Radi-o-aces—"Evening Star" (Turk), "You are Wonderful" (Ash), "Just Like a Melody Out of the Sky" (Donaldson). 9.10 p.m.: Violet Jackson, contralto—"Pack and Penny Day" (Easthope Martin). 9.13 p.m.: The Radi-o-aces—"Chiquita" (Wayne), "Hot Ivories" (Sinastra), "There Ought to be a Law Against That" (Friend). 9.22 p.m.: Keith Desmond, elocutionist, will give a short recital. 9.25 p.m.: The Radi-o-aces—"Oh, Ya Ya" (Frich), "Rain" (Ruby), "Mine, All Mine" (Ruby). 9.34 p.m.: J. Alexander Browne, baritone—"Thank God for a Garden" (Del Riego). 9.37 p.m.: The Radi-o-aces—"My Blackbirds are Blue Birds Now" (Friend), "Dream House" (Foxe), "Gotta Big Date with a Little Girl" (Tobias). 9.46 p.m.: Syd. Hollister, comedian—"Radiostories." 9.49 p.m.: The Radi-o-aces—"Constantinople" (Carlton), "Beautiful" (Gillespie), "The Dance of the Blue Danube" (Fisher). 9.58 p.m.: Hand Bell Ringing by the St. Paul's Society of Ringers—"The Ash-Grove," with variations, "Home, Sweet Home," with variations, "La Sarabande" (Spanish Waltz). 10.8 p.m.: "Argus" News Session. Eric Welch's selections for to-morrow's V.R.C. Races at Flemington. Meteorological information. Announcements. 10.18 p.m.: The Radi-o-aces—"Minnetonka" (Wallace), "Just Keep Singing a Song" (Sissell), "Is It Gonna Be Long?" (Whiting). 10.27 p.m.: Violet Jackson, contralto—"The Fairy Pipers." 10.30 p.m.: The Radi-o-aces—"It Goes Like This" (Caesar), "Roses of Yesterday" (Berlin), "Lolita" (Stonham). 10.39 p.m.: Keith Desmond, elocutionist, will give a short recital. 10.42 p.m.: The Radi-o-aces—"That's My Weakness Now" (Stept), "Get Out and Get Under the Moon" (Tobias), "In a Bamboo Garden" (Donaldson). 10.51 p.m.: J. Alexander Browne, baritone—"Red Devon" (Clarke). 10.54 p.m.: The Radi-o-aces—"Anything You Say" (Donaldson), "Alabama Stamp" (Creamer), "One Alone" (Romberg). 11.3 p.m.: Syd. Hollister, comedian—Will help the Old Year out. 11.6 p.m.: Our Great Thought for to-day. 11.7 p.m.: The Radi-o-aces—"The Desert Song" (Romberg), "Wabaly Walk" (Green), "Because My Baby Don't Mean Maybe

Now" (Donaldson), "Chloe" (Moret), request numbers. Welcome, 1929. 12 (midnight): The Bells from St. Paul's Cathedral will ring the New Year in. New Year Greetings from 3LO to all listeners. "Auld Lang Syne."

3AR, MELBOURNE

Announcer: C. M. Hosking. 10 a.m.: G.P.O. Clock says "Ten." 10.1 a.m.: "Age" market reports, farm and station produce, fruit, fish, vegetables, etc. "Age" shipping reports; ocean forecast; mail notices; express train information; weather forecast. **MORNING MUSICAL SESSION.** 11 a.m.: Ned Tyrrell's Radi-o-Aces—"Chiquita" (Wayne), "Dream House" (Fox), "Jeannine" (Gilberts), "Got a big date with a little girl" (Tobias), "Sunshine" (Berlin), "A Stolen Melody" (Fisher). 11.20 a.m.: Superphonic Harmonics. 11.27 a.m.: Ned Tyrrell's Radi-o-aces—"Please tell me" (Miller), "Adoree" (Silver), "You're in Love, I'm in Love" (Donaldson), "Never before, never again" (Chik), "Laugh, clown laugh" (Young), "Sticky Paws" (Andrina). 11.47 a.m.: Superphonic Harmonics. **NEWS SESSION.** 12 noon: Express trains information; British official wireless news from Rugby; Reuter's and the Australian Press Association cables; "Argus" news service; announcements. 12.20 p.m.: Community singing, transmission from the King's Theatre, Melbourne, conducted by J. G. Mackay. 1.45 p.m.: Close down. **AFTERNOON SESSION.** (Announcer: C. M. Hosking. Accompanist: Reg. Brown.) 2.15 p.m.: The Station Orchestra, selected. 2.30 p.m.: Syd. Hollister will entertain you with selections from his repertoire. 2.37 p.m.: The Station Orchestra—"Serenade" (Saint Saens), "March Minature" (Jacobi), 2.47 p.m.: Senia Chostakoff, tenor "A Legend" (Tschaiakowsky), "Slumber Song" (Gretchaninoff). 2.45 p.m.: The Station Orchestra—Second Suite, "Ballet Egyptian" (Luigini), "Pierrot" (Speciale), "Berceuse" (Jarnfeldt). 3.11 p.m.: Keith Desmond, elocutionist, "Desultory Digressions." 3.18 p.m.: Viva Holgate Clarke, piano—"Prelude and Fugue in C minor" (Bach), "Fantasie, op. 49" (Chopin). 3.34 p.m.: Announcements. 3.39 p.m.: The Station Orchestra—"Liebesfreud" (Kreisler), "At Dawning" (Cadman), "Romance" (Popper). 3.49 p.m.: Syd. Hollister, more selections from his repertoire. 3.56 p.m.: The Station Orchestra, selection, "Opernball" (Bellini). 4.6 p.m.: Senia Chostakoff, tenor, Two Russian Folk Songs. 4.13 p.m.: The Station Orchestra, string quartet, "Minuetto and Last Movement" (Haydn). 4.23 p.m.: Keith Desmond, elocutionist, "Diversified Ditties." 4.30 p.m.: Bertha Jorgensen, violin. Slow movement Tschai-kowsky Concerto. 4.37 p.m.: Announcements. 4.42 p.m.: The Station Orchestra, Fantasia, "Im Zeichen" (Suppe), "Bacchanale" (Saint Saens). 5 p.m.: Close down. **EVENING SESSION.** Announcer: Frank Hatherley. 6 p.m.: Superphonic Harmonics. 7.50 p.m.: Results of cricket match.—**NIGHT SESSION.** 8 p.m.: E. C. H. Taylor, "School Life and School Sport." 8.15 p.m.: A talk under the auspices of the League of Nations' Association. 8.30: J. G. Pyke, "Esperanto." 8.40 p.m.: The Station Orchestra, Selected. 8.55 p.m.: Bessie Martin, soprano, "My Land" (Allen), "Charlie is My Darling" (Gray-Novello Edition). 9.2 p.m.: Gertrude Armstrong, "The Lassie frae Glascoe." 9.7 p.m.: J. Harcourt Bailey, entertainer, Tit Bits of Humor. Selected. 9.14 p.m.: The Station Orchestra, selection, "The Thistle." 9.24 p.m.: T. James Lloyd, tenor, "Loch Lomond" (Arr. by Fritz Kreisler), "Mary of Argyll" (Melody S. Nelson). 9.31 p.m.: The Station Orchestra, "Scottish Symphonic Dances" (Wright). 9.41 p.m.: Bessie Martin, soprano, "Loch Leven" (Russell), "The Lilac Cotton Gown" (Foster). 9.48 p.m.: Gertrude Armstrong, "The Lassie frae Glascoe." 9.53 p.m.: J. Harcourt Bailey, entertainer, "A Scotch Night" (Ogilvie). 10 p.m.: The Station Orchestra, "Scottish Serenade" (Stephen), "Wee Macgregor" (Ames). 10.10 p.m.: T. James Lloyd, tenor, "Annie Laurie" (Melody Lady Scott), "Mary" (Richardson). 10.27: "Age" news service, exclusive to 3AR; results of cricket match; acceptances for Wednesday's races at Mentone. 10.30: Our Australian Good Night Quotation. God Save the King.

4QG, BRISBANE

EARLY MORNING SESSION.—(Announcer: T. Tyson.) 7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down. **MORNING SESSION.**—(Announcer: Con Archdall.) 11.0 a.m.: Music. 11.5 a.m.: Social news. 11.15 a.m.: Lecturette, "A Trip to Melbourne and Back." Part 2, by "Traveller." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Music. 12.0 (noon): Close down. **MIDDAY SESSION.**—(Announcer: R. Wight.) 1.0 p.m.: Market reports and weather information. 1.20 p.m.: Lunch-hour music. 1.58 p.m.: Time signals. 2.0 p.m.: Close down. **AFTERNOON SESSION.**—(Announcer: H. Humphreys.) 3.0 p.m.: Orchestral music by the Tivoli Operatic Orchestra, under the baton of Mr. C. Groves. 3.30 p.m.: Mail train running times; a programme of electrically-reproduced records. 4.0 p.m.: Orchestral music. 4.15 p.m.: Afternoon news. 4.30 p.m.: Close down. **EARLY EVENING SESSION.**—Announcers: A. Wight and H. Humphreys. 6.0 p.m.: Mail train running times; mail information; shipping news. 6.5 p.m.: Dinner music. 6.25 p.m.: Commercial announcements. 6.30 p.m.: Bed-time stories, conducted by "The Sandman." 7.0 p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette, "The Children's Music Corner," conducted by "The Music Man." **NIGHT SESSION.**—(Announcers: H. Humphreys and A. V. James.) 8.0 p.m.: From the studio, Vera Parker (contralto), "Dear Homeland" (Slaughter), "Sweet and Low" (Wallace); Jack Land (tenor), "The Romany Lass" (Adams), "Oft in the Silly Night." Part song, "Ring Out,

Wild Bells" (Fletcher). Jill Manners (soprano). "Little Lady of the Moon" (Coates); Jack Atkinson (baritone), "The Crown of the Year" (Martin), "Youth" (Allitsen); part song, "The Village Blacksmith"; Jill Manners and Jack Atkinson, "Night of Stars, Night of Love" (Offenbach); Linda Buchanan (contralto), "The Carnival" (Mol-ley; carol, "Christmas and New Year Bells" (Nicholls); John Steele (tenor), "I'll Sing Thee Songs of Araby" (Clay); Pat M'Onigly (soprano), "The Enchanted Forest" (Phillips), "Wondering Why" (Clarke); part song, "Rolling Down to Rio" (German). 9.0 p.m.: Metropolitan weather forecast. 9.1 p.m.: The state of the roads for holiday motoring, information officially supplied by the Royal Automobile Club of Queensland. 9.10 p.m.: From the Wynnum Bowl House, a New Year's Eve entertainment arranged by the Wynnum Bowling Club (president, Mr. F. J. Uhlman). 10.30 p.m.: From the studio, the Studio Orchestra (conductor, A. R. Featherstone), "Liebestraum" (Liszt). 10.36 p.m.: Claude Walker, ten minutes with Henry Lawson. 10.46 p.m.: Rhoda Husband (soprano), "Macushla" (Rowe). 10.50 p.m.: The Orpheans (conductor, Tom L. Muller), "My Distant Love" (Schubert). 10.54 p.m.: Kenyon (the entertainer), ten minutes' fun. 11.0 p.m.: Mary L. Spanjer and Mrs. Debnam, vocal duets, "Twelve, Sang the Clock." 11.4 p.m.: The Studio Orchestra, one-step, "Some Shape" (Cobb). 11.10 p.m.: The Orpheans, octette, "Down by Dat Ribber" (Scott Gatty) octette, "Kentucky Babe" (Anon). 11.20 p.m.: Helen Post-Mason (soubrette), selected items. 11.25 p.m.: Tom Muller (elocutionist), "The Woman Who Smiles." 11.30 p.m.: George Williamson (tenor) and J. P. Cornwell (bass), vocal duet, "The Fisherman" (Gabussy). 11.34 p.m.: The Orpheans, octette, "Rio Nights" (Vincent). Soloist: Ray Bruce. 11.40 p.m.: The Studio Orchestra, march, "The Get Away" (Cobb). 11.45 p.m.: F. Crane, E. Muller, and J. P. Cornwell, vocal trio, "Uncle Ned" (Foster). 11.50 p.m.: Ray Bruce (tenor), "Till the Sands of the Desert Grow Cold" (Ball). 11.55 p.m.: The Orpheans, octette, "Cain't you hear me Callin' Caroline" (Rowe). 12.0 midnight: "The More We Are Together the Merrier." Close down.

6WF, PERTH

Commencing from noon, progress results will be broadcast every half-hour of the Third Test Match between the Australian eleven and English eleven, played at Melbourne. 12.5 p.m.: Musical programme from the studio, including vocal and instrumental artists. 12.35 p.m.: Local news bulletin, etc. 1 p.m.: Time signal. 1.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia. 1.2 p.m.: Close down. 3 p.m.: Further results of the third Test Match. 3.35 p.m.: Musical programme from the studio, including vocal and instrumental artists. 5 p.m.: Final results of the third Test Match. 5.5 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: Stories for the kiddies. 7.5 p.m.: Items by the studio trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Talk by Lieutenant-Colonel Le Socuf, Director of the Zoological Gardens, South Perth. 8 p.m.: Time signal. 8.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements, such as alterations to programmes, etc. 8.3 p.m.: Concert by the R.S.L. Band. 9 p.m.: Late news items by courtesy of "The Daily News" Newspaper Co.; ships within range announcement; weather report and forecast; station announcements. 10.30 p.m.: Close down. 10.45-Metre Transmission: Simultaneous broadcast on 10.45 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

MIDDAY SESSION.—(Announcer: Jack Broadbent.) 11.30 a.m.: H.M.V. in moments merry and musical. 11.34 a.m.: Special Midlands weather forecast. 11.35 a.m.: H.M.V. in moments merry and musical. 11.55 a.m.: Tasmanian Station's 9 a.m. weather report. 12.0 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; commercial news. 12.8 p.m.: H.M.V. in moments merry and musical. 12.11 p.m.: British official wireless news. 12.20 p.m.: H.M.V. in moments merry and musical. 12.29 p.m.: Announcements. 12.33 p.m.: H.M.V. in moments merry and musical. 12.55 p.m.: "Mer-cury" news service; produce sales held at railway. 1.10 p.m.: H.M.V. in moments merry and musical. 1.30 p.m.: Close down. **AFTERNOON SESSION.**—3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: H.M.V. in moments merry and musical. 3.4 p.m.: Weather information. 3.5 p.m.: H.M.V. in moments merry and musical. 3.15 p.m.: A musical comedy programme by the Discus Ensemble. Grenadier Guards Band, selection, "Tom Jones." Parts 1 and 2 (German); Daily's Theatre Orchestra, selections, "Madame Pompadour" (Graham); Duet, Evelyn Layes (soprano), Derick Oldham (baritone), "Love Me Now," "Serenade"; Paul Whiteman and his Orchestra, "Merry Widow," "My Hero"—The Chocolate Soldier (Strauss); James Liddy (tenor), selection, "The Student Prince" "Memories" (Donnelly); Drury Lane Theatre Orchestra, selection, "Rose Marie," Parts 1 and 2 (Rimmi); James Liddy and Elsie Gergly, selection, "Deep in My Heart"; The Silver Stars Band, selection, "The Mikado," Parts 1 and 2 (Sullivan); Rena Male Quartette, "Church Scenes from the Old Homestead," "The Old Folks at Home"; Kenneth Walters (baritone), "The Village Blacksmith" (Long), "The Floral Dance" (Moss); The Silver Stars Band, "Madame Butterfly," Parts 1 and 2 (Puccini); Alfred O'Shea (tenor), "Mother Machree"; The Silver Stars Band, "Faust," Parts 1 and 2, (Gounod). 4.30 p.m.: Close down. During the afternoon progress results will be given of the Third Test Match, at Melbourne. **EARLY EVENING SESSION.**—6.10 p.m.: Test cricket results. 6.15 p.m.: H.M.V. in moments merry and musical. 6.45 p.m.: Little Sheila Carrol will recite to the children: "The Old Clown," "Three Green Bonnets." 7.0 p.m.: An-

swers to letters and birthday greetings by "Uncle David." 7.5 p.m.: H.M.V., in moments merry and musical. 7.15 p.m.: News session. "Mercury" special Tasmanian news service. Railway auction produce sales, held at railway; weather information; Hobart Stock Exchange quotations; announcements. **EARLY EVENING SESSION.**—7.30 p.m.: Geo. Collis, Tasmanian champion wrestler, will speak on "Strength from Health." 7.45 p.m.: A special article prepared for 7ZL, Hobart, by "Cleanso," "That Spring Cleaning." 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty years ago to-day. 8.6 p.m.: H.M.V., in moments merry and musical. 8.30 p.m.: Transmission from the "Continental," Macquarie Street, Hobart. **EVENING SESSION.**—Theo Pipkin and his Continental Orchestra. "Riff Song" (Romberg), "Rio Rita" (Tierney), "Sunshine" (Berlin), "Lonesome in the Moonlight" (Baer), "Dream House" (Cowan), "Beautiful" (Shay), "My Angel" (Rapee), "One Alone" (Romberg), "Jeannine" (Gilbert), "The Melody of Love" (Donaldson), "That's my Weakness Now" (Sempt), "The Man I Love" (Gershwin), "Let a Smile be Your Umbrella" (Fain), "After My Laughter Came Tears" (Turk), "Romano" (Wayne), "Desert Song" (Romberg). 9.50 p.m.: From the studio: News session: British official wireless news; "Mercury" special Tasmanian news service; Tasmanian district weather report. 10.0 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: The Royal Auto-car Club of Tasmania Safety Message for To-day. 10.2 p.m.: Our Tasmanian good-night thought. 10.3 p.m.: God Save the King. 10.4 p.m.: Close down.

2BL

Sunday, December 30.

(Continued on Page 33.)

(c) "It'll Only Make Me Love You All the More" (Lee).

9.45 p.m.: The Savoyans Dance Band.

10.0 p.m.: G.P.O. clock and chimes.

From King's Cross Theatre: The King's Cross Orchestra, under the direction of E. J. Roberts. At the Wurlitzer organ, Joseph Wayne.

10.15 p.m.: Graham and Manning, entertainers—

(a) "Sad Endings" (M.S.), Harry Graham.

(b) "You're the Sort of Girl" (Hedley).

10.25 p.m.: The Music Makers.

Selection, "Thais" (Massenet).

10.40 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.

10.50 p.m.: From the Studio: Resume of following day's programme.

10.52 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.

Dance music will be continued, with "Sun" news in between the dance groups, until midnight.

At 12 o'clock greetings and good wishes for the Coming Year will be radiated to our listeners.

2UW

MIDDAY SESSION

12.30 p.m.: To-day's anniversary.

12.32 p.m.: Music.

1.0 p.m.: G.P.O. clock and chimes. Music.

2.30 p.m.: Close down.

4.30 p.m.: Musical programme.

EVENING SESSION

5.30 p.m.: Children's Hour, conducted by Uncle Jack.

6.30 p.m.: Close down.

7.0 p.m.: G.P.O. clock and chimes. Music.

7.10 p.m.: News items.

7.30 p.m.: Musical interlude.

8.0 p.m.: G.P.O. clock and chimes. Music.

9.0 p.m.: G.P.O. clock and chimes.

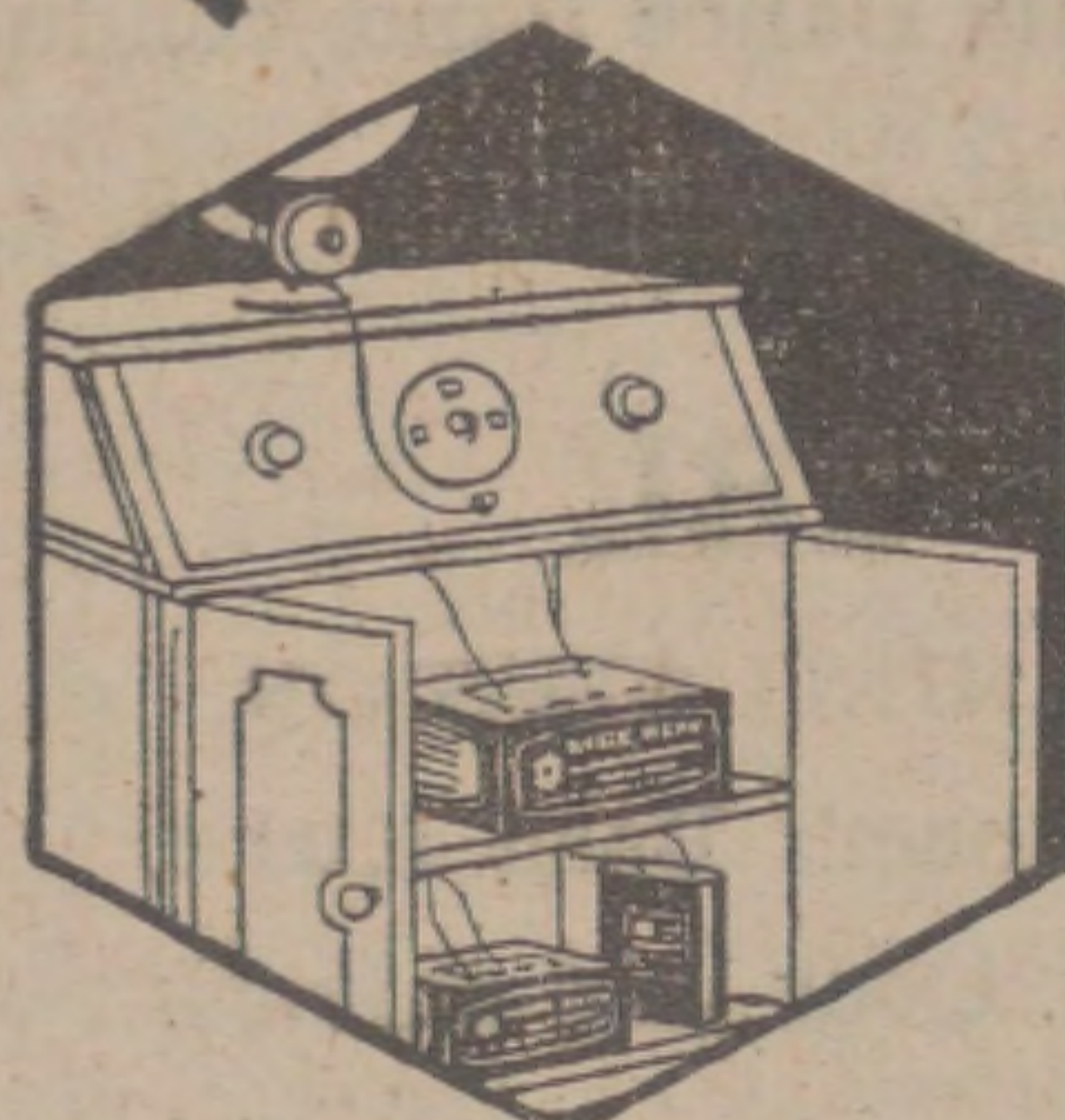
9.10 p.m.: Music and request numbers.

10.0 p.m.: Close down.

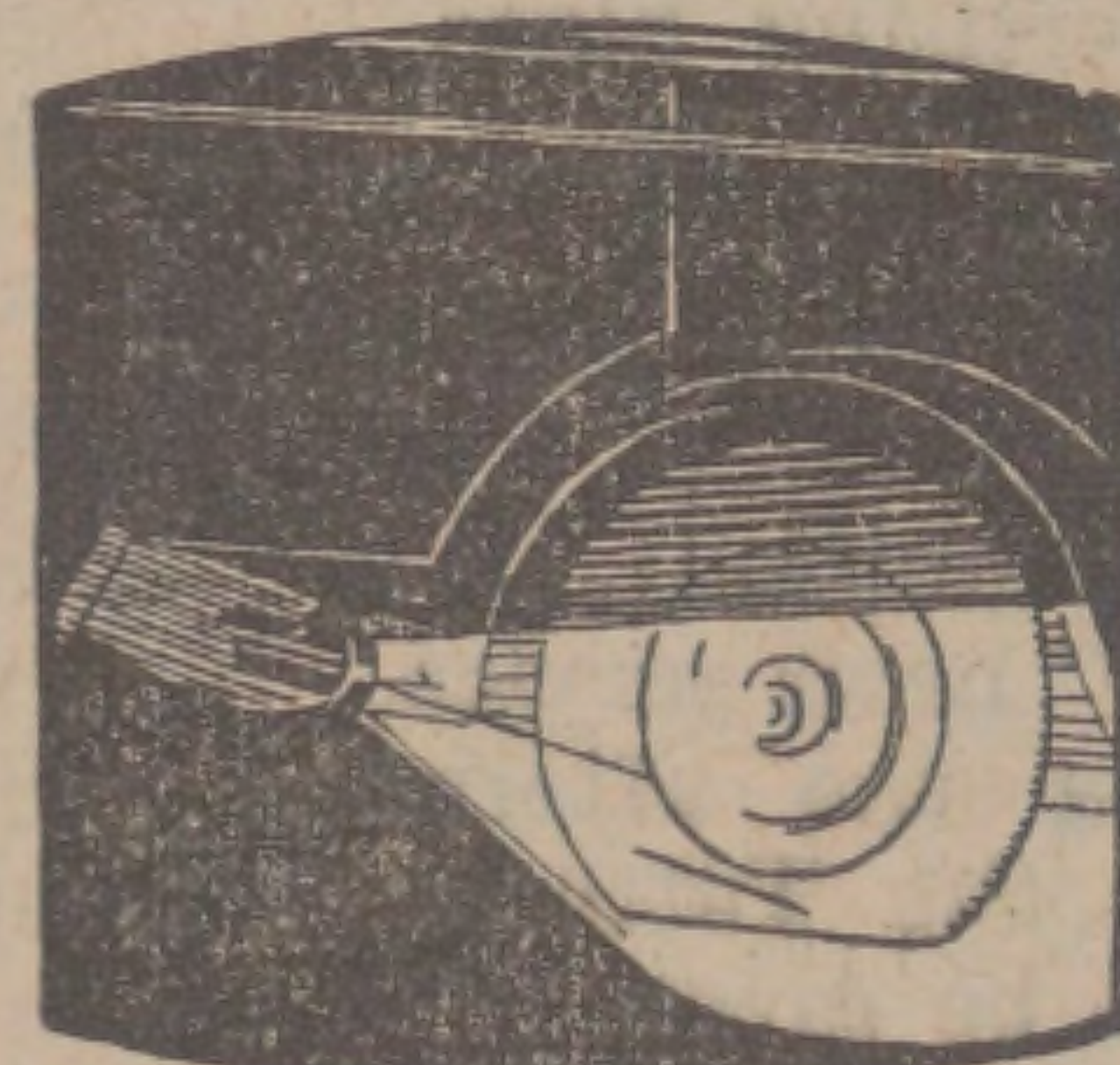


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New Year's Day Programmes for Local Stations

2FC

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0 a.m.: "Big Ben" and announcements.
- 10.2 a.m.: Pianoforte reproduction.
- 10.10 a.m.: "Sydney Morning Herald" news service.
- 10.25 a.m.: Studio music.
- 10.30 a.m.: Last-minute sporting information, by the 2FC Racing Commissioner.
- 10.40 a.m.: Studio music.
- 10.45 a.m.: Pianoforte reproduction.
- 11.0 a.m.: "Big Ben"; A.P.A. and Reuter's cable services.
- 11.5 a.m.: Close down.

MID-DAY AND AFTERNOON SESSIONS.

Announcer: Laurence Halbert.

- 12.0 Noon: "Big Ben" and announcements.
- 12.2 p.m.: Studio music.
- 12.10 p.m.: "Sydney Morning Herald" news service.
- 12.15 p.m.: Rugby wireless news.
- 12.20 p.m.: Studio music.
- 12.45 p.m.: Cricket scores, third Test match, England v. Australia, played at Melbourne.
- 1.0 p.m.: "Big Ben." Weather intelligence.
- 1.3 p.m.: "Evening News" mid-day news service.
- 1.20 p.m.: Studio music.
- Races.—During the afternoon events at the Tattersall's meeting at Randwick will be described by the 2FC Racing Commissioner.
- Cricket.—Scores of the third Test match, England v. Australia, played at Melbourne, will be transmitted as received.
- During sporting intervals musical items will be given by Nea Hallett and the Tuneful Three, and the Wentworth Dance Orchestra.
- 4.45 p.m.: From the Studio: Complete sporting resume.
- 5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

- 5.40 p.m.: The chimes of 2FC.
- 5.45 p.m.: The children's session, conducted by the "Hello Man," assisted by Aunt Eily Letters and stories.
- 6.30 p.m.: Music and entertainment.
- 6.40 p.m.: Weather intelligence; shipping; Stock Exchange.
- 6.45 p.m.: Rugby wireless news.
- 6.50 p.m.: Sporting news; late news, and studio music.
- 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats—
 - (a) "Reconciliation Polka" (Drigo).
 - (b) "Liebeslied" (Kreisler).
 - (c) "Mary Ann" (Silver).
 - (d) "The Lilac Domino" (Cuvillier).
 - (e) "Red Poppies" (Elliott).

EVENING SESSION.

Announcer: Laurence Halbert.

- 7.40 p.m.: Programme announcements.
- 7.45 p.m.: Pianoforte reproduction.
- 7.52 p.m.: Cricket resume for country listeners.
- 7.55 p.m.: Popular music.
- 8.0 p.m.: "Big Ben." Piper Mackay, Scotch pipes—
 - (a) March, "John MacDonald of Glencoe" (Lawrie).
 - (b) Stathspey, "Miss M'Lachano."
 - (c) Reel, "The Smith of Cilliechassie."
- 8.5 p.m.: Lawrence Macaulay, bass baritone.
- 8.12 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 8.22 p.m.: Sketches by Scott Alexander.
- 8.32 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 8.42 p.m.: Daisy Mangan, soprano.

- 8.49 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 9.0 p.m.: "Big Ben." Weather forecast. Piper Mackay, Scotch pipes—
 - (a) "Stirlingshire Militia" (Mackay).
 - (b) "MacDonald's Come Home From the War."
- 9.5 p.m.: Lawrence Macaulay, bass baritone.
- 9.12 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 9.22 p.m.: Sketches by Scott Alexander.
- 9.32 p.m.: Studio Dance Band.
- 9.42 p.m.: Daisy Mangan, soprano.
- 9.49 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 10.0 p.m.: "Big Ben." Len Maurice and Franc Rousel in popular melodies.
- 10.8 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 10.18 p.m.: Len Maurice and Franc Rousel, in popular melodies.
- 10.28 p.m.: Late weather forecast.
- 10.29 p.m.: Dorothy Dewar, in the latest songs.
- 10.36 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 10.46 p.m.: Dorothy Dewar in the latest songs.
- 10.53 p.m.: To-morrow's programme and announcements.
- 10.55 p.m.: Studio Dance Band, conducted by Cec. Morrison.
- 11.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: Basil Kirke.

- 11.0 a.m.: G.P.O. clock and chimes.
- Studio music.
- 11.15 a.m.: News from the "Daily Telegraph Pictorial."
- 11.30 a.m.: Advertising hints.
- 11.40 a.m.: A talk by Basil Kirke on "New Year Resolutions."
- 12.0 noon: G.P.O. clock and chimes.
- Weather report.
- 12.3 p.m.: Studio music.
- 12.30 p.m.: "Sun" news service.
- Races: During the afternoon results of the events at the Tattersall's meeting at Randwick will be given.
- Cricket: Scores of the third Test match, England v. Australia, played at Melbourne, will be transmitted as received.
- 3.45 p.m.: G.P.O. chimes. Cricket scores.
- 3.47 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.0 p.m.: G.P.O. chimes.
- Margo Ramage (popular vocalist).
- 4.7 p.m.: Harry Skinner (banjoist).
- 4.13 p.m.: "Sun" news service.
- 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30 p.m.: From the studio, Margo Ramage (popular vocalist).
- 4.36 p.m.: Harry Skinner (banjoist).
- 4.42 p.m.: Cricket scores. "Sun" news service.
- 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 5.0 p.m.: From the Studio. G.P.O. clock and chimes.
- Popular studio music.
- 5.10 p.m.: "Sun" news service.
- 5.15 p.m.: Pianoforte reproduction.
- 5.25 p.m.: Popular music.
- 5.30 p.m.: Complete racing resume.

EARLY EVENING SESSION.

Announcers: Basil Kirke and J. Knight Barnett.

- 5.40 p.m.: Children's session. Music and entertainment.
- 6.0 p.m.: Letters and stories.
- 6.30 p.m.: "Sun" news service.

- 6.40 p.m.: 2BL Dinner Quartette.
 - (a) "Mayfair and Montmatre" (arr. Higgs)
 - (b) "Cavatina" (Raff).
 - (c) "Lilac Time" (Schubert).
 - (d) "Souvenir di Capri" (Becce).
 - (e) "In the Garden of My Heart" (Ball)
- 7.10 p.m.: Cricket scores.
- 7.12 p.m.: Complete sporting resume.
- 7.30 p.m.: Mr. Pim and Miss Pam, in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8.0 p.m.: G.P.O. clock and chimes.
- Foster and Finlay (instrumentalists).
- 8.10 p.m.: From the Rose Bay Wintergarden. The Rose Bay Wintergarden Theatre Orchestra, under the conductorship of Lionel Hart.
- 8.30 p.m.: From the studio.
- The Harry Graham Company in a sparkling "Snapshot" revue.
- An Introductory Snapshot, "Miles & Smiles."
- A Humorous Topical Snapshot, "Over the Walnuts and Wine."
- A Talkative Snapshot, "Nothing in Particular."
- A Vocal Snapshot, "A Crinoline Wedding."
- A Sketchy Snapshot, "Incredible Happenings."
- A Concerted Snapshot, "I'll Sing You a Song."
- A Sketchy Snapshot, "Wanted, a Lion Tamer."
- A Vocal Snapshot (duet), "Our Little Canoe."
- A Sketchy Snapshot, "Kitty on the Keys."
- A Concerted Snapshot, "Whitelidges."
- A Finale Snapshot, "Good-night."
- 9.30 p.m.: Weather report and forecast.
- 9.31 p.m.: G. R. Griffiths (concertina solos).
 - (a) "Impromptu in G" (Schubert).
 - (b) "Broken Melody" (Van Biene), imitation cello.
- 9.37 p.m.: Robert Gilbert (baritone).
- 9.44 p.m.: Foster and Finlay (instrumentalists).
- 9.54 p.m.: Robert Gilbert (baritone).
- 10.0 p.m.: G.P.O. clock and chimes.
- G. R. Griffiths (concertina solos).
 - (a) "War March of Priests" (Mendelssohn).
 - (b) "Adeste Fideles" (Carol). imitation organ.
- 10.7 p.m.: From Rose Bay Wintergarden Theatre.
- The Rose Bay Wintergarden Theatre Orchestra, conducted by Lionel Hart.
- 10.27 p.m.: From the studio.
- Resume of following day's programme.
- 10.30 p.m.: National Anthem. Close down.

2UW

MIDDAY SESSION

- 12.30 p.m.: To-day's anniversary.
- 12.32 p.m.: Music.
- 1.0 p.m.: G.P.O. clock and chimes. Music.
- 2.30 p.m.: Close down.
- 4.30 p.m.: Musical programme.

EVENING SESSION

- 5.30 p.m.: Children's Hour, conducted by Uncle Jack.
- 6.30 p.m.: Close down.
- 7.0 p.m.: G.P.O. clock and chimes. Music.
- 7.10 p.m.: News items.
- 7.30 p.m.: Musical interlude.
- 8.0 p.m.: G.P.O. clock and chimes. Music.
- 9.0 p.m.: G.P.O. clock and chimes.
- 9.10 p.m.: Music and request numbers.
- 10.0 p.m.: Close down.

New Year's Day Programmes for Interstate Stations

3LO, MELBOURNE

EARLY MORNING SESSION.

7.15 p.m.: Express train information. 7.16 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports. Market reports. General news. Shipping. Sporting information. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

11.0 a.m.: Eric Welch will speak on to-day's V.R.C. races at Flemington. 11.10 a.m.: Sonora recital. 12.0 noon: Description of Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 12.57 p.m.: Description of New Year Hurdle Race, 2 miles. V.R.C. Races, at Flemington, by Eric Welch. 1.5 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 1.30 p.m.: Mr. M. A. Noble, former International cricketer, will comment from the M.C.C. on the play in the Third Test Match. 1.40 p.m.: Description of Standish Handicap, 6 furlongs, V.R.C. Races, at Flemington. 1.45 p.m.: Express train information. Metal prices received by the Australian Mines and Metals Association, from the London Stock Exchange this day. British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. Meteorological information. Weather forecasts. Ocean forecasts. River reports. Rainfall. 1.50 p.m.: Close down.

AFTERNOON SESSION.

Announcer: John Stuart. 2.15 p.m.: Description of Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 2.33 p.m.: Description of January Steeplechase, 2 miles 1/2-furlong. V.R.C. Races, at Flemington. 2.40 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 3.13 p.m.: Description of Bagot Handicap, 1 1/2 miles. V.R.C. Races, at Flemington. 3.20 p.m.: Description of Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 3.53 p.m.: Description of Criterion Handicap, 5 furlongs, V.R.C. Races, at Flemington. 4.0 p.m.: Mr. M. A. Noble former International cricketer, will comment on the play in the Third Test Match. 4.10 p.m.: Sonora recital. 4.15 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 4.28 p.m.: Description of January Handicap, 1 mile, V.R.C. Races, at Flemington. 4.35 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 6.0 p.m.: Stumps scores. During the afternoon results of the Hanging Rock, Burrumbet, and Terang Races will be given as they come to hand; also progress scores of the Sheffield Shield cricket match, New South Wales v. Queensland, at Sydney.

EVENING SESSION.

Announcer: Frank Hatherley. 6.5 p.m.: Answers to letters and birthday greetings, by "Bobby Blue-gum." 6.30 p.m.: Musical interlude. 6.35 p.m.: "Bobby Blue-gum" will tell you about "Jinkie's New Year Ball."

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Agnes Fortune. 7.0 p.m.: The Radi-o-Aces, "Virginia Creeper" (Wade), "Little Log Cabin of Dreams" (Harley), "Last Night I Dreamt You Kissed Me" (Kahn), "That's My Mammy" (Donaldson), "Ah, Sweet Mystery of Life" (Herbert). 7.15 p.m.: John Hobbs (baritone), "On the Road to Mandalay" (Oley Speaks), "The Ginchy Road" (Edward). 7.23 p.m.: Sporting results. Stumps scores Third Test Match, England v. Australia, at M.C.C.; also Sheffield Shield cricket match, New South Wales v. Queensland, at Sydney. 7.33 p.m.: John Hobbs (baritone), "Good Fellows" (Phillips), "Time To Go," a Shanty Ballad (Sanderson). 7.40 p.m.: Mr. M. A. Noble, former International cricketer, will comment on the play in the Third Test Match. 7.50 p.m.: The Radi-o-Aces, "Evening Star" (Turk), "Russian Song" (Stitzel), "Henry's Made a Lady Out of Lizzie" (O'Keefe). 8.0 p.m.: The Station Orchestra, "From the Highlands" (Langley). 8.10 p.m.: Bessie Martin (soprano), "Land o' Hame and Purple Heather," "Bonnie Prince Charlie." 8.17 p.m.: The Station Orchestra, "Scottish Pastoral" (Sanger), "Scottish Medley" (Somers). 8.24 p.m.: Hampson Taylor (tenor), "Alton Water," "Memories o' Hame." 8.31 p.m.: Wm. Tainsh, "Scottish selections from his repertoire. 8.47 p.m.: Bessie Martin (soprano), "Called On," "A Guid New Year to Ane and A' (Hume). 8.54 p.m.: The Station Orchestra, "Scottish Serenade" (Stephen), "Wee M'Gregor" (Ames). 9.0 p.m.: The Station Orchestra, Scottish selection (Middleton). 9.10 p.m.: Hampson Taylor (tenor). One-act play, "A Scottish Comedy Drama, 'Domestic Mutual Improvement,' by Andrew Stewart, arranged and adapted by Phil Long. Characters: Bob Johnson, Maggie Johnson (Bob's guid wife), Phil Long. Scene: "Their Ain Fireside." 9.53 p.m.: William G. James (pianist). 9.47 p.m.: The Celebrity Four. 10.7 p.m.: The Station Trio, "Trio," (Beethoven). 10.17 p.m.: "Argus" news service. Meteorological information. British official wireless news from Rugby. Announcements. Sporting notes by "Olympus." Late sporting results. Eric Welch's selections for to-morrow's races at Mentone. 10.25 p.m.: The Radi-o-Aces, "We'll Have a New Home in the Morning" (Buck), "In a Bamboo Garden" (Donaldson), "Anything You Say" (Donaldson). 10.34 p.m.: Kathleen Howard (contralto), "Lonesome in the Moonlight" (Baer), "Jeannine" (Shil-kret). 10.41 p.m.: The Radi-o-Aces, "That Melody of Love" (Donaldson), "Constantinople" (Carlton), "Don't Cry, Baby" (Kahn). 10.50 p.m.: Kathleen Howard (contralto), "Down Where the Sun Goes Down" (Jones and Buck), "Japanese Mammy" (Donaldson). 10.57 p.m.: Our great thought. 10.58 p.m.: The Radi-o-Aces, "Love Affairs" (Robinson), "Lady of Love" (Mausbaum), "Jazz Master," piano solo (Mayer), "In My Bouquet of Memories" (Lewis), "Sentimental Baby" (Palmer), "Rose of Monterey" (Guy), "Red Head" (Embury), "Jeannine" (Gilbert), "Dream House" (Fox), "I'm Sorry Sally" (Kahn), "Mary Ann" (Davis). Selected and request items. 11.40 p.m.: God Save the King.

3AR, MELBOURNE

Announcer: C. M. Hosking. 10 a.m.: G.P.O. clock says "Ten"; who was your first foot? 10.1 a.m.: "Age" market reports, farm and station produce, fruit, fish, vegetables, etc.; "Age" shipping reports; ocean forecast. 10.30 a.m.: Mail notice; express train information; weather forecast; announcements. **MORNING MUSICAL SESSION.**—11 a.m.: Ned Tyrrell's Radi-o-Aces—"Why haven't we got the Sunday every day" (Summers), "Loved Me" (Wilson), "What a Baby" (Whiting), "That's My Weakness Now" (Stept), "Get Out and Get under the Moon" (Tobias), "Somebody's Crazy about You" (Murphy). 11.20 a.m.: Vocal versatility. 11.25 a.m.: Ned Tyrrell's Radi-o-Aces—"What a Baby" (Whiting), "What Do I Care What Somebody Said" (Woods), "Forever More" (Burnett), "Nebraska" (Sissill), "Angelia Mia" (Rappee), "Kiss before the dawn" (Perkins). 11.45 a.m.: Vocal versatility. 11.50 a.m.: Ned Tyrrell's Radi-o-Aces—"Parting with You" (Conley), "Chloe" (Kahn), "Lonely in a Crowd" (Creer), "Louisiana" (Schaffer), "My Blackbirds are Bluebirds Now" (Friend), "Guess Who's in Town" (Razay). 12.10 p.m.: Announcements; British official wireless news. 12.20 p.m.: Vocal versatility. 12.30 p.m.: Ned Tyrrell's Radi-o-Aces—"Because my Baby Don't Mean Maybe Now" (Donaldson), "Just Like a Melody out of the Sky" (Donaldson), "Rain" (Ford), "Mine, All Mine" (Ruby), "Dolores" (Kassell), "Down Where the Sun Goes Down" (Jones). 12.50 p.m.: Vocal versatility. 12.55 p.m.: Ned Tyrrell's Radi-o-Aces—"Don't Keep Me in the Dark, Bright Eyes" (Bryan), "All Day Long" (Cross), "Happy-go-lucky Lane" (Lewis), "Little Log Cabin of Dreams" (Hanley), "Virginia Creeper" (Wade), "Leonora" (Gilbert). 1.15 p.m.: Vocal versatility. 1.20 p.m.: Ned Tyrrell's Radi-o-Aces—"Dream Kisses" (Yellen), "Without You, Sweetheart" (de Silva), "Lolita" (Stoneham), "Mississippi Mud" (Harris). 1.30 p.m.: Close down. **AFTERNOON SESSION** (Announcer C. M. Hosking; accompanist, Agnes Fortune.—2.15 p.m.: The station orchestra—"Himmelsgrube" (Haydn), "Polichinelle" (Rachmaninoff). 2.30 p.m.: E. Mason Wood, baritone—"From Rock to Rock" (Sullivan), "Lord Randal" (Scott). 2.37 p.m.: The station orchestra—"Fantasia, "Heldenbuch" (Wagner). 2.37 p.m.: Valerie Walsh, contralto, "The Fuchsia Tree" (Quilter), "To Electra" (Fritz Hart). 2.47 p.m.: Jessie Batchelor, mezzo-soprano—"Lackaday" (Compton), "Thy Beaming Eyes" (Madowell). 2.54 p.m.: The station orchestra—"Excerpt from Pastoral Symphony" (Beethoven), "Mock Morris" (Grainger). 3.4 p.m.: Tom Foster, tenor—"Ombra mai fui" (Handel), "Passing By" (Purcell). 3.11 p.m.: "The Thief"—Lil ("The Thief"), played by Dulcie Hall; Bill, played by Digby Marriott; Grace Bolton, played by Digby Marriott (time, 2 a.m.). 3.26 p.m.: E. Mason Wood, baritone—"The Trumpeter" (Dix), "Down Somersetshire Way" (Squire). 3.33 p.m.: The station orchestra—"Fantasia, "Nachrui" (Mendelssohn). 3.43 p.m.: Announcements. 3.53 p.m.: Vida Holgate Clarke (piano)—"Sonata in D" (Scarletti), "Arietta" (Leo), "Prelude in D Flat and A Flat" (Chopin). 4.9 p.m.: The station orchestra—"Overture, "Egmont" (Beethoven). 4.19 p.m.: Valerie Walsh, contralto—"Carol of Jesus Child" (Hughes), "In Moonlight" (Elgar). 4.26 p.m.: The station orchestra—"Selection, "Cath-rine" (Tchaikowsky). 4.38 p.m.: Jessie Batchelor, mezzo-soprano—"Slumber Song" (Quilter), "A Bowl of Roses" (Clarke). 4.44 p.m.: The station orchestra—"Menuetto" (Beethoven), "Noel" (Tchaikowsky). 4.54 p.m.: Tom Foster, tenor—"Macushla" (Macmurrough), "Trees" (Rasbach). 5 p.m.: Close down. **EVENING SESSION** (announcer, Frank Hatherley).—6 p.m.: Superphonic harmonics. **NIGHT SESSION** (announcer, Frank Hatherley).—8 p.m.: R. H. Owen will speak on "The Welsh Delegation." 8.15 p.m.: Professor R. J. W. Berry, "The Solid South and the Ku-Klux-Klan." 8.15 p.m.: Ned Tyrrell's Radi-o-Aces—"Chiquita" (Wayne), "Last Night I Dreamed You Kissed Me" (Kahn), "Tin Pan Parade" (Gillespie). 8.25 p.m.: Syd Hollister—"Homilies on the Heather." 8.28 p.m.: Ned Tyrrell's Radi-o-Aces—"Who Knows?" (Dixon), "Ah, Sweet Mystery of Life" (Herbert), "Evening Star" (Turk). 8.38 p.m.: Keith Desmond, elocutionist—"Dynamic Discourse." 8.41 p.m.: Ned Tyrrell's Radi-o-Aces—"Down Home—Rag" (Sweetman), "We'll Have a New Home in the Morning" (Buck), "In a Bamboo Garden" (Donaldson). 8.51 p.m.: Senia Chostia-koff, tenor—"Do Not Scold Me, Dear" (Dy-buck). 8.54 p.m.: Ned Tyrrell's Radi-o-Aces—"Anything You Say" (Donaldson), "That Melody of Love" (Donaldson), "Constantinople" (Carlton). 9.4 p.m.: Syd. Hollister—"Happy Harlequin." 9.7 p.m.: Ned Tyrrell's Radi-o-Aces—"Don't Cry, Baby" (Kahn), "Love Affairs" (Robinson), piano solo, "Jazz Master" (Mayer). 9.17 p.m.: Keith Desmond, elocutionist, "Dramatised Discourse." 9.20 p.m.: Ned Tyrrell's Radi-o-Aces—"In My Bouquet of Memories" (Lewis), "Sentimental Baby" (Davis), "Rose of Monterey" (Guy). 9.30 p.m.: Senia Chostia-koff, tenor, "My Daisies" (Quilter). 9.33 p.m.: Ned Tyrrell's Radi-o-Aces—"Red Head" (Erm-bey), "Jeannine" (Gilbert), "Dream House" (Fox). 9.43 p.m.: Syd. Hollister, "Homely Heroics." 9.47 p.m.: Ned Tyrrell's Radi-o-Aces—"I'm Sorry, Sally" (Kahn), "When You Know Me" (Baden), "Tell Me To-night" (Little). 9.57 p.m.: Keith Desmond, elocutionist, "Selected." 10 p.m.: Ned Tyrrell's Radi-o-Aces—"Let a Smile Be Your Umbrella" (Fair), "Back in Your Own Back Yard" (Jolson), "Polly" (Zameonik). 10.10 p.m.: Senia Chostia-koff, tenor, "The Love" (Vrangel). 10.13 p.m.: Ned Tyrrell's Radi-o-Aces—"Felix the Cat" (Naus-traum), "Delerium" (Schutt), "Blue Berry Land" (Bryan). 10.23 p.m.: "Age" news service, exclusive to 3AR; acceptances for Wednesday's races at Mentone; weather forecast; announcements. 10.29 p.m.: Our Shakespearean good-night quotation. 10.30 p.m.: "God Save the King."

4QG, BRISBANE

EARLY MORNING SESSION.—(Announcer, J. Tyson.) 7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down. **AFTERNOON SESSION.**—(Announcer: R. Wright.) The Q.T.C. race meeting will be described from the course. Transmission will commence with the start of the first race. Between races items will be broadcast from the studio and orchestral music by the Tivoli Operatic Orchestra will be relayed from the Tivoli Theatre. 5.0 p.m.: Close down. **EARLY EVENING SESSION.**—(Announcer: H. Humphreys.) 6.0 p.m.: Mail train running times; mail information; shipping news. 6.5 p.m.: Dinner music. 6.30 p.m.: Bedtime stories, conducted by "Uncle Ben." 7.30 p.m.—A commercial and sporting session. 7.48 p.m.: Time signals. **NIGHT SESSION.**—8.0 p.m.: Orchestral music by the Tivoli Operatic Orchestra, under the baton of Mr. C. Groves. 8.30 p.m.: A Comedy Sketch, "A Sister to Assist 'Er." The sketch deals with Mrs. May and her landlady (Mrs. M'Mull). They argue over the rent. During the sketch, Mrs. May impersonates an imaginary wealthy sister. Cast: Mrs. May, Harry Humphreys; Mrs. M'Mull, Mrs. Robt. Bell. 9.0 p.m.: Metropolitan weather forecast. Eric John (pianist). 9.1 p.m.: From the studio of Erich John, a short pianoforte recital. "Impromptu Opus 90, No. 4" (Schubert); Mabel Malouf (soprano), "Roberto O tu che Adoro" (Meyerbeer); Erich John (pianist), "Scherzo, Opus 31, B Flat Minor" (Chopin); Mabel Malouf (soprano), "Indian Love Call" (Friml); Erich John (pianist), "Nocturne" (for left hand alone (Scriabine), "Naila Waltzes" (Delibes-Dohn-anyi). 9.30 p.m.: A recital of electrically reproduced records. 10.0 p.m.: "The Daily Mail" news, "The Courier" news, weather news, "Queenslander" bi-weekly news service for distant listeners. Close down.

6WF, PERTH

Commencing from noon, progress results will be broadcast every half-hour of the third Test Match between the Australian eleven and English eleven. 12.5 p.m.: Musical programme from the studio, including vocal and instrumental artists. 12.35 p.m.: Local news bulletin, etc., and cricket scores. 1 p.m.: Time signal. 1.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia. 1.2 p.m.: Close down. 3 p.m.: Further results of the third Test Match. 3.35 p.m.: Talk, "Fashions," by Junette. 3.45 p.m.: Piano-forte selections by Miss Audrey Dean; vocal and instrumental numbers from the studio. 5 p.m.: Final results of the third Test Match. 5.5 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: Stories for the kiddies. 7.5 p.m.: Items by the studio trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Talk by Dr. J. S. Battye, B.A., LL.B. 8 p.m.: Time signal. 8.1 p.m.: Weather notes supplied by the Meteorological Bureau of West Australia; station announcements, such as alterations to programmes, etc. 8.3 p.m.: Musical programme from the studio, including vocal and instrumental artists; a description will be given of the trotting events relayed from the W.A. Trotting Grounds. 9 p.m.: Late news items, etc. 10.30 p.m.: Close down. 10.4.5-Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

MIDDAY SESSION.—(Announcer: Jack Broadbent.) 11.30 a.m.: Mlle. Columbia broadcasts. 11.34 a.m.: **AFTERNOON SESSION.**—(Announcer: Jack Broadbent.) 3.0 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Mlle. Columbia broadcasts. 3.4 p.m.: Weather information. 3.5 p.m.: Transmission from the T.A.C. Ground, cricket match, North v. South, described by A. M. O'Leary. 3.15 p.m.: Running description of Bagot Handicap, 1 1/2 mile—run at Flemington Racecourse, Flemington, Victoria. 3.20 p.m.: Transmission from T.C.A. Ground, cricket match, North v. South, described by A. M. O'Leary. 3.55 p.m.: Running description of Criterion Handicap, 5 furlongs—run at Flemington racecourse, Flemington, Victoria. 4.0 p.m.: Mlle. Columbia broadcasts. 4.15 p.m.: Transmission from the T.C.A. Ground—cricket match, North v. South, described by A. M. O'Leary. 4.30 p.m.: Running description of January Handicap, 1 mile—run at Flemington racecourse, Flemington, Victoria. 4.35 p.m.: All sporting results to hand. 4.55 p.m.: Close down. During the afternoon progress results will be given of the cricket match, third Test match, held at Melbourne. Results will also be given of the Burnie Athletic Sports and Ulverstone Regatta. **EARLY EVENING SESSION.**—6.0 p.m.: All sporting results to hand. 6.15 p.m.: Mlle. Columbia broadcasts. 6.30 p.m.: Joan O'Shea will recite to the wee folk, "Old Chap," "Rosa." 6.45 p.m.: "The Story Lady" will tell the children a story. 7.0 p.m.: Answers to letters and birthday greetings, by "Uncle David." 7.5 p.m.: Mlle. Columbia broadcasts. 7.15 p.m.: "Mercury" special Tasmanian news service; railway auction produce sales; weather information; Hobart Stock Exchange quotations. **EVENING SESSION.**—(Announcer: Jack Broadbent.) 7.30 p.m.: R. W. Brooks will speak on "The Voice of the Silent Drama." 7.45 p.m.: W. E. Fuller, will speak on "Literary Lapses and Library Lists." 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty years ago to-day. 8.6 p.m.: Transmission from the Prince of Wales Theatre, Macquarie Street, Hobart. Ted M'Cann and his Orchestra. 9.50 p.m.: From the studio: All sporting results to hand. News session. "Mercury" special Tasmanian news service. British official wireless news. Tasmanian district weather report. 10.0 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: The Royal Auto-car Club of Tasmania Safety Message. 10.2 p.m.: Our Tasmanian good-night thought. 10.3 p.m.: God Save the King. 10.4 p.m.: Close down.

Boxing Day Programmes for Local Stations

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

- 7.0 a.m.: "Big Ben" and announcements.
- 7.2 a.m.: Official weather forecast, rainfall, river reports, temperatures, astronomical memoranda.
- 7.7 a.m.: "Sydney Morning Herald" summary.
- 7.12 a.m.: Shipping intelligence, mail service.
- 7.15 a.m.: Studio music.
- 7.25 a.m.: Investment market, mining share-markets, metal quotations, wool sales, breadstuffs markets, inter-State markets, produce markets.
- 7.40 a.m.: Studio music.
- 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0 a.m.: "Big Ben" and announcements.
- 10.3 a.m.: Pianoforte reproduction.
- 10.10 a.m.: "Sydney Morning Herald" news service.
- 10.25 a.m.: Studio music.
- 10.45 a.m.: A talk on "Home Cooking and Recipes," by Miss Ruth Furst.
- 11.0 a.m.: "Big Ben." A.P.A. and Reuter's cable services.
- 11.5 a.m.: Close down.

MIDDAY SESSION

Announcer: A. S. Cochrane.

- 12.0 noon: "Big Ben" and announcements.
- 12.2 p.m.: Stock Exchange, first call.
- 12.3 p.m.: Official weather forecast, rainfall.
- 12.5 p.m.: Musical item.
- 12.10 p.m.: Summary of news, "Sydney Morning Herald."
- 12.15 p.m.: Rugby wireless news.
- 12.18 p.m.: A reading.
- 12.30 p.m.: Studio music.
- 12.45 p.m.: Cricket scores, third Test match, England v. Australia, played at Melbourne.
- 12.48 p.m.: Studio music.
- 1.0 p.m.: "Big Ben." Weather intelligence.
- 1.3 p.m.: "Evening News" midday news service.
- Producers' Distributing Society's report.
- 1.20 p.m.: Studio music.
- 1.28 p.m.: Stock Exchange, second call.
- 1.30 p.m.: Studio music.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: "Big Ben." Close down.
- Note: Race results will be broadcast as received.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

- 2.30 p.m.: Programme announcements.
- 2.32 p.m.: Recital of selected records of world-famous artists.
- 3.0 p.m.: Pianoforte reproduction.
- 3.15 p.m.: Popular music.
- 3.30 p.m.: From the Wentworth. The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
- 3.40 p.m.: From the Studio.
- Nea Hallett in popular numbers.
- 3.45 p.m.: Cricket scores.
- 3.46 p.m.: A reading.
- 4.0 p.m.: "Big Ben." Nancy Cottee (violinist).
- 4.7 p.m.: Nea Hallett in popular numbers.
- 4.14 p.m.: From the Wentworth. The Wentworth Cafe Dance Orchestra, under the direction of Jimmy Elkins.
- 4.24 p.m.: From the studio.
- Nancy Cottee (violinist).
- 4.30 p.m.: Cricket scores.
- 4.31 p.m.: Popular studio music.
- 4.45 p.m.: Third call, Stock Exchange.
- 4.47 p.m.: Studio music.
- 5.0 p.m.: "Big Ben." Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

- 5.40 p.m.: The chimes of 2FC.
- 5.45 p.m.: The "Hello Man" talks to the children, assisted by Uncle Ted and "Sandy."

Letters and stories.

Music and entertainment.

- 6.30 p.m.: Dalgety's market reports (wool, wheat, and stock).
- 6.40 p.m.: Fruit and vegetable markets.
- 6.43 p.m.: Stock Exchange information.
- 6.45 p.m.: Weather and shipping news.
- 6.50 p.m.: Late sporting news.
- 7.0 p.m.: "Big Ben." Late news service.
- 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats.
 - (a) "Valse Poudree" (Poppy).
 - (b) "Two Old French Dances" (Bombic).
 - (c) "The Pirates of Penzance" (Sullivan).
 - (d) "Trees" (Rasbach).
 - (e) "Mia Angelo" (Rapee).

EVENING SESSION

Announcer: Laurence Halbert.

- 7.40 p.m.: Programme announcements.
- 7.47 p.m.: Pianoforte reproduction.
- 7.52 p.m.: Cricket resume for country listeners, third Test match, England v. Australia, played at Melbourne.
- 7.54 p.m.: Popular music.
- 8.0 p.m.: "Big Ben." From the Crystal Palace, the Crystal Palace Orchestra, under the direction of Harry Cross.
- 8.20 p.m.: From the studio. The H. W. Varra Company will present John Galsworthy's most powerful play, "Strife."
- Cast: John Anthony (chairman of directors), William Hume; Edgar (his son), Ken Fisher; Francis Underwood (manager), Gordon Stilling; Dennis Wilder (directors), J. Marshall; William Scantlebury (men's foreman), D. Foster; David Roberts (men's leader), H. W. Varra; Henry Thomas (for the men), Foster Dean; Enid Underwood (Anthony's daughter), Gwen Lascelle; Anne Roberts (Robert's wife), Cleo Glover; Madge Thomas (Thomas's daughter), Muriel Conner.
- Strikers, attendants, etc.
- Scene 1: At John Anthony's house.
- Scene 2: At Robert's cottage.
- Scene 3: At the works.
- Scene 4: At John Anthony's House.
- 9.20 p.m.: Minnie Hamblett, noted English pianist, in association with Bryce Carter (cellist), will play the Strauss Sonata for piano and cello.
- 9.45 p.m.: Leo Darnton, tenor of the late Gilbert and Sullivan opera.
- 9.52 p.m.: Bryce Carter (cellist).
- 10.0 p.m.: Leo Darnton (tenor).
- 10.7 p.m.: From the Crystal Palace Theatre, the Crystal Palace Orchestra, under the direction of Stan Cross.
- 10.15 p.m.: "Around the World by Wireless." A novel feature, which has been arranged, whereby listeners will have an opportunity of virtually "visiting the world" through the magic of radio.
- 10.30 p.m.: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: Basil Kirke.

- 8.0 a.m.: G.P.O. clock and chimes.
- Metropolitan weather report.
- 8.1 a.m.: State weather report.
- 8.2 a.m.: Studio music.
- 8.15 a.m.: G.P.O. clock and chimes.
- News from the "Daily Telegraph Pictorial."
- 8.25 a.m.: Studio music.
- 8.30 a.m.: G.P.O. clock and chimes.
- 8.35 a.m.: Information, mails, shipping, arrivals, departures, and sailings.
- 8.38 a.m.: News from the "Daily Telegraph Pictorial."
- 8.45 a.m.: G.P.O. clock and chimes.
- Studio music.
- 9.0 a.m.: G.P.O. clock and chimes.
- Studio music.
- 9.30 a.m.: Half an hour with silent friends.
- 10.0 a.m.: G.P.O. clock and chimes.
- Close down.

MIDDAY SESSION.

Announcer: Basil Kirke.

- 11.0 a.m.: G.P.O. clock and chimes.
- 2BL Women's Sports Association session, conducted by Miss Gwen Varley.
- 11.30 a.m.: Advertising hints.
- 11.40 a.m.: Women's session, conducted by Mrs. Cranfield.
- 12.0 noon: G.P.O. clock and chimes.
- Special ocean forecast and weather report.
- 12.3 p.m.: Studio music.
- 12.30 p.m.: Shipping and mails.
- 12.35 p.m.: Market reports.
- 12.45 p.m.: Cricket scores, third Test match, England v. Australia, played at Melbourne.
- 12.48 p.m.: "Sun" midday news service.
- 1.0 p.m.: Studio music.
- 1.30 p.m.: Talk to children and special entertainment for children in hospital.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: G.P.O. clock and chimes.
- Close down.

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

- 3.45 p.m.: G.P.O. chimes. Cricket scores.
- 3.47 p.m.: Popular music.
- 3.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.0 p.m.: From the studio.
- G. R. Griffiths and his English concertina.
 - (a) "Melody in F" (Rubinstein).
 - (b) "The Rosary" (Nevin).
- 4.7 p.m.: Captain Fred Aarons. "Women of other Days," "Charlotte Corday."
- 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30 p.m.: From the studio. Cricket scores.
- 4.32 p.m.: "Sun" news service.
- 4.37 p.m.: Zilata Kalmikog (cellist).
 - (a) "Ave Maria" (Bach-Gounod).
 - (b) "Preislied," from "Meistersingers" (Wagner).
- 4.44 p.m.: G. R. Griffiths and his English concertina.
 - (a) "Reverie" (Wilhelmy), imitation pipe organ.
 - (b) "Lead, Kindly Light," imitation pipe organ.
- 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 5.0 p.m.: "Sun" news service.
- 5.10 p.m.: Pianoforte reproduction.
- 5.20 p.m.: Popular music.
- 5.30 p.m.: Racing resume.
- 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

- 5.40 p.m.: Children's session.
- Music and entertainment.
- 6.0 p.m.: Letters and stories.
- 6.30 p.m.: "Sun" news and late sporting.
- 6.40 p.m.: 2BL Dinner Quartette.
 - (a) "Love Everlasting" (Frim).
 - (b) "Wedgwood Blue" (Keteiby).
 - (c) "Gems of Tchaikowsky."
 - (d) "Sweet Sycamore" (Gilbert).
 - (e) "Nebraska" (Sissle).
- 7.10 p.m.: Cricket scores.
- 7.12 p.m.: Australian Mercantile, Land, and Finance Co.'s report.
- Weather report and forecast, by courtesy of Government Meteorologist.
- Producers' Distributing Society's fruit and vegetable market report.
- Grain and fodder report ("Sun").
- Dairy produce report ("Sun").
- 7.25 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.
- Note.—Between 5 and 6 p.m. an attempt will be made to relay KFKX and KYW (U.S.A.), which stations will be sending a special programme to the various ships of the Byrd Antarctic expedition.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

8.0 p.m.: G.P.O. clock and chimes.
Rex Harrison (baritone).

8.8 p.m.: From the Arcadia Theatre, Chatswood, the Wurlitzer organ, played by Nicholas Robins.

8.28 p.m.: From the studio.
A sketch by Marjorie Hawley.
"A Matter of Husbands" (Frank Molnar).

8.38 p.m.: The Music-makers.

8.53 p.m.: Eleanor Stanton (contralto).
(a) "Silent Moon" (Williams).

9.0 p.m.: G.P.O. clock and chimes. Weather report.

9.1 p.m.: The Music-makers.

9.16 p.m.: Rex Harrison (baritone).

9.23 p.m.: A sketch by Marjorie Hawley.
"The Rosary."

9.33 p.m.: Eleanor Stanton (contralto).
(a) "The Nightingale" (Kjerulf).
(b) "The Silent Moon" (Chaminade).

9.40 p.m.: Claude Corbett will give a sports talk.

9.55 p.m.: The Music-makers.

10.5 p.m.: From the Arcadia Theatre, Chatswood, the Wurlitzer organ, played by Nicholas Robins.

10.20 p.m.: From the studio.
The Savoyans' Dance Band, with popular choruses by Art. Leonard.

10.30 p.m.: Late weather and announcements.

10.32 p.m.: The Savoyans' Dance Band.

10.37 p.m.: Resume of following day's programme.

11.30 p.m.: National Anthem. Close down.

2UW

MIDDAY SESSION

12.30 p.m.: To-day's anniversary.

12.32 p.m.: Music.

1.0 p.m.: G.P.O. clock and chimes. Music.

2.30 p.m.: Close down.

4.30 p.m.: Musical interlude.

EVENING SESSION

5.30 p.m.: Children's Hour, conducted by Uncle Jack.

6.30 p.m.: Close down.

7.0 p.m.: G.P.O. clock and chimes.

7.1 p.m.: Music.

7.10 p.m.: News items.

7.30 p.m.: Musical interlude.

8.0 p.m.: G.P.O. clock and chimes.

8.1 p.m.: Music.

9.0 p.m.: G.P.O. clock and chimes.

9.10 p.m.: Music and request numbers.

10.0 p.m.: Close down.

2GB

8.0 p.m.: Violin solos by Mr. Edmund Collins.

8.10 p.m.: Songs by Mr. William Green.

8.20 p.m.: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock.

8.25 p.m.: Mayo Hunter and Gladys.

8.45 p.m.: Pianoforte solos by Miss Ada Brook.

8.55 p.m.: Songs by Mr. Leslie Herford.

9.0 p.m.: Address.

9.10 p.m.: Songs by Mr. William Green.

9.20 p.m.: Violin solos by Mr. Edmund Collins.

9.30 p.m.: A humorous interlude.

9.40 p.m.: Songs by Miss Nell Hayes.

9.50 p.m.: Mayo Hunter and Gladys.

10.0 p.m.: Songs by Mr. Leslie Herford.

10.10 p.m. Orchestra! music.

10.30 Close down.

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2 Ferranti AF4 Transformers	3	8	0
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1 5 or 10 Meg. Leak with Holder	0	2	6
1 Sangamo .00025 Fixed Condenser	0	2	3
1 Sangamo .0001 Fixed Condenser	0	2	9
1 Mansbridge 1 Mfd. Fixed Condenser	0	5	3
2 Mansbridge .5 Mfd. Fixed Condensers	0	10	0
1 30 Ohm Rheostat	0	3	6
1 Amperite for 2 UX 201A Valves	0	6	0
1 Amperite Type 120 for 622 Valve	0	6	0
11 Bakelite Top Terminals	0	2	9
1 H. & H. Toggle Switch	0	3	3
1 Small N.P. Battery Clip	0	0	4
4 Doz. N.P. Nuts and Bolts	0	4	0
1 Radiotron UX222 Screen Grid Valve	2	5	0
2 U.X. 201A Valves	0	16	0
1 U.X. 112 Valve	0	19	0
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Interstate Programmes, Wednesday, January 2

3LO, MELBOURNE

EARLY MORNING SESSION.

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: General news. 8.0 a.m.: Melbourne Observatory time signal. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down. 11.0 a.m.: Eric Welch will speak on to-day's races at Mentone.

MORNING SESSION.

11.10 a.m.: 3LO's different dainties for the daily dinner—To-day's Radio recipe: Afternoon tea scones. 11.15 a.m.: Miss I. D. Beavan, "Home-made Confectionery." 11.30 a.m.: Musical interlude. 11.35 a.m.: Mrs. M. Callaway Mahood, "Color in Decoration." 11.50 a.m.: Musical interlude.

MID-DAY SESSION.

Announcer: John Stuart.—12 noon: Description of Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 1.30 p.m.: Mr. M. A. Noble, former international cricketer, will comment on the play in the Third Test Match. 1.40 p.m.: Meteorological information. Weather forecast for Victoria, South Australia, New South Wales, and Tasmania. Ocean forecasts. River reports. Express train information. British Official Wireless News from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. Stock reports. Special report by John M'Namara and Co. 1.50 p.m.: Close down.

AFTERNOON SESSION.

Announcer: John Stuart.—2.13 p.m.: Description of Novice Handicap, 1m., Mentone Races, by Eric Welch. 2.20 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 2.43 p.m.: Description of Mentone Plate, 6f., at Mentone Races. 2.50 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 3.13 p.m.: Description of Brush Steeplechase, 2m. 1f., at Mentone Races. 3.20 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 3.43 p.m.: Description of Mentone Handicap, 1m., at Mentone Races. 3.50 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 4.0 p.m.: Mr. M. A. Noble, former international cricketer, will comment from the M.C.C. on the play in the Third Test Match. 4.10 p.m.: Description of Mentone Purse, 6f., at Mentone Races. 4.20 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 4.43 p.m.: Description of Jumpers' Flat Race, 1½m., at Mentone Races. 4.50 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. During the afternoon progress scores of the Sheffield Shield Cricket Match, New South Wales v. Queensland, at Sydney, will be broadcast as they come to hand. 5.0 p.m.: "Herald" news session. Stock Exchange information. 5.10 p.m.: Description of Third Test Match, England v. Australia, by Rod M'Gregor. 6.0 p.m.: Stumps scores.

EVENING SESSION.

Announcer: Frank Hatherley.—6.5 p.m.: Answers to letters and birthday greetings by "Bobby Blue-gum." 6.30 p.m.: Musical interlude. 6.35 p.m.: "Little Miss Kookaburra" will tell you about "What the Fairies Think of the Holidays," and then about "Jack and Jill and the Jolly Day's Secret."

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Agnes Fortune.—7.0 p.m.: Stock Exchange information. 7.15 p.m.: Market reports by John M'Namara and Co. Official report of the Newmarket Stock and Station Agents, Bourke Street, Melbourne. Fish Market reports by J. R. Borrett, Ltd. Rabbit prices. Market reports by the Victorian Producers' Co-operative Co., Ltd. Poultry, grain, hay, straw, dairy produce, potatoes, and onions. Market reports of fruit by the Associated Fruitgrowers' Association. Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.20 p.m.: News session. Stumps scores. Third Test Match, England v. Australia, at M.C.C. and Sheffield Shield Match, New South Wales v. Queensland, at Sydney. 7.30 p.m.: Birthday greetings. 7.30 p.m.: Out of the Past. 7.34 p.m.: Under the auspices of the University Extension Board, Mr. F. Sinclair, M.A., Lecturer in English Literature, will speak on "The New Year in Literature." 7.49 p.m.: A Maker of History. 7.50 p.m.: Mr. M. A. Noble, former international cricketer, will speak on: "The Play in the Third Test Match." 8.0 p.m.: Programme announcements. 8.1 p.m.: The Station Orchestra: Fantasia, "Nachruf" (Mendelssohn). 8.10 p.m.: Violet Jackson, contralto, "Il est Doux," from "Herodiade" (Massenet). 8.17 p.m.: The Station Quartette—A First Movement from Quartette" (Haydn). 8.27 p.m.: J. Alexander Browne, baritone—"The King's Minstrel" (Pinsuti). "Hope, the Hornblower" (Ireland). 8.34 p.m.: The Station Orchestra—"Excerpt from Pastoral Symphony" (Beethoven). 8.40 p.m.: Viva Holgate Clarke, piano—"Sonata in A" (Scarletti), "Etude in F" (Chopin), "La Poule" (Rameau), request items. 9.0 p.m.: Capt. Donald MacLean—"A Tale of Treasure Trove." 9.15 p.m.: Syd. Hollister, in his "Up-to-the-Minute Monologue." 9.25 p.m.: The Station Orchestra—Selection, "Opennball" (Bellini). 9.35 p.m.: French Bros., banjoists—"Rain, Together." 9.42 p.m.: Violet Jackson, contralto—"The Nightingales of Lincoln's Inn" (Oliver). "Down Vauxhall Way" (Oliver). 9.49 p.m.: Tasma Tiernan, cello—"The Broken Melody" (Van Biere). 9.56 p.m.: The Station Orchestra—"Bacchanale" (Saint-Saens). 10.0 p.m.: "Argus" news service. British Official Wireless News from Rugby. Meteorological information. 10.10 p.m.: French Bros., banjoists—"I'm Wingin' Home," "Tune In On Happiness." 10.17 p.m.: Syd. Hollister, comedian—"Bits of Brightness." 10.24 p.m.: The Station Orchestra—"Second Suite Ballet Egyptian" (Luigini). 10.34 p.m.: J. Alexander Browne, baritone—"Comrades of Mine," "Bush Night Song," "Stock Riders' Song" (William G. James). 10.41

p.m.: The Radio-o-Aces—"Loneliness" (Pollack), "Clarinet Marmalade" (Fergus), "Ramona" (Wayne). 11.0 p.m.: Our Great Thought for to-day is: "Hope is a light diet, but very stimulating" (Balzac). 11.1 p.m.: The Radio o-Aces—"Rain" (Ruby), "I Love to Dunk a Hunk of Sponge Cake" (Castill), "Because My Baby Don't Mean Maybe Now" (Donaldson), "Beloved" (Kahn), "Just Like a Melody Out of the Sky" (Donaldson), "Lazy Feet" piano solo (Masman), "That's What You Mean to Me" (Davis), "Chloe" (Kahn), "Lenora" (Gilbert), "That Stolen Melody" (Fisher), "Adoree" (West), "Googly Goo" (Davis), slumber music—"Goodnight Waltz" (Bibe). 11.40 p.m.: Close down.

3AR, MELBOURNE

MORNING SESSION.—Announcer, C. M. Hosking. 10

a.m.: G.P.O. clock says "Ten." "Age" shipping reports. Ocean forecast. Mail notices. Express train information. Weather forecast. Announcements.

MORNING MUSICAL SESSION.—11.0: Ned Tyrrell's

Radi-o-Aces—"I'm Gonna Settle Up" (Frich), "Take You To-morrow" (Hagay), "Lucky in Love" (Henderson), "The Best Things in Life are Free" (Henderson), "Sleepy Baby" (Tierney), "The Ki-Kijou" (Tierney). 11.20 a.m.: Vocal Versatility. 11.35 a.m.: Ned Tyrrell's Radi-o-Aces—"Rio Rita" (Tierney), "I'm Sorry, Sally" (Kahn), "A Little Change of Atmosphere" (Brown), "I Wanna Go Voon Voon Voo" (Brown), "Down upon the Sands" (Hamy), "Mallika" (Rell). 11.55 p.m.: Vocal Versatility. 12.0 p.m.: Ned Tyrrell's Radi-o-Aces—"You Said Good-night" (Kahn), "The Desert Song" (Romberg), "One Alone" (Romberg), "Meet Me To-day" (Dean), "Once Again" (Lumsdaine), "Tired Hands" (Woods). 12.20 p.m.: Vocal Versatility. 12.25 p.m.: British official wireless news. 12.30 p.m.: Ned Tyrrell's Radi-o-Aces—"Too-busy" (Miller), "Sweet Sue, Just You" (Tobias), "In a Bamboo Garden" (Donaldson), "Anything You Say" (Donaldson), "Lonely Acres" (Robinson), "Shake It Down" (Williams). 12.50 p.m.: Vocal Versatility. 12.55 p.m.: Ned Tyrrell's Radi-o-Aces—"Next to You I Like Me Next to You" (Bito), "What Was I to Do?" (Reid), "Chinatown" (Yvain), "The Riff Song" (Romberg), "The Dance of the Blue Danube" (Fisher), "High upon a Hilltop" (Baer). 1.15 p.m.: Vocal Versatility. 1.20 p.m.: Ned Tyrrell's Radi-o-Aces—"Tell Me Again" (Clark), "Up and Down" (Rose), "Mississippi Mud" (Harris). 1.30 p.m.: Close down. AFTERNOON SESSION.—Announcer, Frank Hatherley. Accompanist, Agnes Fortune. 2.15 p.m.: The Station Orchestra—"An Arcadian Festival" (Rickett), "Merry Andrew" (Ireland). 2.30 p.m.: Jean Lewis, Contralto—"What Shall I Sing to You?" (Barry), "To Sing Awhile" (Drummond). 2.37 p.m.: The Station Orchestra—Fantasia, "Triumphzug" (Donizetti). 2.47 p.m.: John Byrne, Bass—"Laebody" (Schumann), "The Old Black Mare" (Squire). 2.54 p.m.: The Station Orchestra—"Songs from Eiland" (von Pielitz). 3.1 p.m.: Rosa Hartnung, Contralto—"Vale" (Russell), "That's All" (Brahe). 3.8 p.m.: The Station Orchestra—Waltz from "Symphony in E Minor" (Tschaiakowsky), "Nocturne" (Tschaiakowsky). 3.18 p.m.: Captain Donald McLean—"List ye landmen, all to me! Messmates, hear a brother sailor sing the dangers of the sea." 3.33 p.m.: The Station Orchestra—Overture, "Leonore" (Beethoven). 3.43 p.m.: Announcements. 3.48 p.m.: Jean Lewis, Contralto—"The Spirits' Song" (Haydn), "The Sandman" (Brahms). 3.55 p.m.: The Station Orchestra—Suite, "A Summer Night" (Carl Doud). 4.5 p.m.: John Byrne, Bass—"Bois Spais" (Lully), "Simon, the Cellarer" (Old English). 4.12: The Station Orchestra—Suite, "Coppelia" (Delibes). 4.22 p.m.: Rosa Hartnung, Contralto—"Ships that Pass in the Night" (Stevenson), "The Silver King" (Chaminade). 4.29 p.m.: Tasma Tiernan, Cello—"Nina" (Pergolesi). 4.36 p.m.: The Station Orchestra—"Melodie" (Tschaiakowsky), "Wayside Sketches," "Selected." 4.55 p.m.: Announcements; close down. EVENING SESSION.—Announcer, Frank Hatherley. 6.0 p.m.: Superphonic Harmonics. 7.50 p.m.: Results of cricket match. NIGHT SESSION.—Announcer, Frank Hatherley. Accompanist, Reg. Brown. 8.0 p.m.: Kathleen Lascelles, "The Art of Dancing." 8.15 p.m.: Captain C. H. Peters, "Books, Wise and Otherwise." 8.30 p.m.: Prahran City Band—March, "Heroes of Liberty" (Rimmer), "Minuet" (Bocherini). 8.40 p.m.: Valerie Walsh, Contralto—"Air de Salome" (Massenet), "Romance" (Debussy). 8.47 p.m.: Prahran City Band—Selection, "The Great Masters" (Rimmer). 8.57 p.m.: Senia Chostiakoff, Tenor, request items. 9.4 p.m.: Honolulu Duo—"Southern Blues," "Hawaiian Hotel March." 9.11 p.m.: Keith Desmond, "Dismal Ditties." 9.18 p.m.: Prahran City Band—Coronation march from "Le Prophete" (Meyerbeer), intermezzo, "White Lilies" (Hume). 9.28 p.m.: Valerie Walsh, Contralto—"The Old Flagg'd Path" (Arundel), "The Night Nursery" (Arundel). 9.35 p.m.: Prahran City Band—March, "Holyrood" (Alford), "Silver Threads among the Gold" (Foster). 9.45 p.m.: Sonia Chostiakoff, "Selected." 9.52 p.m.: Honolulu Duo—"Spanish Waltz," "Hilo March." 9.59 p.m.: Keith Desmond, Elocutionist, will entertain you. 10.6 p.m.: Prahran City Band—Selection, "Lilac Time" (Clutsam). NEWS SESSION.—10.20 p.m.: "Age" news service, exclusive to 3AR. Cricket and racing news. Announcements. 10.29 p.m.: Our Shakespearean Good-night quotation. 1.30 p.m.: God Save the King.

4QG, BRISBANE

EARLY MORNING SESSION.—(Announcer: J. Tyson.)

7.43 a.m.: Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down. MORNING SESSION.—(Announcer: C. Archdall.) 11.0 a.m.: Music. 11.5 a.m.: Social news. 11.15 a.m.: A talk on "Artistic Uses of Sealing Wax and Crepe Paper," by "Denise." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Music. 12.0 noon: Close down.

MIDDAY SESSION.—(Announcer: R. Wright.) 1.0

p.m.: Market reports and weather information. 1.15 p.m.: The Postal Institute Orchestra. 2.0 p.m.: Close down. AFTERNOON SESSION.—(Announcer:

J. Tyson.) 3.0 p.m.: Orchestral music by the Tivoli Operatic Orchestra, under the baton of Mr. C. Groves. 3.30 p.m.: Mail train running times. A programme of electrically reproduced records. 4.0 p.m.: Orchestra music. 4.15 p.m.: This afternoon's news. 4.30 p.m.: Close down. EARLY EVENING SESSION.—(Announcers: R. Wright and H. Humphreys.) 6.0 p.m.: Mail train running times; mail information; shipping news. 6.5 p.m.: Some electrically reproduced records. 6.25 p.m.: Commercial announcements. 6.30 p.m.: Bedtime stories, conducted by "Little Miss Brisbane." 7.0 p.m.: News in brief. 7.5 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's Stock report. 7.30 p.m.: Weather information. 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette, arranged by the Queensland Agricultural High School and College. NIGHT SESSION.—(Announcer: A. V. James.) 8.0 p.m.: From the Studio, Alf Featherstone and his Orchestra, fox-trot, "Paradise and You" (Paerey), Rhythmic paraphrase, "Russian Phantasy" (arr. Lange). 8.10 p.m.: Harry Collins and the orchestra. A quarter of an hour's nigger melody. 8.25 p.m.: Alf Featherstone and his orchestra, fox-trot, "Last Night I Dreamed You Kissed Me" (Lambardo); fox-trot, "Chloe" (Moret). 8.35 p.m.: Jean Naylor (contralto), "O Lovely Spring" (Coenen), "If But a Bird Were I" (Hiller). 8.45 p.m.: Alf Featherstone and his orchestra, jazz waltz, "Lolita" (Stoneham). 8.55 p.m.: Metropolitan weather forecast movements of lighthouse steamers. 9.0 p.m.: Alf Featherstone and his Orchestra, fox-trot, "Somebody and Me" (Klago); fox-trot, "I Never Dreamed" (Shapiro). 9.10 p.m.: Mrs. Thornton (soprano), "Serenade" (Gounod), "Love's Garden of Roses" (Wood). 9.18 p.m.: Alf Featherstone and his Orchestra, fox-trot, "She's a Great, Great Girl" fox-trot, "Just Another Day Wasted Away" (Tobias). 9.30 p.m.: "The Sandman." Ten minutes with the mouth organ and accordion. 9.40 p.m.: Alf Featherstone and his Orchestra, fox-trot, "Dream of Italy" (Grant); fox-trot, "Sing, Birdie, Sing" (Leslie). 9.50 p.m.: Joe Dwyer and his pal Jerry. Ten minutes' fun. 10.0 p.m.: "The Daily Mail" news, "The Courier" news, weather news. 10.15 p.m.: Alf Featherstone and his Orchestra. Three-quarters of an hour's dance music. 11.0 p.m.: Close down.

6WF, PERTH

Commencing from noon, progress results will be broadcast every half-hour of the third Test Match between the English eleven and Australian eleven. 12.35 p.m.: Markets, news, and cables. 1 p.m. Time signal. 1.1 p.m.: Weather notes, supplied by the Meteorological Bureau of West Australia; station announcements. 1.2 p.m.: Studio Quintet, conducted by Mr. Val Smith. 2 p.m.: Close down. 3.0 p.m.: Further results of the third Test Match. 3.35 p.m.: Afternoon tea concert relayed from the Rosebud Cafe, Perth; vocal and instrumental interludes from the studio. 4.30 p.m.: Close down. 6.45 p.m.: Tune in. 6.48 p.m.: stories for the kiddies. 7.5 p.m.: Items by the Studio Trio. 7.30 p.m.: Stocks, markets, news. 7.45 p.m.: Talk by Lieutenant-Colonel Le Soeuf, Director of the Zoological Gardens, South Perth. 8 p.m.: Time signal. 8.1: Weather notes; station announcements, such as alterations to programmes, etc. 8.3 p.m.: Musical programme from the studio, including vocal and instrumental artists. 9 p.m.: Late news items, etc. 10.30 p.m.: Close down. 104.5-Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL, HOBART

MIDDAY SESSION.—(Announcer: Jack Broadbent.)

11.30 a.m.: Selections by the Melody Masters. 11.34 a.m.: Weather information. 11.35 a.m.: Selections by the Melody Masters. 11.55 a.m.: Tasmanian Station's 9 a.m. weather report. 12.0 noon: G.P.O. clock chimes the hour. 12.1 p.m.: Shipping information; ships within wireless range; mail notices; housewifery guide. 12.8 p.m.: Selections by the Melody Masters. 12.11 p.m.: British official wireless news. 12.20 p.m.: Selections by the Melody Masters. 12.29 p.m.: Announcements. 12.33 p.m.: Selections by the Melody Masters. 12.55 "Mercury" news service. 1.10 p.m.: Selections by the Melody Masters. 1.30 p.m.: Transmission from the Imperial, Collins Street, Hobart. Speeches at the Rotary Club luncheon. 2.0 p.m.: Close down. 2.15 p.m.: Running description of the Novice Handicap, 1 mile—run at Mentone Racecourse, Mentone, Victoria. 2.20 p.m.: Close down. 2.45 p.m.: Running description of Mentone Plate, 6 furlongs—run at

Mentone racecourse, Mentone, Victoria. 2.50.: Close down. **AFTERNOON SESSION.**—(Announcer: Jack Broadbent.) 3 p.m.: G.P.O. clock chimes the hour. 3.1 p.m.: Selections by the Melody Masters. 3.4 p.m.: Weather information. 3.5 p.m.: Selections by the Melody Masters. 3.15 p.m.: Running description of Handicap Brush Steeplechase, 2 miles 1 furlong—run at Mentone Racecourse, Mentone, Victoria. 3.20: Selections by the Melody Masters. 3.45 p.m.: Running description of January Handicap, 1 mile—run at Mentone Racecourse, Mentone, Victoria. 3.50 p.m.: Selections by the Melody Masters. 4.15 p.m.: Running description of Mentone Purse, 6 furlongs—run at Mentone Racecourse, Mentone, Victoria. 4.20 p.m.: Selections by the Melody Masters. 4.45 p.m.: Running description of Welter Handicap, 7 furlongs—run at Mentone Racecourse, Mentone, Victoria. 4.50 p.m.: All sporting results to hand. 5.0 p.m.: Close down. During the afternoon progress results will be given of the third Test match, held at Melbourne. **EARLY EVENING SESSION.**—(Announcer: J. M. Counsel.) 6.10 p.m.: Mentone race results. **EARLY EVENING SESSION.**—6.15 p.m.: Selections by the Melody Masters. 6.30 p.m.: Bertha Southey Brammall will tell the children a Tasmanian fairy tale of her own composition. 6.45 p.m.: Little Teddy Richardson will sing to the wee folk. 7.0 p.m.: Answers to letters and birthday greetings by Uncle David. 7.5 p.m.: Selections by the Melody Masters. 7.15 p.m.: "Mercury" special news service; Railway auction produce sales held at Railway; weather information; Hobart Stock Exchange, quotations; results of ladies' golf. **EVENING SESSION.**—7.30 p.m.: Geo. Nation will speak on "Gardening," under the auspices of the Radio Research Club. 7.45 p.m.: H. L. Lovett will speak on "Earth Connection." 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty years ago today. 8.6 p.m.: Recital of instrumental and vocal items by leading international artists, specially arranged by Paton's Music Warehouse. 9.45 p.m.: British Official Wireless News; "Mercury" news service; ships within wireless range; Tasmanian district weather report. 10.0 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: The Royal Autocar Club of Tasmania Safety Message. 10.2 p.m.: Our Tasmanian good-night thought. 10.3 p.m.: God Save the King. 10.4 p.m.: Close down.

2GB TUESDAY.

10.0 p.m.: Music.
10.10 a.m.: Happiness talk by A. E. Bennett.
10.20 a.m.: Music.
10.30 a.m.: Women's session by Miss Helen J. Beegling.
11.30 a.m.: Close down.
2.0 p.m.: Music.
2.5 p.m.: Women's Radio Service by Mrs. Dorothy Jordan.
2.50 p.m.: Music.
3.15 p.m.: Close down.
5.30 p.m.: Children's session by "Uncle George." Radio Movie Club.
7.0 p.m.: Music.
7.15 p.m.: Stock and market reports by New Zealand Loan and Mercantile Agency, Limited.
8.0 p.m.: Violin solos by Mr. Cecil Berry.
8.10 p.m.: Songs by Mr. Harry Bird.
8.20 p.m.: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock.
8.30 p.m.: 2GB Instrumental Trio—Miss Ada Brook, Mr. Cecil Berry, Mr. Cedric Ash.
8.45 p.m.: Songs by Miss Mab Bowyer.
8.55 p.m.: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock.
9.0 p.m.: Weather report.
9.3 p.m.: Address by Mr. W. Hoyting.
9.15 p.m.: Songs by Mr. Harry Bird.
9.25 p.m.: 'Cello solos by Mr. Cedric Ashton.
9.35 p.m.: A humorous interlude.
9.45 p.m.: Songs by Miss Mab Bowyer.
10.0 p.m.: 2GB Instrumental Trio.
10.10 p.m.: Orchestral music.
10.30 p.m.: Close down.

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Local Programmes for Thursday, January 3

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

- 7.0 a.m.: "Big Ben" and announcements.
- 7.2 a.m.: Official weather forecast; rainfall; river reports; temperatures; astronomical memoranda.
- 7.7 a.m.: "Sydney Morning Herald" summary.
- 7.12 a.m.: Shipping intelligence; mail services.
- 7.15 a.m.: Studio music.
- 7.25 a.m.: Investment market; mining share markets; metal quotations; wool sales; breadstuffs markets; inter-State markets; produce markets.
- 7.40 a.m.: Studio music.
- 8.0 a.m.: "Big Ben." Close down.

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0 a.m.: "Big Ben" and announcements.
- 10.2 a.m.: Pianoforte selection.
- 10.10 a.m.: "Sydney Morning Herald" news service.
- 10.25 a.m.: Studio music.
- 10.30 a.m.: Last-minute sporting information, by the 2FC Racing Commissioner.
- 10.40 a.m.: Studio music.
- 11.0 a.m.: "Big Ben." A.P.A. and Reuter's cable services.
- 11.5 a.m.: Close down.

MID-DAY AND AFTERNOON SESSION.

Announcer: A. S. Cochrane.

- 12.0 Noon: "Big Ben" and announcements.
- 12.1 p.m.: Stock Exchange, first call.
- 12.3 p.m.: Official weather forecast; rainfall.
- 12.5 p.m.: Studio music.
- 12.10 p.m.: Summary of news, "Sydney Morning Herald."
- 12.15 p.m.: Rugby wireless news.
- 12.18 p.m.: A reading.
- 12.30 p.m.: Studio music.
- 12.45 p.m.: Cricket scores, third Test match, England v. Australia, played at Melbourne.
- 12.48 p.m.: Studio music.
- 1.0 p.m.: "Big Ben." Weather intelligence.
- 1.3 p.m.: "Evening News" mid-day news service.

Producers' Distributing Society's report.

- 1.20 p.m.: Studio music.
- 1.28 p.m.: Stock Exchange, second call.
- 1.30 p.m.: Studio music.
- 1.50 p.m.: Last-minute sporting information, by the 2FC Racing Commissioner.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: "Big Ben." Close down.
- From the New South Wales Lawn Tennis Ground, Rushcutters' Bay, description of international tennis, British Isles v. Australia. This will be continued throughout the afternoon, returning at intervals between play to the Studio for popular music.
- 5.0 p.m.: Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

- 5.40 p.m.: The chimes of 2FC.
- 5.45 p.m.: The "Hello Man" conducts the children's session—Letters and stories. Music and entertainment.
- 6.30 p.m.: Dalgety's market reports (wool, wheat, and stock).
- 6.40 p.m.: Fruit and vegetable markets.
- 6.43 p.m.: Stock Exchange report.
- 6.45 p.m.: Weather and shipping news.
- 6.48 p.m.: Rugby wireless news.
- 6.50 p.m.: Late sporting news.
- 7.0 p.m.: "Big Ben." Late news service.
- 7.10 p.m.: The 2FC Dinner Quartette, conducted by Horace Keats—
 - (a) Fox-trot.
 - (b) "Danse les Fleurs" (Berger).
 - (c) "Chang" (Finck).
 - (d) "Fantasie Espagnole" (Hosmer).
 - (e) "Chansonnette" (Brian Hope).
 - (f) "Marche Tzigane" (Lacombe).
 - (g) Fox-trot.

EVENING SESSION.

Announcer: Laurence Halbert.

- 7.40 p.m.: Programme announcements.
- 7.47 p.m.: Pianoforte reproduction.
- 7.52 p.m.: Cricket results for country listeners.
- 7.54 p.m.: Popular music.
- 8.0 p.m.: "Big Ben." From the Capitol Theatre, the Capitol Unit Entertainment.
- 8.25 p.m.: From the Studio: Our competition.
- 8.35 p.m.: John Mitchell, tenor.
- 8.42 p.m.: Beatrice Tange, pianist—
 - (a) "Rhapsody in E Flat" (Brahms).
 - (b) "Gnomes-Reigen" (Dance of the Gnomes) (Liszt).
- 8.54 p.m.: Gwladys Evans, soprano.
- 9.0 p.m.: "Big Ben." Weather report and announcements.
- 9.5 p.m.: "Chronicles of Creamy Creek," told by the Bush Parson.
- 9.20 p.m.: From the Capitol Theatre—The Capitol stage presentation.
- 9.37 p.m.: From the Studio: John Mitchell tenor.
- 9.44 p.m.: From the Hotel Australia: Cec Morrison's Dance Band.
- 9.51 p.m.: From the Studio: Gwladys Evans, soprano.
- 10.0 p.m.: "Big Ben." Beatrice Tange, pianist—
 - (a) "Black Key Etude" (Chopin).
 - (b) "Etude in C Minor," Revolutionary (Chopin).
- 10.7 p.m.: From the Hotel Australia: Cec Morrison's Dance Band.
- 10.17 p.m.: From the Studio: Len Maurice in the newest song hits.
- 10.24 p.m.: From the Hotel Australia: Cec Morrison's Dance Band.
- 10.34 p.m.: From the Studio: Len Maurice in the newest song hits.
- 10.41 p.m.: From the Hotel Australia: Cec Morrison's Dance Band.
- 10.57 p.m.: From the Studio: Tomorrow's programme.
- 10.59 p.m.: From the Hotel Australia: Cec Morrison's Dance Band.
- 11.30 p.m.: Close down.

2BL

MORNING SESSION

Announcer: Basil Kirke.

- 8.0 a.m.: G.P.O. clock and chimes; metropolitan weather report.
- 8.1 a.m.: State weather report.
- 8.2 a.m.: Studio music.
- 8.15 a.m.: G.P.O. clock and chimes.
- 8.25 a.m.: Studio music.
- 8.30 a.m.: G.P.O. clock and chimes.
- 8.35 a.m.: Information; mails; shipping arrivals, departures, and sailings.
- 8.38 a.m.: News from the "Daily Telegraph Pictorial."
- 8.45 a.m.: G.P.O. clock and chimes.
- 9.0 a.m.: G.P.O. clock and chimes.
- 9.30 a.m.: Half an hour with silent friends.
- 10.0 a.m.: G.P.O. Clock and chimes.
- Close down.

MID-DAY SESSION

Announcer: Basil Kirke.

- 11.0 a.m.: G.P.O. clock and chimes.
- 2BL Women's Sports Association session, conducted by Miss Gwen Varley.
- 11.30 a.m.: Advertising hints.
- 11.40 a.m.: Women's session, conducted by Mrs. Cranfield.
- 12.0 Noon: G.P.O. clock and chimes.
- Special ocean forecast and weather report.
- 12.3 p.m.: Studio music.
- 12.30 p.m.: Shipping and mails.
- 12.35 p.m.: Market reports.
- 12.45 p.m.: Cricket scores, England v. Australia, third Test match, played at Melbourne.
- 12.48 p.m.: "Sun" mid-day news service.

- 1.0 p.m.: Studio music.
- 1.30 p.m.: Talk to children, and special entertainment for children in hospital.
- 1.57 p.m.: Cricket scores.
- 2.0 p.m.: G.P.O. clock and chimes.
- Close down.

AFTERNOON SESSION

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

- 3.45 p.m.: G.P.O. chimes; cricket scores.
- 3.47 p.m.: Popular music.
- 3.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.0 p.m.: G.P.O. clock and chimes.
- From the Studio—
- G. R. Griffiths and his English concertina: "First March" (Rose).
- 4.7 p.m.: "Yarns by a Wanderer."
- 4.20 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 4.30 p.m.: From the Studio—Cricket scores. Valda St. Nicolay, contralto.
- 4.38 p.m.: James Walker, pianist—
 - (a) "Sonata C Major" (Scarlatti).
 - (b) "Slow Movement Sonata Pathetique" (Beethoven).
- 4.46 p.m.: "Sun" news service.
- 4.50 p.m.: Romano's Dance Orchestra, conducted by Bennie Abrahams.
- 5.0 p.m.: G.P.O. clock and chimes.
- From the Studio—
- G. R. Griffiths, and his English concertina:
 - (a) "Andante in C Major, Opus 102" (Mendelssohn).
 - (b) "Largo" (imitation 'cello) (Handel).
- 5.7 p.m.: Valda St. Nicolay, contralto.
- 5.14 p.m.: James Walker, pianist—"Nocturne, E Major" (Chopin).
- 5.21 p.m.: Popular music.
- 5.31 p.m.: "Sun" news service.
- 5.37 p.m.: Features of the evening's programme.

EARLY EVENING SESSION

Announcers: Basil Kirke, J. Knight Barnett.

- 5.40 p.m.: Children's session. Music and entertainment.
- 6.0 p.m.: Letters and stories—Visits to strange and distant lands, by "Helio Lizzie."
- 6.30 p.m.: "Sun" news and late sporting.
- 6.40 p.m.: 2BL Dinner Quartette—
 - (a) "Mauresque" (Coates).
 - (b) Fox-trot.
 - (c) "Woodland Pixies" (Hadley).
 - (d) "The Cingalee" (Monckton).
 - (e) "Gavotte Louis XIII."
 - (f) "Chanson Polonaise" (Wieniawski).
 - (g) "Hungarian Dance" (Brahms).
- 7.10 p.m.: Cricket scores.
- 7.12 p.m.: Australian Mercantile Land and Finance Co.'s report.
- Weather report and forecast, by courtesy of Government Meteorologist.
- Producers' Distributing Society's Fruit and vegetable market report.
- Grain and fodder report ("Sun").
- Dairy produce report ("Sun").
- Weekly traffic bulletin.
- 7.25 p.m.: Mr. Pim and Miss Pam in advertising talks and nonsense.
- 7.55 p.m.: Programme and other announcements.

EVENING SESSION

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

- 8.0 p.m.: G.P.O. clock and chimes.
- From the Mosman Town Hall.
- The Mosman Municipal Band, conducted by T. C. Herron.
- 8.15 p.m.: From the studio.
- Listeners will have an opportunity of hearing the winners in the Radio Eisteddfod.
- 8.30 p.m.: Moore M'Mahon (violinist).
- 8.37 p.m.: Marjorie Skill (soprano).
- 8.44 p.m.: From the Mosman Town Hall.
- The Mosman Municipal Band, conducted by T. C. Herron.

9.0 p.m.: G.P.O. clock and chimes. From the studio, weather report and forecast.
9.1 p.m.: Lance Jeffree (tenor).
 (a) Selected.
 (b) "Child's Song" (Marshall).
9.8 p.m.: Moore M'Mahon (violinist).
9.15 p.m.: Radio Eisteddfod winners.
9.30 p.m.: From the Mosman Town Hall.
 The Mosman Municipal Band, conducted by T. C. Herron.
9.45 p.m.: From the studio.
 Marjorie Skill (soprano).
9.52 p.m.: Lance Jexree (tenor).
 (a) "O Vision Entrancing" (Goring-Thomas).
 (b) "The Twilight Hour" (Alcock).
 (c) "Serenade" (Schubert).
10.0 p.m.: G.P.O. clock and chimes.
 Winners in the Radio Eisteddfod.
10.27 p.m.: Resume of following day's programme.
10.30 p.m.: National Anthem. Close down

2UW

MIDDAY SESSION

12.30 p.m.: To-day's anniversary.
12.32 p.m.: Music.
1.0 p.m.: G.P.O. clock and chimes. Music.
2.30 p.m.: Close down.
4.30 p.m.: Musical programme.

EVENING SESSION

5.30 p.m.: Children's Hour, conducted by Uncle Jack.
6.30 p.m.: Close down.
7.0 p.m.: G.P.O. clock and chimes. Music.
7.10 p.m.: News items.
7.30 p.m.: Musical interlude.
8.0 p.m.: G.P.O. clock and chimes. Music.
9.0 p.m.: G.P.O. clock and chimes.
9.10 p.m.: Music and request numbers.
10.0 p.m.: Close down.

2GB

10.0 a.m.: Music.
10.10 a.m.: Happiness talk by A. E. Bennett.
10.20 a.m.: Music.
10.30 a.m.: Women's session by Miss Helen J. Beegling.
11.30 a.m.: Close down.
2.0 p.m. Music.
2.5 p.m.: Women's Radio Service by Mrs. Dorothy Jordan.
2.30 p.m.: Music.
3.15 p.m.: Close down.
5.30 p.m.: Children's session by "Uncle George." Radio Movie Club.
7.0 p.m.: Music.
7.15 p.m.: Stock and market reports by New Zealand Loan and Mercantile Agency, Limited.
8.0 p.m.: Frank Lua and his steel guitar.
8.10 p.m.: Songs.
8.20 p.m.: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock.
8.25 p.m.: Pianoforte solos by Miss Jean Read.
8.35 p.m.: Songs by Miss Edith Allen Taylor.
8.45 p.m.: Violin solos by Mr. Lionel Hargreaves.
8.55 p.m.: A humorous interlude.
9.0 p.m.: Weather report.
9.3 p.m.: Address.
9.15 p.m.: Frank Lua and his steel guitar.
9.25 p.m.: Songs by Miss Edith Allen Taylor.

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9.35 p.m.: Pianoforte solos by Miss Jean Read.
9.45 p.m.: A humorous interlude.
10.0 p.m.: Violin solos by Mr. Lionel Hargreaves.
10.10 p.m.: Orchestral items.
10.30 p.m.: Close down.

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Interstate Programmes, Thursday, January 3

3LO, MELBOURNE

EARLY MORNING SESSION.

7.15 a.m.: Morning melodies. 7.20 a.m.: Morning exercises to music. 7.30 a.m.: Stock reports. Market reports. General news. Shipping. Sporting information. 8.0 a.m.: Melbourne Observatory time signal. Express train information. 8.1 a.m.: Morning melodies. 8.15 a.m.: Close down.

MORNING SESSION.

Announcer: John Stuart. 11.0 a.m.: 3LO's Different Dainties for the Daily Dinner. To-day's Radio Recipe. Savory Omelet. 11.5 a.m.: Olga Parker. "What Some Famous Poets Have Written for Children." (Tennyson). 11.20 a.m.: Musical interlude. 11.25 a.m.: Matron Moreland will speak on "Mothercraft." 11.40 a.m.: Musical interlude. 11.45 a.m.: Mrs. Henrietta C. Walker, "The Art of Being a Settler."

MIDDAY NEWS SESSION.

12.0 noon: Melbourne Observatory time signal. Express train information. 12.1 p.m.: British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. 12.15 p.m.: Newmarket stock sales. Special report by John M'Namara and Co. 12.20 p.m.: Community singing—Old-time Choruses—transmitted from the King's Theatre, Melbourne. Conducted by Frank Hatherley. Assisted by the Station Orchestra (Conductor, Fredk. Hall). Syd. Burchall (baritone), "The Company Sergeant-Major," "I Just Roll Along." During the community singing, progress scores of the Third Test Match, England v. Australia, at M.C.C., will be broadcast as they come to hand. 1.50 p.m.: Close down.

AFTERNOON SESSION.

Announcer: John Stuart. 2.13 p.m.: Description of the Trial Hurdle Race, 2 miles, at Mornington races, by Eric Welch. 2.20 p.m.: Description of the Third Test Match, England v. Australia, at M.C.C., by Rod M'Gregor. 2.43 p.m.: Description of Maiden Plate, 6 six furlongs, at Mornington Races. 2.50 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 3.18 p.m.: Description of Trial Handicap, 6 furlongs, at Mornington Races. 3.25 p.m.: Description of the Third Test Match, England v. Australia, at M.C.C. 3.48 p.m.: Description of Trial Handicap, 6 furlongs, at Mornington Races. 3.55 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 4.0 p.m.: Mr. M. A. Noble, former international cricketer, will comment from the M.C.C. on the play in the Third Test Match. 4.10 p.m.: Sonora recital. 4.18 p.m.: Description of the Novice Handicap, 5 furlongs, at Mornington races. 4.25 p.m.: Description of the Third Test Match, England v. Australia, at M.C.C. 4.48 p.m.: Description of the Welter Handicap, 7 furlongs, at Mornington Races. 4.55 p.m.: Description of Third Test Match, England v. Australia, at M.C.C. 5.30 p.m.: News session. Acceptances and barrier positions for the Sandown Park Races, to be held on Saturday, January 5. 5.4 p.m.: Description of the Third Test Match, England v. Australia, at M.C.C. 6.0 p.m.: Stumps scores. During the afternoon progress scores of the Sheffield Shield cricket match, New South Wales v. Queensland, at Sydney, will be broadcast as they come to hand.

EVENING SESSION.

Announcer: Frank Hatherley. 6.5 p.m.: Answers to letters and birthday greetings by "Bobby Blue-gum." 6.30 p.m.: Musical interlude. 6.35 p.m.: "Bobby Blue-gum" will tell you a Nonsense Tale. 6.50 p.m.: "Bobby Blue-gum" has some cheery songs to sing for you.

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Agnes Fortune. 7.5 p.m.: Stock Exchange information. 7.15 p.m.: Special reports by John M'Namara and Co. Pig market reports by M'Phail, Anderson, and Co. Official report of the Newmarket Stock Sales by the Associated Stock and Station Agents, Bourke Street, Melbourne. Weather synopsis. Fish market reports by J. R. Borrett, Ltd. Rabbit prices. River reports. Market reports by the Victorian Producers' Co-operative Co., Ltd. Poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions. Market reports of fruit by the Victorian Fruiters' Association. Retail prices. Wholesale prices of fruit by the Whole Fruit Merchants' Association. Citrus fruits. 7.30 p.m.: News session. Stumps scores, Third Test Match, England v. Australia, at M.C.C.; also Sheffield Shield cricket match, New South Wales v. Queensland, at Sydney. 7.40 p.m.: Mr. M. A. Noble, former international cricketer, will comment on the play in the Third Test Match. Mr. Noble will be introduced by Rod M'Gregor with a few introductory remarks. 7.50 p.m.: Out of the past. 7.51 p.m.: Ellis Irvine, now playing at the Theatre Royal, Melbourne, will speak to you from his dressing-room, by permission J. C. Williamson, Ltd. Programme announcements. 8.1 p.m.: The Radi-o-Aces, "Loyal Legion," (Chloe) (Moret), "Because My Baby Don't Mean Maybe Now" (Donaldson). 8.10 p.m.: Syd. Hollister (comedian), "More of This and That." 8.15 p.m.: The Radi-o-Aces, "The Desert Song" (Romberg), "One Alone" (Romberg), "Alabama Stamp" (Creamer). 8.22 p.m.: Keith Desmond (elocutionist) will give a short recital. 8.25 p.m.: The Radi-o-Aces, "Anything you Say" (Donaldson), "In a Bamboo Garden" (Donaldson), "Get Out and Get Under the Moon" (Tobias). 8.34 p.m.: Violet Jackson (contralto), "The Nightingale and the Rose" (Thompson). 8.37 p.m.: The Radi-o-Aces, "That's My Weakness Now" (Stept), "Lolita" (Stonham), "Roses of Yesterday" (Berlin). 8.46 p.m.: E. Mason Wood (baritone), "Phill the Fluter's Ball." 8.49 p.m.: The Radi-o-Aces, "It Goes Like This" (Caesar), "Is It Gonna Be Long" (Whiting), "Just Keep Singing a Song" (Sissell). 8.58 p.m.: Syd. Hollister (comedian), "Have You Heard This?" 9.1 p.m.: The Radi-o-Aces, "Minne-

tonka" (Wallace), "The Dance of the Blue Danube" (Fisher), "Beautiful" (Gillespie). 9.10 p.m.: Keith Desmond (elocutionist) will give a short recital. 9.13 p.m.: The Radi-o-Aces, "Constantinople" (Carlton), "Gotta Big Date With a Little Girl" (Tobias), "Dream House" (Fox). 9.22 p.m.: Violet Jackson (contralto), "A Brown Bird Singing" (Wood). 8.25 p.m.: The Radi-o-Aces, "My Blackbirds are Bluebirds Now" (Friend), "Mine, All Mine" (Ruby), "Rain" (Rub.). 9.34 p.m.: E. Mason Wood (baritone), "From Rock to Rock" (Sullivan). 9.37 p.m.: The Radi-o-Aces, "Oh, Ya Ya" (Frich), "There Ought to Be a Law Against That" (Friend), "Hot Ivories" (Sinastra). 9.46 p.m.: Syd. Hollister (comedian), "Bits of Brightness." 9.49 p.m.: The Radi-o-Aces, "Chiquita" (Wayne), "Just Like a Melody Out of the Sky" (Donaldson), "You are Wonderful" (Ash). 9.58 p.m.: "Argus" news session. British official wireless news from Rugby. Meteorological information. Announcements. 10.13 p.m.: The Radi-o-Aces, "Evening Star" (Turk), "Afraid" (Barnie), "Paradise" (Zamirneck). 10.22 p.m.: Keith Desmond (elocutionist) will give a short recital. 10.25 p.m.: The Radi-o-Aces, "Cinnamon Cake" (Bernard), "Beside a Lazy Stream" (Stept), "Dusky Stevedore" (Razalf). 10.34 p.m.: Violet Jackson (contralto), "Happy Song" (Del Riego). 10.37 p.m.: The Radi-o-Aces, "You're a Real Sweetheart" (Friend), "It Don't Do Nothin' But Rain" (Cook), "How Long Has This Been Going On?" (Welding). 10.46 p.m.: E. Mason Wood (baritone), "Archie of the Royal Air Force" (Longstaffe). 10.49 p.m.: The Radi-o-Aces, "Why Can't You Care?" (Gilbert), "High Up on a Hilltop" (Baer), "Do You?" (Piantadosi). 10.58 p.m.: Our Great Thought for to-day is: "All pleasures are commendable that do not culminate in regret." Mdm. de Maintenon. 10.50 p.m.: The Radi-o-Aces, "In a Honeymoon Cottage" (Lumsdaine), "That's My Mammy" (Donaldson), "Ready for the River" (Moret), request numbers. 11.0 p.m.: God Save the King.

3AR, MELBOURNE

MORNING SESSION. Announcer: Chas. Hosking. 10 a.m.: G.P.O. clock says "Ten." 10.1 a.m.: "Age" market reports; farm and station produce; fruit, fish, vegetables, etc.; "Age" shipping reports; ocean forecast; mail notices; express train information; "Age" news service, exclusive to 3AR; weather forecast; announcements. **MORNING MUSICAL SESSION.**—11 a.m.: Ned Tyrrell's Radi-o-aces—"Lolita" (Stoneham), "Without you, Sweetheart" (De Silva), "Dream Kisses" (Yellen), "Lenora" (Gilbert), "Virginia Creeper" (Wade), "Little Log Cabin of Dreams" (Hanley). 11.20 a.m.: Vocal Variations. 11.25 a.m.: Ned Tyrrell's Radi-o-aces—"Happy go lucky lane" (Lewis), "All day long" (Cross), "Don't keep me in the dark, bright eyes" (Bryan), "Down where the sun goes down" (Jones), "Dolores" (Kassell), "Mine, all mine" (Ruby). 11.45 a.m.: Vocal Variations. 11.50 a.m.: Ned Tyrrell's Radi-o-aces—"Rain" (Ford), "Just like a melody out of the sky" (Donaldson), "Because my baby don't mean maybe now" (Donaldson). 12 noon: Transmission from the M.C.C., description of third Test Match, England v. Australia, by Rod M'Gregor. 1.30: Mr. M. A. Noble, formerly international cricketer, will comment on the play in the third Test Match at the M.C.C. Ground. 1.40: Close down. **AFTERNOON SESSION.**—4.45 p.m.: Evensong, transmitted from St. Paul's Cathedral, Melbourne. 5.30: Close down. **EVENING SESSION.** Announcer: Frank Hatherley. 6 p.m.: Sweet solace from the Seraphina. 7.50 p.m.: Results of third Test Match, England v. Australia. **NIGHT SESSION.** (Announcer: Frank Hatherley. Accompanist: Reg. Brown.) 8 p.m.: Under the auspices of the Nurserymen and Seedsmen's Association of Victoria, W. R. Warner will speak on "Seed sowing for winter flowers." 8.15 p.m.: E. A. Gollan, director of the Y.M.C.A. Canoe Club, affiliated with the Victorian Canoe Association, will speak on "Canoeing as a sport and recreation." 8.30 p.m.: The Station Orchestra—"Ballet Music." Faust (Gounod), "Gems No. 2" (Pirani). 8.45 p.m.: J. Harcourt Bailey, humorist, Tit Bits of Humor, "A Triple Tost" (Squires). 8.52 p.m.: Viva Holgate Clarke, piano—"Rhapsody in G Minor" (Brahms), "Berceuse" (Grieg), "Little Bird" (Grieg), "Butterfly" (Grieg). 9.5 p.m.: The Station Orchestra, phantasy, "The Selfish Giant" (Coates). 9.15 p.m.: One Act Play, "The Brass Door Knob." Produced by J. Beresford Fowler. Characters: Mrs. Bradbury, Hettie Feuerman; Mr. Hawker, J. Beresford Fowler. Mrs. Bradbury is the wife of a naval architect, the inventor of a new type of armored car. Mr. Hawker is a spy in the pay of an enemy nation, posing as a hawk of plants. Scene: The Bradbury's Flat on the top floor of 33 Hammerton Mansions, London, N.W. time, afternoon: period, the present. 9.30 p.m.: Senia Chostiakoff, tenor, two Russian songs. 9.37 n.m.: The Station Orchestra, selected. 9.47 p.m.: J. Harcourt Bailey, humorist, Droll Stories, "A Quate-So Story." 9.54 p.m.: Senia Chostiakoff, tenor, request items. 10.1 p.m.: The Station Orchestra—"Fantasie" (Schubert), "La Zingana" (Bohn). 10.20 p.m.: News session; "Age" news service exclusive to 3AR: results of third Test Match: acceptances for Saturday's races at Sandown Park. 10.30 p.m.: Our Shakespearean Good Night Quotation. God Save the King.

4QG, BRISBANE

EARLY MORNING SESSION.—(Announcer: J. Tyson.) 7.43 a.m.: From the Observatory. Time signals. 7.45 a.m.: News service. 8.0 a.m.: Some electric records. 8.15 a.m.: News service. 8.30 a.m.: Close down. **MORNING SESSION.**—(Announcer: C. Archdall.) 11.0 a.m.: Music. 11.5 a.m.: Social news. 11.15 a.m.: Lecturette: A gardening talk, by "Tecoma." 11.30 a.m.: Music. 11.35 a.m.: More social news. 11.45 a.m.: Music. 12.0 noon: Close

down. **MIDDAY SESSION.**—(Announcer: R. Wight.) 1.0 p.m.: Market reports and weather information. 1.15 p.m.: Lunch-hour music. 2.0 p.m.: Close down. **AFTERNOON SESSION.**—(Announcer: H. Humphreys.) 3.0 p.m.: A programme of electrically reproduced records. 3.30 p.m.: Mail train running times. 4.15 p.m.: This afternoon's news. 4.15 p.m.: Close down. **EARLY EVENING SESSION.**—(Announcer: R. Wight.) 8.0 p.m.: Mail train running times; mail information; shipping news. 6.5 p.m.: Dinner music. 6.25 p.m.: Commercial announcements. 6.30 p.m.: Bedtime stories conducted by "The Sandman." 7.0 p.m.: News in brief. 7 p.m.: Stock Exchange news. 7.6 p.m.: Metal quotations. 7.7 p.m.: Market reports. 7.25 p.m.: Fenwick's Stock report. 7.30 p.m.: Lecturette, "On mation." 7.40 p.m.: Announcements. 7.43 p.m.: Standard time signals. 7.45 p.m.: Lecturette, "On the Wallaby: Rural Reminiscences No. 1," by Mr. J. F. F. Reid (Editor, "Queensland Agricultural Journal"). **NIGHT SESSION.**—(Announcer: A. V. James.) Another mystery play, "The Sarcophagus" (by W. S. Mew). The first portion of the programme will comprise the presentation of a radio mystery play—"The Sarcophagus." The scene of the prologue to the play is laid in the land of Egypt—the Egypt of the days when the nation stood supreme. At the time of the prologue, the land has been under the rule of the mighty Amen-Ra, and the scene is in a chamber in the palace of that mighty sovereign. The action of the play itself takes place in and around the English home of Sir Arthur Colville. The play will break off at a most baffling point, and listeners will be asked to give their version of it and post their attempts to 4QG, marking the envelopes "Sarcophagus." On Tuesday, January 8, the play will be summarised, re-enacted in part from a certain point, and then carried to its conclusion. The names of those who have solved the mystery will be read and the sender of the best solution will be awarded a prize of £2/2/. 8.0 p.m.: From the studio, Radio mystery play, "The Sarcophagus." Cast: Amen-Ra (a king), W. S. Mew; Mena-Ra (his son); Sir Arthur Colville (Egyptologist), Ernest Barry; Dr. Harrington Farrow (his friend), W. S. Mew; Hazel Colville, Mavis Macfarlane; Jack Stirling (Hazel's fiancé), C. D. Moran; Esaye (Colville's Egyptian servant), H. Collins; Fasola (Colville's Egyptian servant; Za-Rita (Hazel's Egyptian maid), Constance Archdall. Overture and incidental music by the Studio Instrumental Quartette (Conductor, Mr. Fred Smith). Prologue, "In the Days of Royal Egypt." Act 1.—England: Time, the present. Scene 1: The living-room of Sir Arthur house. Scene 2: The house—next day. Scene 3: At the house—afternoon. Scene 4: At the house—evening. Scene 5: At the house—later. 9.15 p.m.: Metropolitan weather forecast. 9.16 p.m.: Movements of the Travelling Dental Clinic. 9.18 p.m.: The Studio Instrumental Quartette (Conductor, Fred Smith), "Intermezzo"—"Frisolous Cupid." 9.24 p.m.: Winifrid Haslam (contralto), "Beyond the Dawn" (Sanderson), "In An Old Fashioned Town" (Squire). 9.31 p.m.: G. Fagg (violinist), "Salut d'Amour" (Elgar)—accompanied by the Studio Instrumental Quartette. 9.35 p.m.: Stanley Tamblin (bass), "In Old Madrid" (Trotter), "Cloze Props" (Charles). 9.42 p.m.: The Studio Instrumental Quartette. A quarter on an hour's dance music. 10.0 p.m.: "The Daily Mail" news; "The Courier" news; weather news. Close down.

7ZL, HOBART

EVENING SESSION.—(Announcer: Jack Broad-bent.) 7.30 p.m.: Come to Tasmania. Under the auspices of the "Come to Tasmania" organisation, J. B. Reid (chairman) will speak on "Tasmania for Tourists." 7.45 p.m.: T. W. Simpson, of the Royal Life-saving Society, will speak on "Swimming and Cramps." 8.0 p.m.: G.P.O. clock chimes the hour. 8.1 p.m.: Fifty Years Ago To-day. 8.6 p.m.: Mlle. Columbia broadcasts 8.15 p.m.: 7ZL Old-time Night. Programme by the Alla Polacca Orchestra and Mlle. Columbia. 7ZL Alla Polacca Orchestra. Waltz, "Blue Danube" (Strauss). Alma Gluck (soprano), "Song of the Chimes" (Worrell). 7ZL Alla Polacca Orchestra, schottische, "Honey Bees" (Richmond). Enrico Caruso (tenor), "Serenade de Don Juan" (Tschaikowsky). 7ZL Alla Polacca Orchestra, lancers, "Popularity" (Ganz). Elsie Baker (contralto), "Home, Sweet Home" (Foster). 7ZL Alla Polacca Orchestra, waltz, "Old, Sweet Story." Robert Radford (baritone), "When I was a Tiny Boy." 7ZL Alla Polacca Orchestra, barn dance, "Rinking" (Poole), Enrico Caruso (tenor), "Serenade de Don Juan," part 2 (Tschaikowsky). 7ZL Alla Polacca Orchestra, two-step, "Denham" (Conway). Elsie Baker (contralto), "Old Folks at Home" (Bishop). 7ZL Alla Polacca Orchestra, quadrills, "Happy Darkies" (Kennedy). Robert Radford (baritone), "Four Jolly Sailors" (German). 7ZL Alla Polacca Orchestra, Varsoviana, "Varsoviana." Edna Thornton (soprano), "For Every Day" (Russell). 7ZL Alla Polacca Orchestra, polka, "Dixie" (Rolf). John M'Cormack (tenor), "Take, Oh Take Those Lips Away." 7ZL Alla Polacca Orchestra, valse, "Masquerade" (Kessler). Duet, Emma Destinova (soprano) and L. Gilly (baritone), "My Homeland." 7ZL Alla Polacca Orchestra, polka-mazurka, "Home Flowers" (Buttville). Gresnam Singers, "O Peaceful Night" (German). 7ZL Alla Polacca Orchestra, leap-year waltz, "Merry Widow" (Lehar). 10.0 p.m.: G.P.O. clock chimes the hour. 10.1 p.m.: British official wireless news. "Mercury" special. Tasmanian news service. Tasmanian district weather report. 10.10 p.m.: Our Tasmanian good-night thought. 10.12 p.m.: God Save the King. Close down.

The WIRELESS WEEKLY

RADIO INFORMATION

Under the direction of
Ray Allsop
 and
Don B. Knock
 (Associate Technical Editors)

Service

Correspondence Answered
 only through
 these
 Columns
 (See Coupon Below)

"Disappointed (Manly): "I built the Screen-grid Portex, and now wish I hadn't. 2BL and 2GB are received with good volume, but I cannot cut 2BL out. 2FC can only just be heard, and 2KY and 2UE are a washout, whilst inter-State reception is a sheer impossibility.

Answer: Try taking the connection from C6 to the centre tap of L3 instead of to the grid end. See also below.

P.M. (Willoughby): "When tuning-in, the valves begin to whistle, and this noise increases in volume until it can be heard thirty feet away. Sometimes this dies away."

Answer: See that the speaker is not resting on top of the radio cabinet, or that it is not facing the receiver, otherwise the sound would cause the elements of the valves to vibrate, thus causing microphonic trouble. Also try changing the grid leak, and see that you are using correct grid-bias on the detector valve.

E.M. (Corio): "As I am unable to obtain a Pilot 3 Gang .0005 condenser, will you please tell me where I can get one, or what substitute may be used. I should like to use a Pilot condenser if possible."

Answer: Most of our advertisers can supply. As Pilot condensers have removable spindles, you could obtain three of them, and make up a gang condenser yourself.

W.A.T. (Randwick): "Will you please tell me if the crystal circuit published in 'Wireless Weekly' dated 8/10/26 is correct? There seems to me to be no connection between the two windings on the coil."

Answer: The circuit is quite correct. There is no actual connection between the two coils. They are said to be "inductively coupled." Energy on its way through the aerial coil is picked up by the secondary coil in much the same manner as the secondary of a transformer picks up energy from the primary. The receiver may give you faint speaker results on 2FC, but a crystal receiver will only give good results on 'phones.

A.L. (Queensland): "I have a six-valve receiver, using an accumulator for 'A' supply, and dry batteries for 'B' supply. The accumulator will not last more than two weeks without recharging. The set is also heavy on 'B' batteries. Some of our neighbors have their 'A' battery charged every six weeks. Can you suggest where the trouble is, and what the remedy would be?"

Answer: You do not advise us regarding the characteristics of the valves you are using. If of the 6 volt — .25 amp. type, six valves will take a current of 1½ amps., which is very heavy consumption. This would not matter much if you had a large capacity accumulator. In order to make the accumulator last the time you mention, you would require one of approximately 80 amp. hours capacity. Do not buy another accumulator of 80 amp. hours, but procure one whose capacity will, when connected in parallel with that at present in use, bring the total up to 80. Of course, the trouble may be due to paste which has fallen from the plates, and which is causing a short at the bottom of the accumulator. This would be caused through jarring, over-charging, or over-heating. An accumulator gives good service for approximately 18 months. Use heavy-duty 'B' batteries, and unless you are already doing so, it would be advisable to use some of the 4-volt series valves, which only take a small filament current. Philips CeCo, Radiotron, and other valves will give you just as good reception. If you desire further information on the type of valves to use, please write again.

F.G. (Manly): "For the past two years and five months I have been a reader of your interesting journal, to wit, 'Wireless Weekly.' I say, 'for the past two years and five months,' but I err; with the exception of the latter end of May to the third week in August I have read your paper for the period mentioned. Well, to get to business (that's the ideal—Ed.), in 'Wireless Weekly' for July (I am not sure of the issue), you described the 'All Empire' short-wave receiver. Having been dabbling in short waves for the last two years, I am particularly anxious to obtain this issue, especially when I read in 'W.W.' 22/11/26 that the circuit is designed and taken from 2NO's 'Go-getter.' I was going to build the latter receiver, but being rather short of 'filthy lucre' (in other words, money) at the time, I gave it up. Well, sir, from reports I have heard lately, I am dashed sorry I did not build this receiver. Now the diagram is lost and gone forever! I am very anxious (as I said 60,000 words back) (we know it!—Ed.) to build the 'Empire Short-waver.' Can you supply me with a copy?"

I am willing to pay 2/ for this issue. Perhaps you might care to put a line or two in queries about it, if you have no copies. I should like to know the address of G. Hanley, Adelaide, and also 'Close Shave,' Scone. You see, Mr. Editor, I am determined to get this fine circuit if I have to rake Australia to obtain it. Please excuse writing; am half-asleep."

Answer: I also am nearly asleep. Regret we have no copies of the issue you require left. Perhaps some reader may send you a copy. The address is Mr. F. Coggin, 18 Quinton Road, Manly, N.S.W. You forwarded a stamped envelope, but we regret being unable to answer queries by post.

"Tangaluma" (Queensland): "In a previous issue of 'W.W.' you stated that you were preparing a list of the more important S.W. broadcasting stations (music, voice, and such like) that would be published shortly. I haven't seen it yet."

Answer: I hope to have this finished within a week or so.

E.C. (Crow's Nest): "Would you please give me complete data for making a step-down transformer, using 240 volt A.C. supply. I desire to obtain outputs of 2, 4, 6, 8, and 10 volts."

Answer: I would not advise you to undertake the construction of this transformer, which would cost considerably more to make than it would cost to buy, and besides the labor and intricate work entailed. Your best plan would be to obtain a bell-ringing transformer, which can be obtained from almost any radio or electrical shop. The price is usually 12/6. Taps are provided for 6, 12, and 18 volts, but rheostats may be used in series to give the desired voltage drop.

W.H.S. (Bringingly): (1) "Where can I get information regarding Lorenze coils?"

Answer: In the A.R.R.L. Handbook, obtainable from Swain's.

(2) "Could I get the several copies of your journal preceding and following the article, 'Can you follow a theoretical circuit?'"

Answer: Sorry, but we have no copies left. Read 'Errors made by the Amateur Constructor' (which appeared in a recent issue of 'Radio'), also 'Building Receivers from Schematic Diagrams,' published in 'W.W.' 30th November, 1928.

(3) "Do you know of a good book on the super-heterodyne?"

Answer: I do. It is termed, "The Radio News Superheterodyne Book," and is obtainable from Swain's.

L.M.W. (Mudgee): "I have built one of your receivers, incorporating the screen-grid valve. There is a 25-cycle hum in the second audio stage, which noise cannot be got rid of."

Answer: Suggest using separate "B" batteries for the R.F. and audio stages, or try the inclusion of R.F. chokes in the audio "B" plus leads.

F.E.A. (Melbourne): "I built the 'All-Empire,' but cannot get it to oscillate properly. I am using Marconi transformers, a Philips A615 for detector, a Marconi S625, the plate end of which is in the detector section, also a B.T.H. B7 valve, and an Osram DE8 as audio. I used a solid copper box instead of aluminium for shielding."

Answer: All of these substitutes are in order. Your coils are apparently not matched. Keep the R.F. coil slightly larger in each case. Add about one turn for the S.W. band, and five turns for the broadcast band.

A.E.F. (Lismore): "I recently constructed the 'Go-getter' and blew out my valves. Is the diagram enclosed O.K.? Where could I look for the trouble?"

Answer: The diagram is correct. The trouble may be due to a faulty jack. Run through all "B" positive leads and make certain you have made correct connections to transformers. See that battery leads are not shorting, and that any fixed condensers in use have not broken down.

J.C.T. (Queensland): "I built the 'Peridyne,' and was very disappointed. I could hardly hear 3LO which is easily the best station out this way. I have soldered everything except the instruments on top of the sub-panel. The screws looked quite good."

Answer: There is no need to solder these connections if good contact is made. Place a power-valve in the first audio stage, with correct biasing, and use 120 volts plate supply.

D.F. (Ashfield): "I have built a two-valve Reinartz, and cannot receive inter-State stations without interference. Diagram and circuit enclosed."

Answer: Thanks for enclosing the circuit. We wish other readers would do likewise. We are able to point out your errors. You have not wound the coils correctly. Wind them as follows: Prim-

ary, 15 turns No. 22 D.C.C. on a three-inch former. Space half an inch, then wind the secondary, which should consist of 50 turns of the same wire. Then space quarter of an inch, and wind the reaction, 22 turns. The top of this latter winding should be connected to the plate of the first transformer, and the bottom should be attached to the plate of the detector valve. The use of a choke (or a 250-turn honeycomb coil) is advisable. Place it in series with the lead from the plate of the detector valve. If you still suffer from interference, try the following in order: A shorter aerial; an underground-shielded aerial; use of a wave-trap. The action condenser you are using is too large for smooth control. Use one of .00035 mfd.

H.L. (Queensland): "I have built an eliminator, and find I cannot get 45 volts on the detector. I have an Electrad 0-10,000 ohm resistor. The lowest voltage I can get is 85."

Answer: Your amperage draw is not sufficient to reduce the voltage to 45. Place another resistor of 0-10,000 ohms in series with the resistor at present in use; this will give you the required voltage.

J.A.B. (Coogee): "Being interested in tone quality, I am considering the purchase of an A.B.C. power kit. Kindly advise what circuit is most suitable with an outfit of this kind for local and distant reception."

Answer: The power-kit you mention is very good, and any set with a proper stage of first audio will give you splendid results. As for distant reception, a superheterodyne is the best, but some of these are not the best receivers for tone quality. You must remember you can't always have both quality and distance.

P.S. (Glebe Point): "I enclose circuit of my one-valve receiver. Whilst at the Mountains I could receive 2FC, 2BL, 2GB, 3LO, and 3AR plainly on 'phones. Now that I am in Sydney do you think I could work a speaker off this set?"

Answer: Yes; a loud-speaker could be used for local stations, but volume will not be equal to that given by your telephones. Place a .001 fixed condenser across the telephones. It would be a good idea to add a one or two valve amplifier to this receiver, when you would get good speaker volume on all local stations.

L.R. (Sydney): "Will you please let me know how I can increase voltage and add another terminal to the enclosed 'B' eliminator circuit? Please send me a wiring diagram of a four-valve receiver without rheostats."

Answer: Your diagram of the eliminator shows three output terminals. One of these is the negative terminal, whilst the other taps are used to vary the output voltage. If you are already using the highest tap, it will be necessary to replace the A.C. transformer with one of a higher ratio, in order to give greater output voltage. If you have not experimented with the taps, try using the end terminal, which your diagram shows unconnected. Sorry we have no copies left of the "Marco Four," but the circuit, modernised, will, in all probability be published again very shortly.

QUERY COUPON

If you are in difficulties about reception or set-construction, let us know, and we will endeavor to set you right. Make your questions brief to the point, and, where possible, show lay-out and wiring design. Under no circumstances will answers to queries be made by letter or by telephone. All answers will appear in the columns of this department in the order in which they are received.

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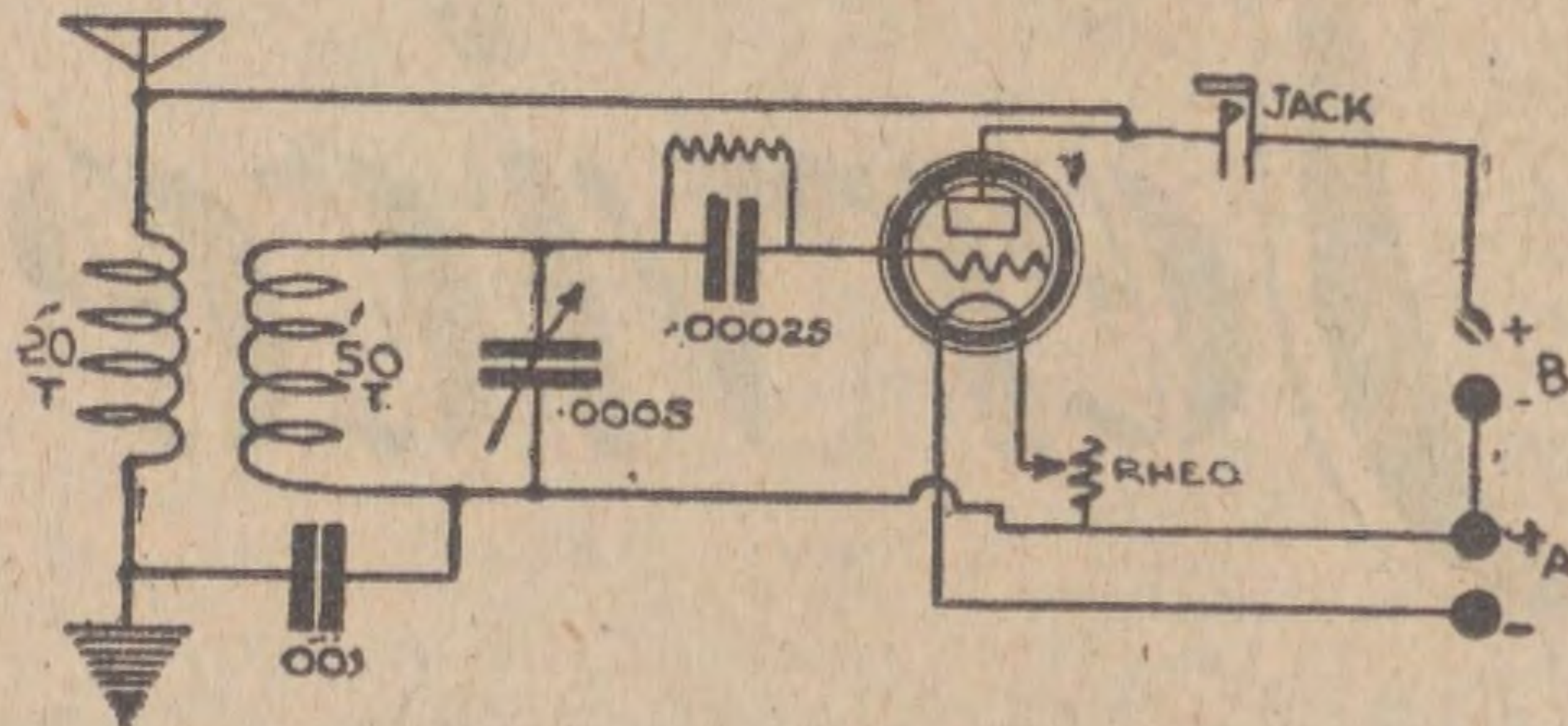
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T.F. (Peakhurst): "I have a neutrodyne receiver, and desire to listen on short waves. What alterations will be necessary?"

Answer: The neutrodyne receiver cannot be used on the S.W. band. Your best plan would be to use a short-wave adapter, and plug this into the audio stages of your neutrodyne, making sure to remove the R.F. stages.

V.A.C.P. (Queensland): "I have built the 'Extraordinary One-valve Receiver' and added two stages of audio, and am not sure whether I have it right or not. I am enclosing a sketch of the circuit, and would be pleased if you can tell me where I am wrong."



Answer: In the first place, your circuit of the 'Extraordinary One-valve' is in itself totally wrong. The correct circuit appears in these columns. You have connected up the amplifier incorrectly also. Wire it up this way: From that side of the telephone that connects to the plate of the valve connect to P of the 5½-1 transformer. From the other TAKE IN BLOCK A

ETAOIN SHRDLUUU side of the telephone take a lead to "B" plus of the first transformer. Then carry a lead from G of this transformer to the grid terminal of the first valve socket, and from P of the socket to the plate terminal of the 3½-1 transformer. Connect F—of the first transformer to F—of the second transformer, and connect a lead from here to the negative terminal of a 4½ volt "C" battery. Connect B plus of the 3½-1 transformer to one side of the speaker, and thence to the maximum tapping on your "B" battery. From the other side of the speaker take a lead to the plate terminal of the last valve socket. Next connect G of the last socket to the grid terminal of the 3½-1 transformer. Take a lead from the negative filament circuit of one valve socket, to the like terminal on the other socket, and thence to the negative terminal of the "A" battery. Connect this latter terminal to the positive connection of the "C" battery. Now, from the positive terminal of the "A" battery, take a lead to each remaining filament terminal on the valve sockets. You could try placing a .001 fixed condenser across P and B of the first transformer also.

J.R. (Ballina): "I have purchased a three-valve four-volt wireless set, using Emmco parts, and would like to improve on it. I have heard of something being fixed on your aerial to improve reception. What is it?"

Answer: You do not mention the circuit employed in your receiver, so I cannot advise you. Please write again. Radio receivers to-day are most efficient, and it is inadvisable for an inexperienced fan to fiddle with his receiver. The attachment you mention is probably the "ball aerial," which merely exerts capacity on the aerial. A .0001 fixed condenser in the aerial lead will sometimes help selectivity.

F.W.H. (no address): "As soon as I connected up my batteries the valves burnt out. I placed the receiver on a spring mattress."

Answer: The aluminium panel probably came into contact with the spring mattress, whilst a B plus lead was making contact with this also. This would short the "B" battery with the "A" battery, and cause a high voltage to flow through the filaments of your valves. Yes, the Everyman Four could be used with a tuned loop.

Q.P. (Mackay): "I have been expecting week after week to see appear in 'W.W.' a screen-grid Reinartz; so far I have been disappointed. Is there any possibility of a screen-grid Reinartz appearing in the near future in 'W.W.'? While not wanting to butt into the management of your paper, would you consider the suggestion to publish condensed questions with answers at present published in the Queries Column? I look to this column for information. Sometimes I can guess the question, and obtain a little information from the answer. At other times the question cannot be guessed, and the answer is Dutch to all but the questioner."

Answer: The Pentavox S.G. receiver is actually a S.G. set with Reinartz reaction. This receiver was published on December 7th, 1928. Always glad to consider suggestions. You will notice that since you wrote we have commenced publishing questions with answers. Only those queries which would be unlikely to interest any of our readers other than the actual queryst will be published in the Brief Column. As your letter was dated 4th December, evidently you had not seen the Pentavox receiver, which appeared three days later. However, both your requests have now been answered.

R.H.F. (Queensland): Would you kindly advise me through Queries Columns who were the stations I picked up? At 3.30 a.m. on Tuesday, 4th December, I heard three stations. One was on about 16 metres, one on 20 metres, and the other about 25 metres. What is the wave-length of 6AG? What time may he be picked up? Can the Tetrode Three give greater volume than the four-valve B.D.?"

Answer: The station on 16 metres may have been 2XAW, AGA, or WSS. The first station is American, the second German, and the third American. On 20 metres you may have heard AGK (German), NAL (American), OCTN (French), POX (German), GLSQ, S.S. Olympic, JIPP (Japan), or NKF (American). The 25-metre station may have been any one of the following: PCMM (Dutch), POY (Germany), HZA (Indo-China), or AGB (Germany). 6AG is working on 33 metres and 100 metres. There are no set times of transmission for any amateur. No; the Browning Drake receiver would give better reception.

sults. You will be notified when your subscription A.W.C. (Campsie): "When I adjust the reaction condenser I get a loud crack from my speaker. I have traced all the wiring, which I find correct. Also I can receive local stations O.K., but can receive nothing at all on short waves."

Answer: The crack you mention is probably caused through a faulty reaction condenser, the plates of which touch. This may also be caused through some foreign matter adhering to the plates, and causing a short. Experiment with the "B" voltage—try 80 volts on the screen grid and 120 volts on the plate of the S.G. valve. Add one turn to the R.F. coil for short waves, and 10 turns to the same coil for the broadcast band.

R.D.L. (Auburn): "I have a standard One Control three-valve Reinartz. I cannot receive inter-State stations, though local stations come in well. Will this receiver pull in the lower-powered stations? If not, what alterations are necessary? Can inter-State stations be pulled in on this receiver? Would the recent receiver 'Minimax Three' be an improvement?"

Answer: Yes; the Reinartz receiver is very sensitive and selective, and you should be able to pull in plenty of "B" stations and amateurs when they are working. It should also be possible for you to hear 3LO and a few other inter-State stations. Probably a valve or transformer is faulty, or the set is badly wired. Perhaps also your aerial-earth system is not so efficient as it should be. There is little to choose between the Minimax Three and the Reinartz Three, for the circuit in each case is a Reinartz. Suggest you wire up again, making the circuit two-control instead of single.

F.B. (Wollongong): "Could the A442 screen-grid valve be employed in the 1927 Solodyne, using Radioakes screened coils?"

Answer: Yes, by suitable by-passing condensers, but in all probability the gain may be no more than that obtainable with three electrode valves, owing to the unsuitability of the primaries.

W.N. (Queensland): "In reading through your description of the Tetrode Balanced Three ('Wireless Weekly'), I notice you suggest the possibility of the use of the Tetrode valve in a Reflex receiver. I have endeavored to draw out a circuit (which is enclosed). Will you please tell me if this circuit is correct—and also advise the correct number of turns for the coil?"

Answer: The circuit is quite O.K. for the secondary; wind 50 turns of 26 D.C.C. on a three-inch former.

T.D. (Bungendore): "Enclosed is a circuit of an amplifier I built some time ago. I am having some trouble with it, reproduction being very harsh and distorted. The trouble seems to be in the valve marked X in diagram—which, if taken out when the receiver is in operation, improves results, though volume drops. When the other valve is removed there is a continuous roar. The same effect is given even when the valve is replaced. How can I remedy this?"

Answer: The trouble may be due to a faulty valve socket. See that tight contact is made with the valve legs. Test your loud-speaker, or try another speaker on the set. Test transformers and batteries. Pay particular attention to grid-bias. From 18 to 40 volts grid-bias will be necessary with this type of amplifier. The push-pull transformers may be out of order. Try changing the leaks (resistances) in the first audio stage.

I.M. (Campbelltown): "With reference to the superhet. receiver published in 'W.W.' 7/12/28, I am thinking of building this receiver, and wish to know if the set can be used to receive international broadcasting stations on the broadcast band, and if efficient for this work, what size condensers and coils would be required? Is it, as a rule, easier to pick up S.W. or broadcast wave-lengths over great DX's? What shielding does the superhet. require?"

Answer: It is not recommended that the relay superhet. receiver be used on the broadcast band. It is essentially a short-wave receiver. It is easier to pick up short-wave stations. These can be heard by owners of short-wave receivers, thousands of miles from the transmitter, whereas it is an uncommon experience to pick up broadcast stations on an ordinary receiver at such a great distance. As an instance, British stations on short waves can be heard on a one-valve short-wave receiver. Even a superhet. cannot normally pick up British stations on the broadcast band. This, of course, with the receiver situated in Australia. A single shield made into a cabinet, as shown in the article.

P.H. (Newtown): "I built a three-valve Reinartz receiver four weeks ago, and am getting too much interference from other stations. I have placed a .0001 fixed condenser in series with the aerial, but this is of no use. My last two valves get very warm. I am unable to receive inter-State stations. Can you suggest a remedy?"

Answer: You do not impart much information. How long is your aerial? Have you a short earth lead? Try reducing the length of your aerial, and if this makes no difference, use the .0001 fixed condenser again. What coil-kit are you using? Did you wind your own? If so, move the primary further away from the secondary. The reason why you are not receiving inter-State stations is because your receiver is not selective enough. Why worry about inter-State stations? You will only ruin reception for yourself and others! It is quite in order for the last two valves to get warm. This is because there is a high voltage on the plates, which become warm and heat the glass. This does not occur with the first valve (the detector), as there is only a small voltage impressed on the plate.

H.S.M.C. (Ulamambri): "Being of a pertinacious and somewhat sanguine disposition, I am once again trying my luck. My two previous letters have been answered by profound silence—loud-speaker strength, 300 miles from Sydney. My queries are in regard to the 'Booster Unit.' What should be the inductance, in Henrys, of the super-audio choke? Will No. 36 D.S.C. wire do in place of No. 37, as specified?"

Answer: You will find that your queries were answered in last week's issue. I have no record of the first letter. In last issue you were advised that the inductance of the choke should be 30

Henry's, whilst the wire you mention may be substituted for that recommended.

H.B. (Granville).—"I have built a receiver (diagram enclosed), which is supposed to bring in 3LO, 4QG, and all local stations. There are two valves. I have checked the circuit and wiring thoroughly, and find everything correct, according to diagram, but there are no results.

Answer: The tuning condenser is of too large capacity for smooth and even tuning over the broadcast band. Use one of .0005 mfd., wind your coils as follows:—25 turns of 24 D.C.C. on a former three inches in diameter. Space quarter of an inch. Wind the secondary, which consists of 50 turns, then space another quarter of an inch, and wind on 35 turns for the reaction coil. The lead from the B plus of the transformer should be supplied with not more than 22½ to 30 volts. You are giving this valve the same voltage as your amplifiers.

L.E.H. (Brisbane).—"I have a good two-valve short-wave receiver, and would like to use the screen-grid valve. What alterations will be necessary?"

Answer: The information you desire would be too lengthy to publish here. A great deal of alteration will be necessary for the adaption of the S.G. valve. Suggest you follow out the plan of the "All Empire" short-wave receiver, which uses a S.G. valve. The original circuit, without the S.G., was the "Go Getter" short-wave receiver.

A.C.A. (Newcastle).—"Please find enclosed circuit diagram of a set I propose building. I have utilised the R.F. and detector stages of the Browning-Drake screen-grid "five," and added two stages of audio. Would you please examine same and let me know if it is O.K.? Also please advise if the fixed condensers C8 and C9 in sketch make any difference—and if they may be omitted. Would Radiotron 201A valves be suitable for detector and first audio stages—if not, what valves would you suggest using? I intend to build the set with aluminium shields."

Answer: The circuit is quite O.K., and still remains a S.G. Browning-Drake. The two fixed condensers will make a slight difference in tone quality, but they may be left out without much detriment to the working of the receiver. 201A valves will be suitable, providing you use a six-volt S.G. valve and a six-volt power valve in conjunction. Three 201A's together with the S.G. valve would be a good combination.

A.R.K. (Quirindi).—"Re the Ultimex Three receiver. Will this receiver give inter-State daylight reception?"

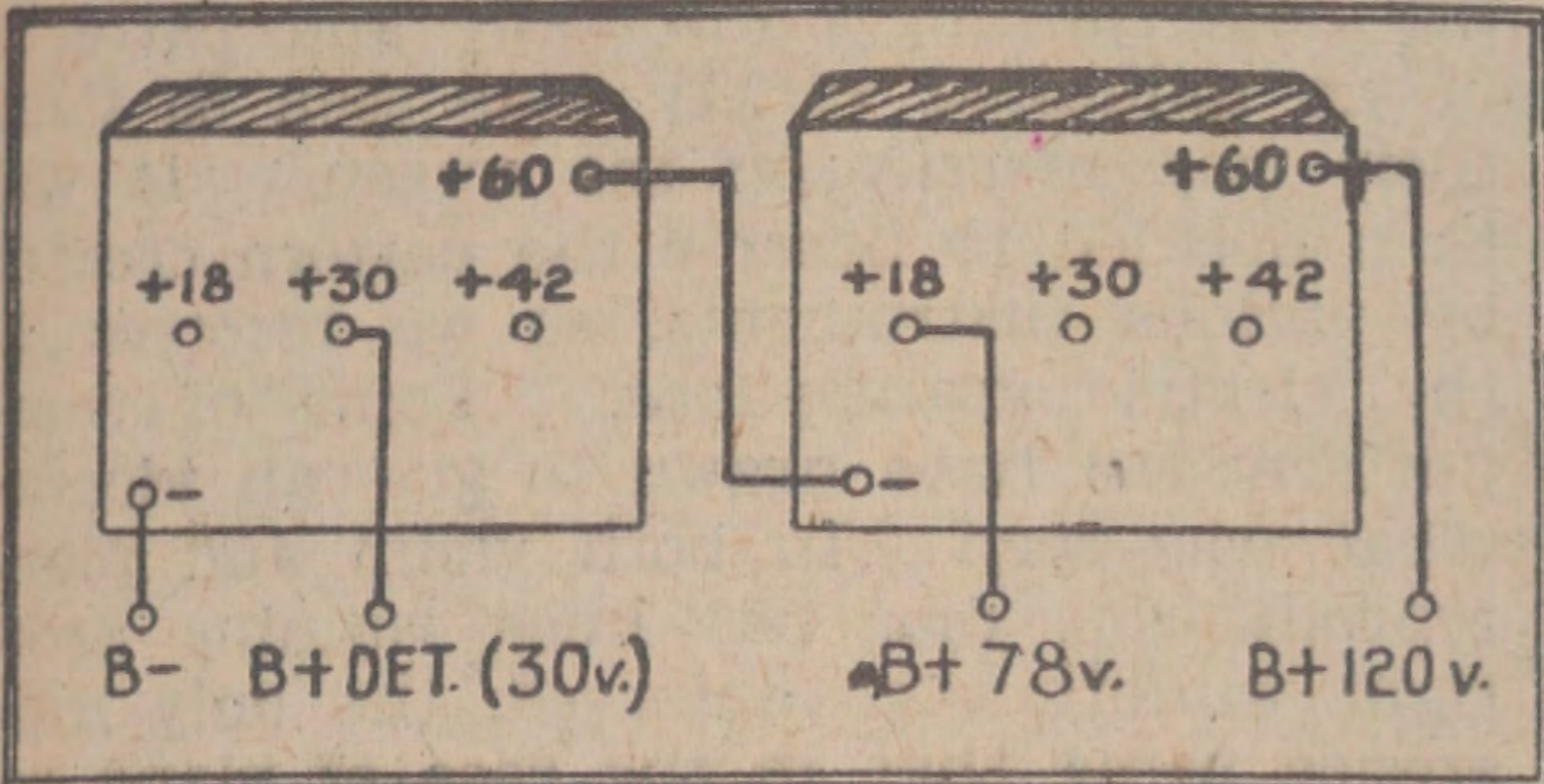
Answer: We take the liberty of publishing one of many letters received from constructors of this receiver: "Dear Sir,—Having built the Ultimex Three, I thought you might be pleased to hear reports from Cunnamulla. The tongue of good report has already been heard in its favor, but another won't hurt. I've used divers three-valve sets during the last few years—bought and home-made—and I can say that the 'Ultimax' is the best set I've ever heard or used. I have no trouble to log 2BL, 2FC, 3LO, 3AR on speaker during the afternoon, and sometimes in the morning. Every station can be received at great volume on 'phones in the morning—this with the mercury up at about 112. Wait till the winter comes—oh, boy! I can log the N.Z. stations in the evening, and 7ZL comes in well at night, and JOAK, also JOBK (Japan) roar in late at night. Speaker strength is R5 here during daylight. I built the case of aluminium, and earthed it.

W.S. (Redfern): Yes, it is possible to test the voltages without a milliammeter.

R.R. (Rosebery): If you are going away on holidays for any considerable time, say over two weeks, it would be advisable to leave the accumulator in charge of some reliable battery station, who will charge and discharge the accumulator to keep it in good condition until your return. Never add acid to your accumulators.

T.U. (Guildford). Use a two megohm grid-leak. You are probably using too high plate voltage on the detector. Ninety volts is sufficient for the amplifiers, but too much for the detector. Use about 22½ volts on the detector. Try placing a .002 fixed condenser across the secondary of the first transformer, and also try an R.F. choke in series with the P lead to the first transformer.

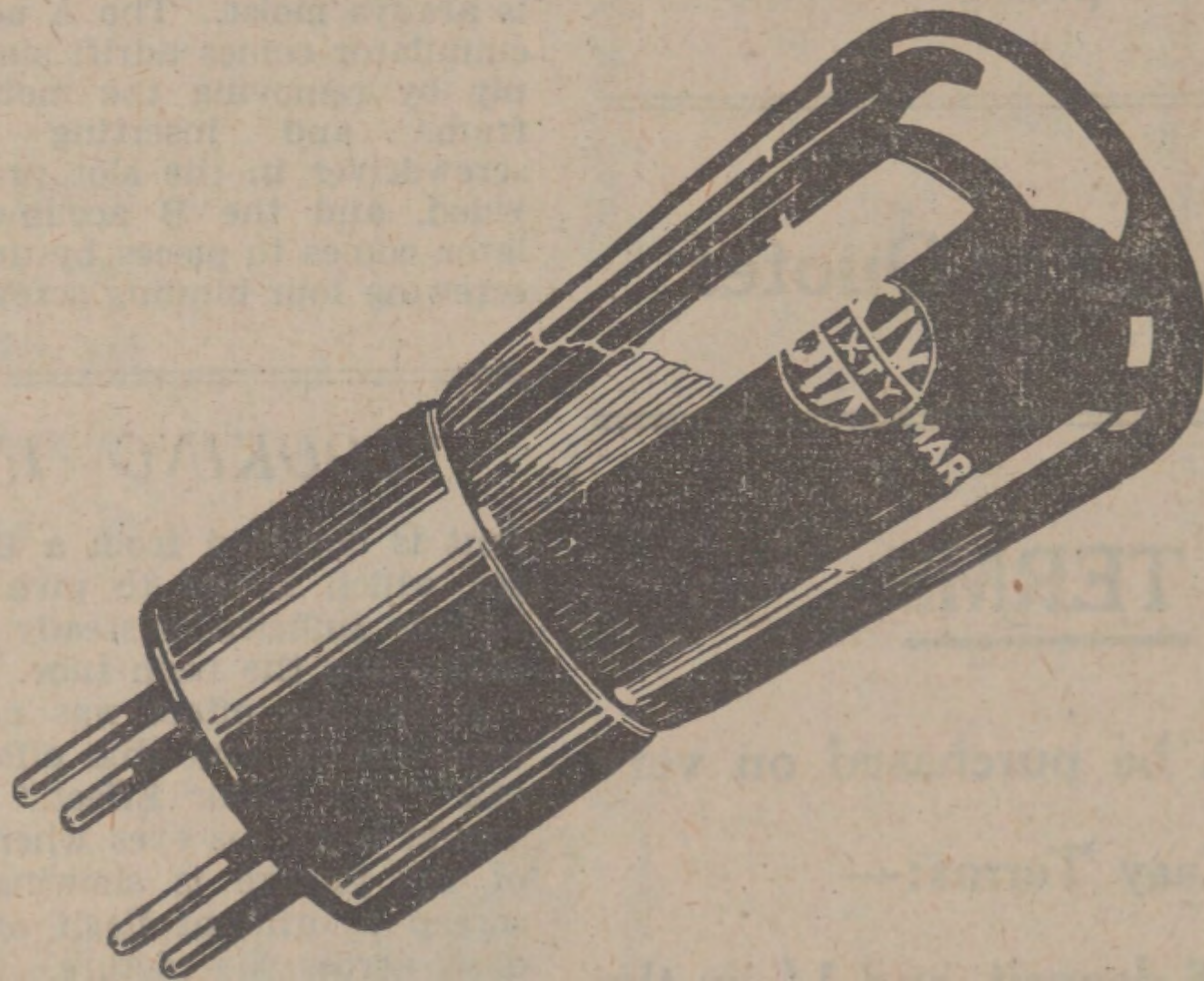
R.M.R. (Tanjia). The foreign station working near 4QG's wave-length is JOBK, which station is often mistaken for JOAK. This latter station will be found a little under 2BL. When JOBK closes down about 11.30 p.m. Calcutta comes in on practically the same wave-length. On Sunday nights it transmits a Church of England service in English, and at 12.30 starts its Indian portion of the programme. The singing and music last for about 15 minutes and the station closes down a little before 3 a.m. The station working just under 3LO is Bombay, India. Its programme commences half an hour later, and the announcement is always, "This is the Bombay station," and the programme is similar to Calcutta. JOMK (Japan) is on about 360 metres.



"X.Y.Z." (Balmain): You could not do better than make your receiver into a two-valve Reinartz. Two-valve amplifiers have appeared in these columns quite recently. The "Economist" eliminator will suit your requirements. Sorry we have no copies left. If you give us permission to publish name and address we shall be pleased to ask if readers have any spare copies of this number.

J.H. (Queensland): The diagram asked for is published in these columns. Other readers who are uncertain of the correct connections to their "B" batteries should also scan this diagram.

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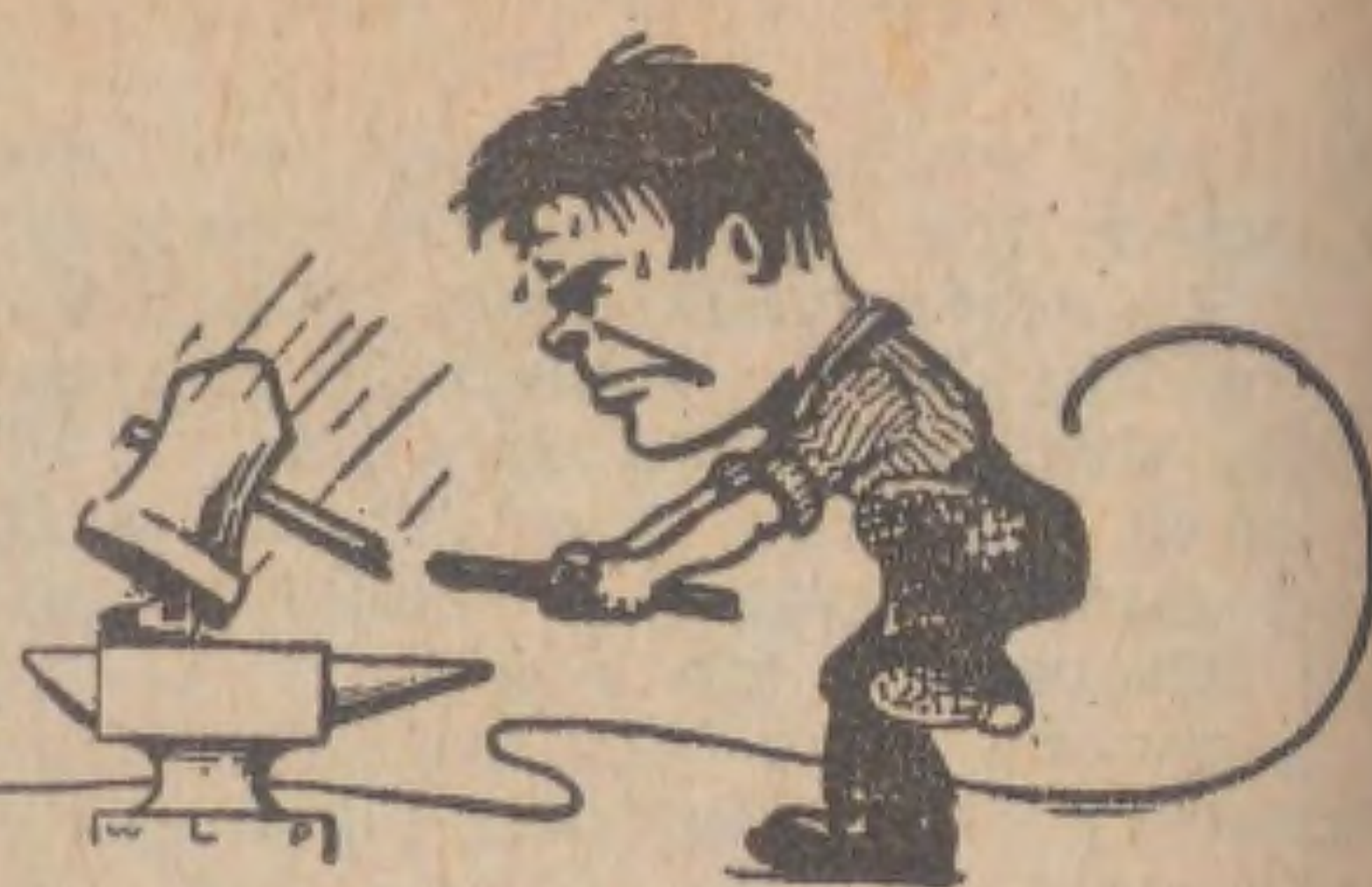
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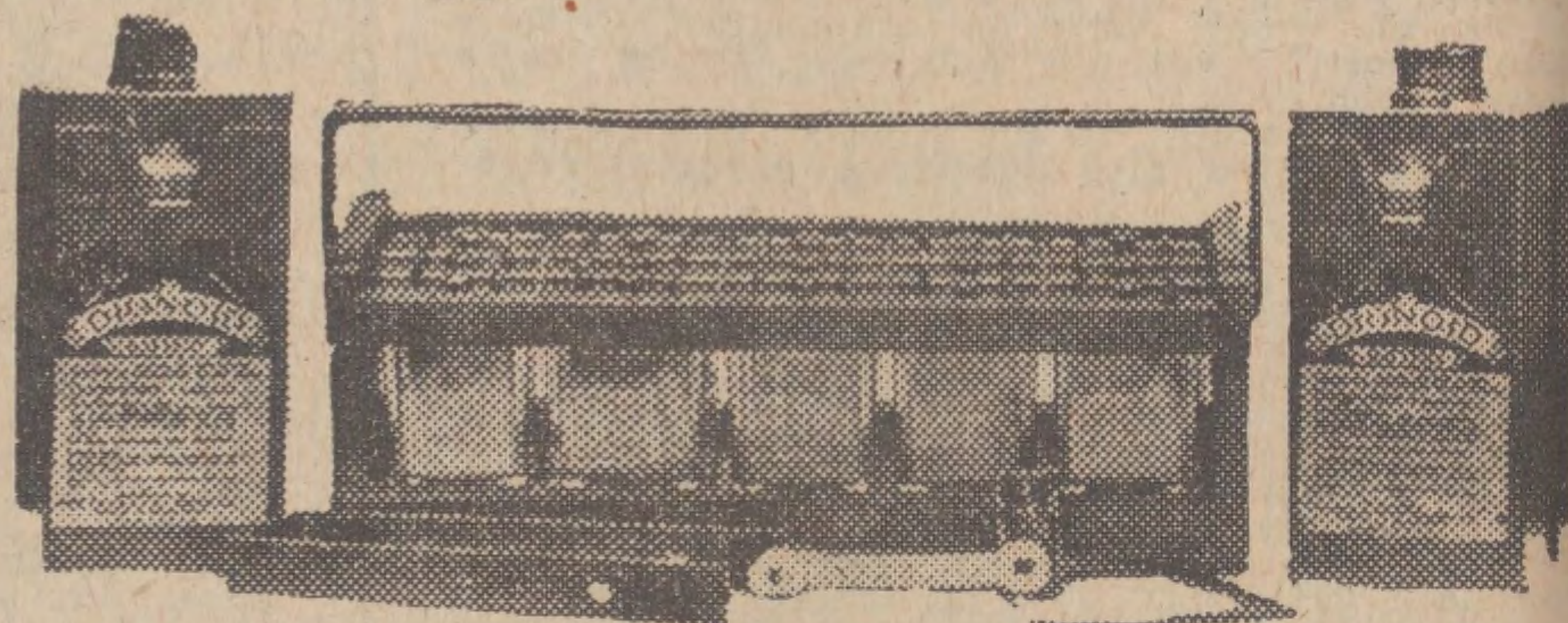


INTRODUCING DIONOID BATTERIES

HERE are so many makes and types of accumulators on the market making use of the same constructional details that the average buyer, knowing that they are mostly all good in these days of meticulous engineering, will invariably go into the dealer's store and ask simply for an A or B accumulator.

Judging, however, by the samples of the unique Dionoid accumulators we have received for inspection, they are certain to be in great demand, because of their unique construction. If you buy a Dionoid A battery, you will find that it is really made in three separate 2-volt cell units. By an ingenious arrangement this battery may in a moment be made into either a 2, 4, or 6 volt unit, complete with carrying handle for any unit. The same applies to the Dionoid B accumulator, which may be made instantly into 30, 60, or 90 volt units. This is not all, for the most important feature is the accessibility of the cells. They come to pieces rapidly for inspection, being sealed with a special compound which is always moist. The A accumulator comes adrift simply by removing the metal frame and inserting a screwdriver in the slot provided, and the B accumulator comes to pieces by unscrewing four binding screws

and working the cells loose by a forward and backward motion. No separators are used for the plates, as the fit into accurately moulded grooves on the inside of the container. A glass inspection window in the side of the A battery container shows at a glance the acid level. No wood is used in the construction of the Dionoid B accumulator. It is absolutely acid-proof, and a very useful feature is that tapplings are supplied at every two-volt stage, a fact which should appeal to users of modern wireless sets using screen-grid valves where correct voltage adjustment is important. Our opinion of Dionoid batteries is that they are an excellent "brain wave" of the designer in placing before the public, free from trouble, fool-proof accumulators. The factory representatives for Australia are A. Beale Pritchett (Aust.), Ltd., with whose name high quality apparatus is synonymous.



"LOOKING INTO 2BL" (Continued from Page 5)

rent is obtained from a B battery eliminator which seems to give the current and voltage sufficiently steady for both the amplifier and the neon tube.

A peculiar effect was noticed during the experiments, and this effect we propose to call "The Blink Effect." If the observer should blink his eyes when a bright portion of the picture is showing on the viewing screen a brilliant flash of light is seen to dash across the picture. The theory which we have to offer for this effect is that in the short fraction of time when the eye first opens it is conscious of the movement of the spot of light moving across the picture. The same effect is obtained if the eyes are blinked while looking at the rotating blades of a large fan in a butcher's shop or a theatre, when the shape of the blades will be distinctly seen for a short space of time.

When receiving a picture transmitted from a television station it is, of course, necessary to have the scanning disc rotating at the same speed as that of the transmitter. This difficulty can be disregarded whilst looking at broadcast music. The only noticeable difference found when the speed of the scanning disc is altered is that the pattern created by the music alters slightly.

If the discs are revolved slowly while looking at broadcast music, the beam of light showing through the hole in the scanning disc will be seen to vary in intensity as it passes across the viewing screen.

To look at music via your broadcast receiver all that is necessary is to connect the two leads from the neon tube to a telephone plug, which should be inserted in the jack which was previously connected to the speaker; the motor should then be switched on, and the scanning disc set in motion. If your receiver employs a regenerative detector, an even pattern will be seen on the

viewing screen. If reaction is increased the set squeals; therefore, whilst looking at music the set must be kept well away from the squealing point, otherwise distortion will be introduced in the music seen.

Having finished our first television receiver we decided to try our luck on 2BL. With great excitement we gathered round the viewing screen and pressed the switch, which set the motor in motion, to be greeted by nothing more than a flat illumination over the entire surface of the viewing screen; then, much to our satisfaction, a pattern appeared, followed by another blank.

On investigation we found that we had tuned in at the conclusion of an item and that the pattern seen was the announcement of the next item from the studio. An organ solo was the first musical item seen, and the variations of the patterns was indeed astonishing. From diagonal lines running from right to left across the screen it would suddenly change to a number of waving dots running horizontally and patterns of an unlimited variety were seen to flash their way merrily on the screen. It was then decided to observe the pattern created by various instruments, so we resorted to the electric gramophone. Some of these patterns we have drawn to give an idea of what was seen. In both violin and piano reproduction diagonal lines running from right to left were observed, the only difference being that in the case of piano reproduction the lines were of a much broader nature. In playing a concertina solo an effect was obtained much like a waterfall of light.

Having got the receiver working satisfactorily, we are now concentrating on the transmitter, and hope in a short period to be sending and receiving actual pictures.

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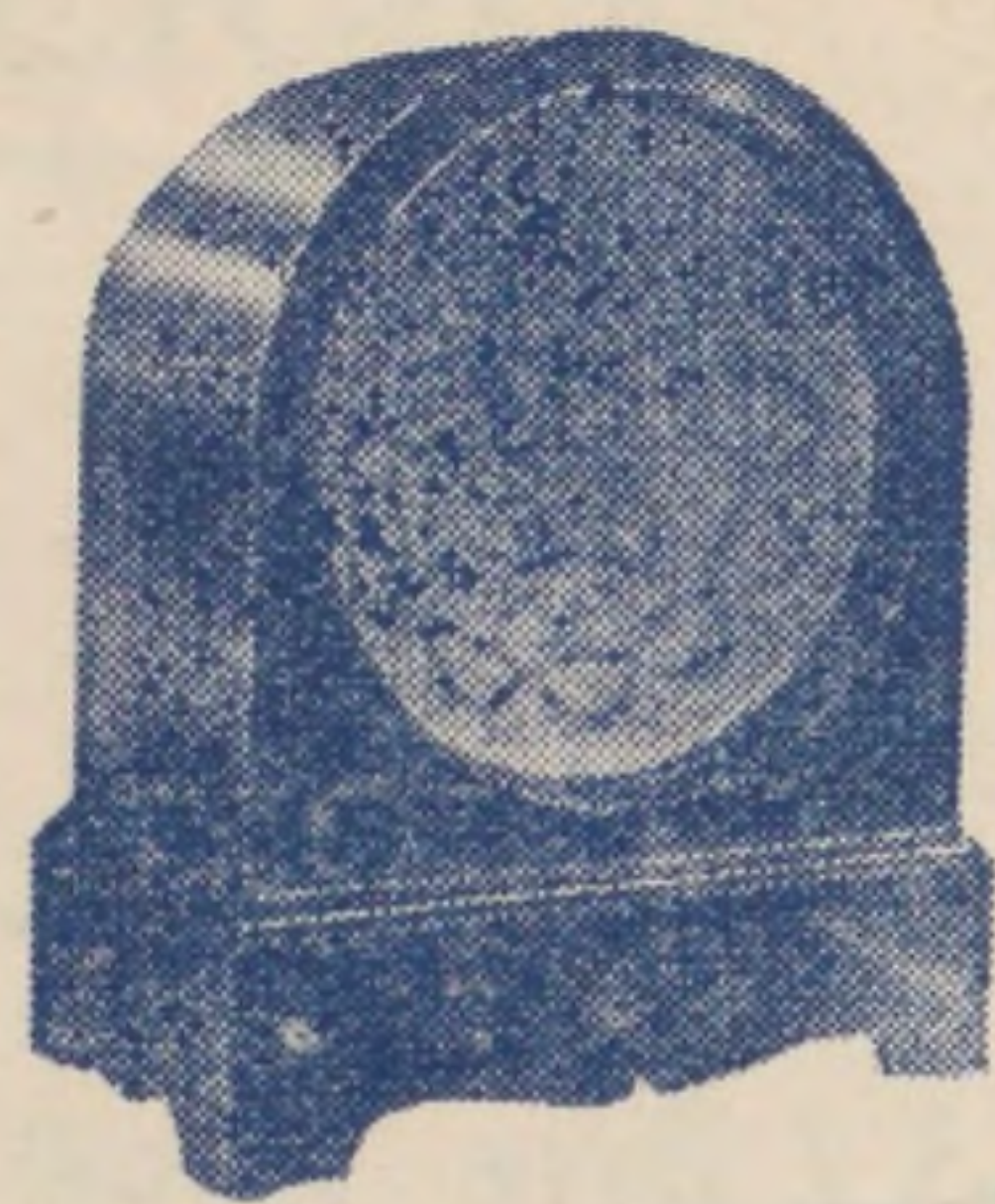
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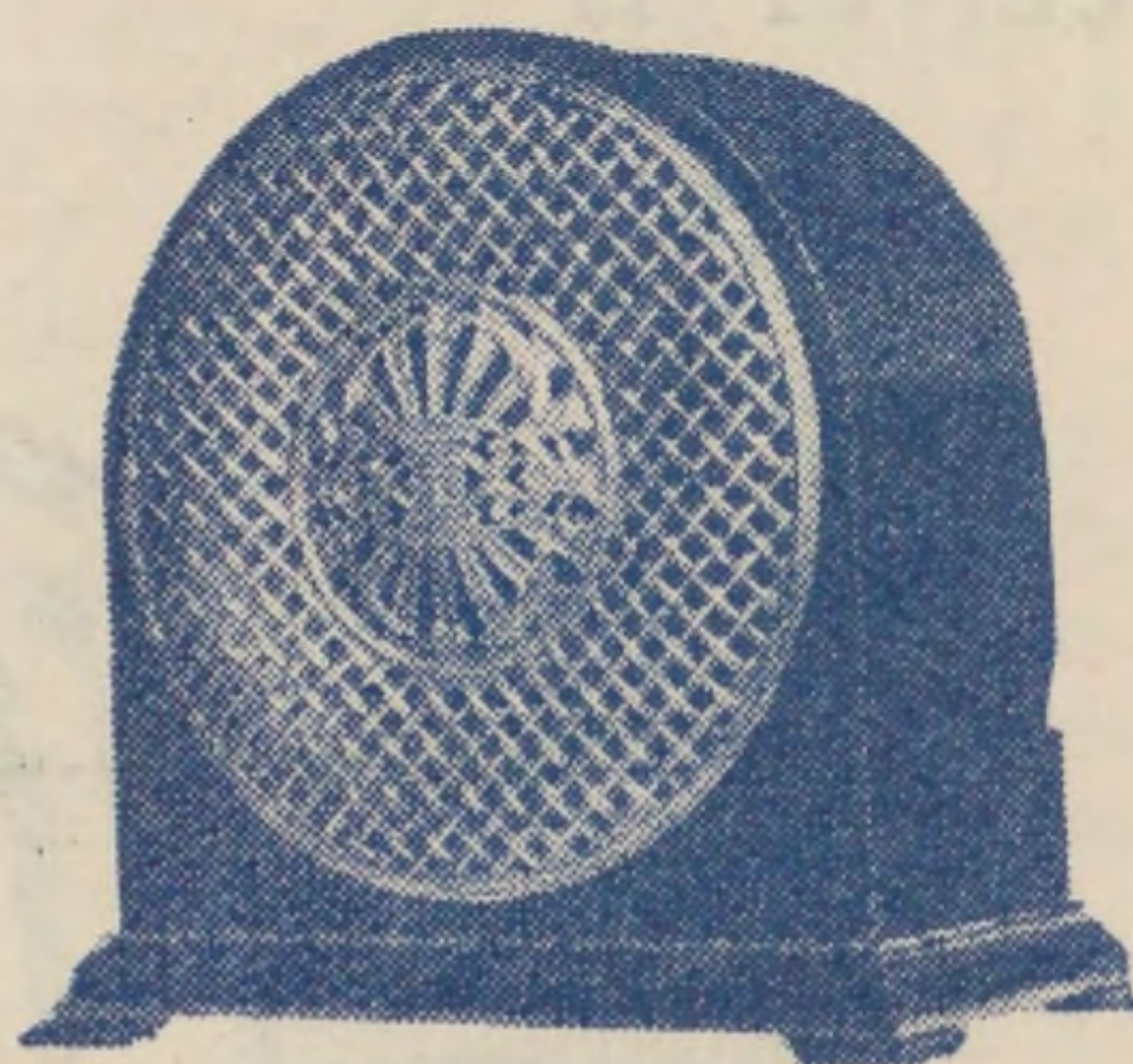
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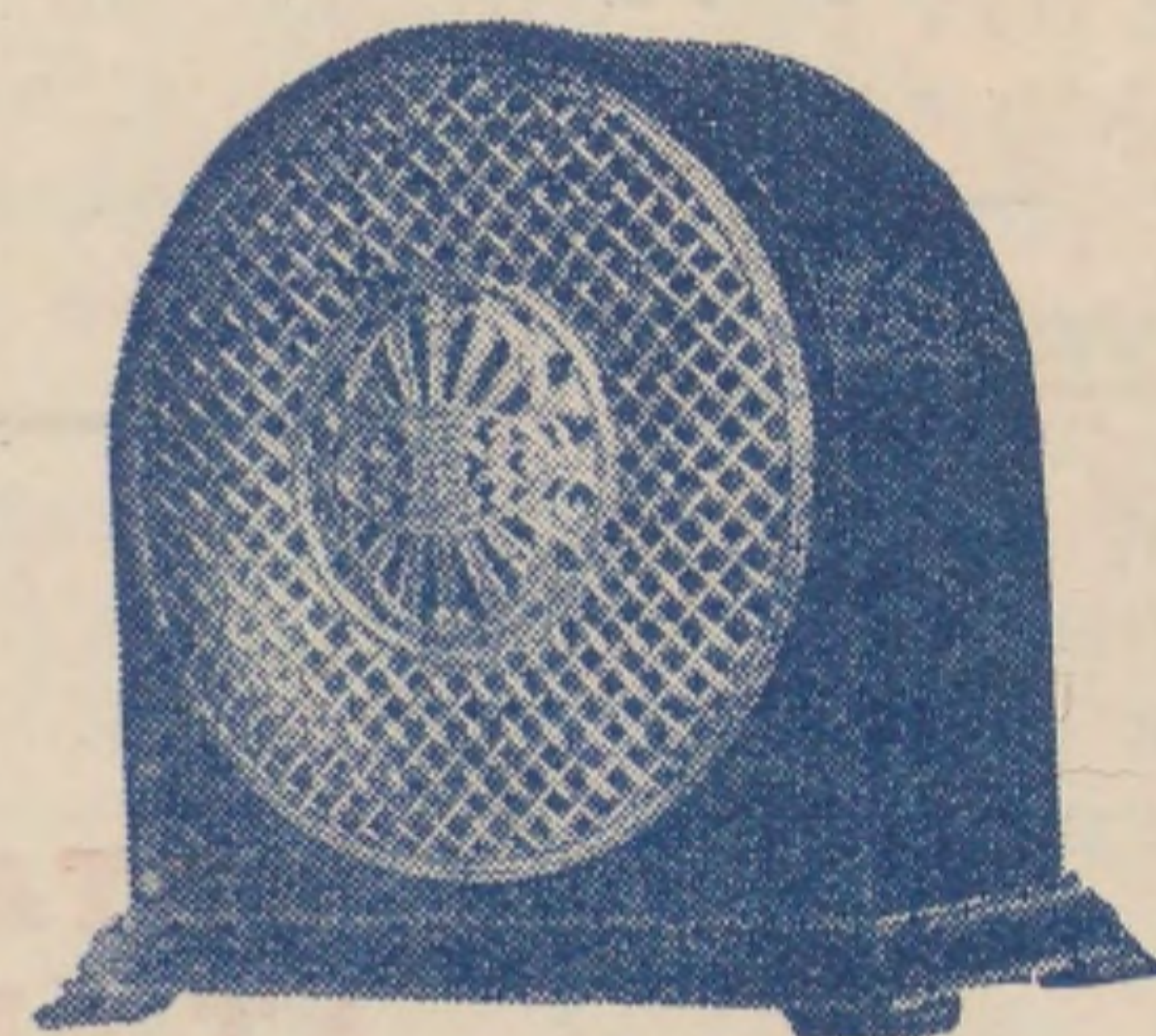
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Small (Oak)	RS 2...	£6/-/-	£2/17/-
Small (Maple)	RS 3...	£7/-/-	£2/17/-
Small (Tasmanian Blackwood)	RS 4	£7/-/-	£2/17/-

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